REMEDIAL SITE ASSESSMENT DECISION - EPA REGION IV

EPA ID: TNN000407828 **Site Name:** AEROSTRUCTURES CORPORATION **State ID:**

Alias Site Names:

City: NASHVILLE **County or Parish:** DAVIDSON **State:** TN

Refer to Report Dated: **Report Type:** PRELIMINARY ASSESSMENT 001

Report Developed by: STATE

DECISION:

[X] **1. Further Remedial Site Assessment under CERCLA (Superfund) is not required because:**

[X] **1a. Site does not qualify for further remedial site assessment under CERCLA (No Further Remedial Action Planned - NFRAP)**

[ ] **1b. Site may qualify for action, but is deferred to:**

[ ] **2. Further Assessment Needed Under CERCLA:**

2a. Priority: [ ] **Higher** [ ] **Lower**

2b. Other: (recommended action) NFRAP (No Futher Remedial Action Planned

DISCUSSION/RATIONALE:

The U.S. Environmental Protection Agency (EPA) has determined that no further remedial action by the Federal Superfund program is warranted at the referenced site, at this time. Although soil and groundwater samples indicated the presence of several hazardous constituents including TCE and cyanide, additional investigation of the soil, air and groundwater is not warranted due to its containment. Hazardous constituents have also been detected in surface water, but no contamination has been detected at the intake of the municipal water supply system. A NFRAP designation means that no additional remedial steps under the Federal Superfund program will be taken at the site unless new information warranting further Superfund consideration or conditions not previously known to EPA regarding the site are disclosed. In accordance with EPA's decision regarding the tracking of NFRAP sites, the referenced site may be removed from the CERCLIS database and placed in a separate archival database as a historical record if no further Superfund interest is warranted. Archived sites may be returned to the CERCLIS site inventory if new information necessitating further Superfund consideration is discovered.

SITE: Aerostructures
BREAK: 1.8
OTHER: V1

Site Decision Made by: F.RIVERA

10660173

Signature: _____ **Date:** 09/28/2004

U.S. EPA REGION IV

SDMS

POOR LEGIBILITY

PORTIONS OF THIS DOCUMENT MAY BE DIFFICULT TO VIEW DUE TO THE QUALITY OF THE ORIGINAL.

TO MAKE THE DOCUMENT READABLE, TRY ONE OR MORE OF THE FOLLOWING:

From the Displays Settings in Windows Control Panel:

1. Set the Color Quality to the highest available: 24 bit or 36 bit.
2. Increase or decrease the Screen resolution.

From the Monitor/Display Controls:

1. For dark image page, increase the brightness and decrease the contrast.
2. For light image page, decrease the brightness and increase the contrast.

** PLEASE CONTACT THE APPROPRIATE RECORDS CENTER TO VIEW THE MATERIAL**

V. 2-040506

Tennessee Department of Environment and Conservation
Division of Superfund

SITE: Aerostructures Corp.
BREAK: 1.8
OTHER: V1

Preliminary Assessment Report

The Aerostructures Corporation
1431 Vultee Boulevard
Nashville, Davidson County, TN

EPA ID: TND004042057
TDSF ID: 19-585

July 21, 2003

Prepared By
Pamela R. Franklin

Reviewed and Approved By
William B. Brawley

Table of Contents

1.0 INTRODUCTION 1

1.1 OBJECTIVE 1
1.2 SCOPE 1

2.0 SITE DESCRIPTION/ HISTORY/WASTE CHARACTERISTICS 1

2.1 LOCATION 1
2.1.1 SITE DESCRIPTION 3
2.2 SITE OPERATIONAL HISTORY 5
2.2.1 SITE REGULATORY HISTORY 8
2.2.2 HAZARDOUS SUBSTANCE RELEASE HISTORY 9
2.3 WASTE DESCRIPTION, QUANTITY GENERATED 10
2.3.1 STORAGE, TREATMENT, AND DISPOSAL PRACTICES 10

3.0 PATHWAY AND TARGET ASSESSMENT 18

3.1 GROUNDWATER PATHWAY 18
3.1.1 GROUNDWATER TARGETS 19
3.1.2 GROUNDWATER CONCLUSION 19

3.2 SURFACE WATER PATHWAY AND TARGET ASSESSMENT 20

3.2 SURFACEWATER PATHWAY 20
3.2.1 SURFACEWATER TARGETS 21
3.2.2 SURFACEWATER CONCLUSION 21

3.3 SOIL AND AIR PATHWAYS AND TARGET ASSESSMENT 22

3.3 SOIL AND AIR PATHWAYS 22
3.3.1 SOIL AND AIR TARGETS 22
3.3.2 SOIL AND AIR PATHWAY CONCLUSION 23

4.0 SUMMARY AND CONCLUSION 23

5.0 REFERENCES 25

DATE	7/21/03
REPORT	Preliminary Assessment
SITE	Avco Aerostructures/The Aerostructures Corporation/Vought Aircraft
EPA ID	TND-00-404-2057
TDSF FILE	19-585
PREPARED BY	Pamela R. Franklin, Environmental Protection Specialist Tennessee Division of Superfund

1.0 INTRODUCTION

The Tennessee Department of Environment and Conservation, Division of Superfund (TDSF), has been tasked by the U.S. Environmental Protection Agency (EPA), Waste Management Division, to conduct a Preliminary Assessment (PA) at the above referenced site. This investigation is conducted pursuant to the authority and requirements of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), Public Law 196-510; Section 104; and the Superfund Amendments and Reauthorization Act (SARA), Public Law 99-499.

1.1 Objective

The purpose of this PA was to collect information concerning conditions at the site, assess the threat posed to human health and the environment, and determine the need for additional CERCLA/SARA or other appropriate action.

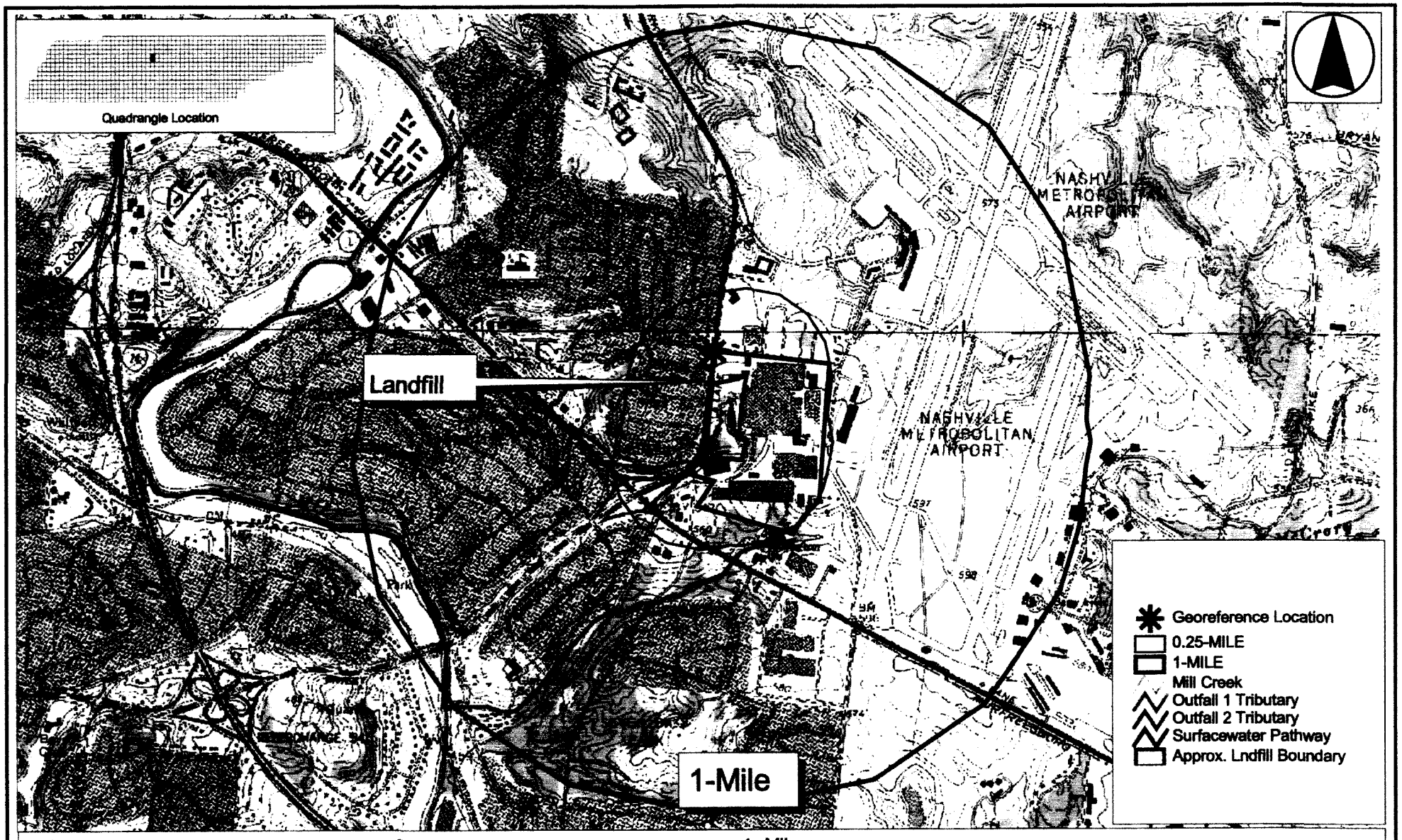
1.2 Scope

The scope of the investigation included a review of available file information for the site and windshield reconnaissance of the site and surrounding area.

2.0 SITE DESCRIPTION/ HISTORY/WASTE CHARACTERISTICS

2.1 Location

The Aerostructures Corporation is an active aircraft structural components manufacturer located in Nashville, Davidson County Tennessee at 1431 Vultee Boulevard (Blvd), 37217 (Figure 1; Reference 1a). The geographic coordinate of the site, referenced at the southeast corner of the Briley Parkway/Vultee Blvd intersection, is latitude N 36°07'26" and longitude W 86°41'45" (Reference 2). To reach the site from the Nashville Environmental Assistance Center (NEAC), travel north on Gallatin Road, exit onto Briley Parkway south and continue for



1 0 1 Miles

Base Map: Tennessee Valley Authority Digital Raster Graphic (DRG)
7.5 Minute,1:24,000-scale Topographic Quadrangle

TDEC
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION

Aerostructures Corporation (Avco Aerostructures)
Nashville, Davidson County, Tennessee
TDSF# 19-585
Antioch Quadrangle, 311SW
(36 07 26 N, 86 41 45 W)

about 10-miles to Vultee Blvd. At Vultee Blvd turn left, the Aerostructures property is to the right.

The site is located in the Central Basin Physiographic region of Tennessee. The topography of the area consists of gently rolling hills with surface elevations ranging from 400 - 1100 feet (ft) above mean sea level (MSL). Karst features are common in areas of the region, and several springs have been identified on the property. The general climate is characterized by warm, humid summers and mild winters. Average summer temperatures are in the upper 70s. The average winter temperature is 40° F. The average annual precipitation in the area is 48 inches. (References 3a)

2.1.1 Site Description

The Aerostructures property consists of 96.74-acres of industrial restrictive zoned property. It is surrounded by property zoned for commercial/retail and office use with residential property existing within less than ¼-mile west of the facility. It is bounded to the north and west by Vultee Blvd and Briley Parkway, respectively. Commercial/retail operations border the property to the south and leased property to the east owned by the Metropolitan Nashville Airport Authority. These businesses include general contractors, heavy equipment haulers, air cargo/delivery services, and a restaurant. Fuel storage/dispensing depots are reportedly located at several of the operations along the eastern boundary. Fencing exists along all property boundaries with security present at some entry points. (References 4, 5a).

The topography of the property transitions from relatively flat to sloping from the north to the south and southwest. Most site drainage is directed to the south and southwest via two outfalls designated as 001 and 002. Each outfall discharges to a tributary of Mill Creek. Segments of the tributaries are open-channel flow behind residential areas and channelized through culverts along some major roads and intersections. The confluence of the outfall 001 tributary with Mill Creek is about 3 miles upstream of the outfall 002 tributary confluence. Mill Creek discharges into the Cumberland River near river mile 194 (References 1, 5a, 5b, 7b, 7c; Figure 2)

Paved surfaces now cover most of the property with the largest unpaved section being the wooded area around outfall 001. This area is located along an old drainage valley that is reported to have traversed the west side of the property extending, somewhat diagonally, from the northeast to the southwest. The drainage valley was filled due to former site disposal operations dating back to the facilities inception. Approximately 9-acres of the property within and around the ravine feature was used for the onsite landfill. Areas of vegetation also border several buildings (Reference 5a, 5b, Figure 2).

The facility consists of several primary structures (buildings 2, 27, 33, 38, 39) with additional smaller adjoining or adjacent units, together totaling 2,400,000 ft^2. Some of the activities reported to take place within the structures and their approximate completion dates are as follows: The main plant, building 2, is the largest of the facility's structures. Forming, finishing, and assembly processes are conducted in this building. The building also houses the main offices and a cafeteria. Portions of the structure date back to 1940 with sections added up through the 1960s. Five smaller buildings (23, 53, 52, 45, and 32) are located west of the main building. Unit 23, which was constructed in 1955, serves as the facility's fitness center. South

GlobeXplorer™
Vance Blvd
Briley Parkway
Antioch Blvd
Drainage Outfalls
Property Boundary
Approx. Landfill Boundary
© 2003 GlobeXplorer, Eastman Kodak Company

of 23 are units 52 and 53. These units, built in 1986, are used as hazardous waste storage areas. Hazardous material is also stored in unit 32, which was constructed in 1961. Building 45 was constructed in 1985 and serves as an equipment shed. (References 4b, 5a; Figures 2, 3)

Two structures, one designated as building 20 and the other segmented into buildings 27, 49, 4, 5, and 7, are adjacent to the eastside of building 2. Building 20 houses facility laboratories. It was originally constructed in 1954; however, modifications have since occurred. Buildings 4, 5, and 7, were constructed in 1940 with segment 27 added in 1961 and segment 49 added in 1982. Various assembly and maintenance processes are carried out in this building. (References 4b, 5a)

South of buildings 2 and 27 is building 30 which houses painting operations. It was constructed in 1963 with the latest addition made in 1982. East of building 30 is a structure designated as building 16. Constructed in 1950 and updated in the 60s, the building was used as an aircraft school and is now used as an equipment shed. To the west of building 30 is a series of spur tracks leading to train wells in building 2, and building 33 located south of building 30. (References 4b, 5a)

Building 33 is used to store raw materials, tools and parts. Several processes, machining, milling, and deburring also take place in this structure. West of building 33 is building 47, built in 1985, and buildings 44 and 39, built in 1970. Activities associated with these structures include material storage, shipping, and product testing, respectively. Immediately south of these structures is building 38 which was built in 1969. Shaping, finishing, and assembly processes are conducted in this building and in building 34 which flanks building 38 to the east and southeast. The construction date for building 34 is listed as 1990; however, diagrams and photos predating the listed date indicate a structure at this location prior to 1990. Other peripheral structures in the area of 38 are building 40, which was constructed in 1959 and houses a boiler room, and building 51, which was constructed in 1988 and houses the deionized water treatment plant. (References 4b, 5a)

Other structures present throughout facility grounds include a cooling tower (formerly a spray pond), a water tank, several above ground oil/fuel storage tanks, and waste tanks that replaced former waste ponds. A Nashville Electric Service (NES) substation is located along a section of the western site boundary. (Reference 5a)

2.2 Site Operational History

The Aerostructures Corporation began in 1939 as Stinson Aircraft Company, a division of the Aviation Manufacturing Company, which was the 3rd largest producer of WWII war materials. The operation consisted of three structures, a 125,000 ft^2 plant and two hangers, on 36-acres of property originally owned by the city and leased to the company. The name changed to Consolidated Vultee Aircraft in 1943 after mergers, and in 1959, the Aviation Manufacturing Company became the Avco Corporation. The Nashville division became Avco Aerostructures in 1966 but changed to Textron Aerostructures in 1987 when Textron Incorporated acquired the Avco Corporation. In 1996, a Washington D.C. based investment firm (the Carlyle Group) purchased the Nashville division and renamed it The Aerostructures Corporation. The Aerostructures Corporation merged with Contour Aerospace in 1998 forming a single

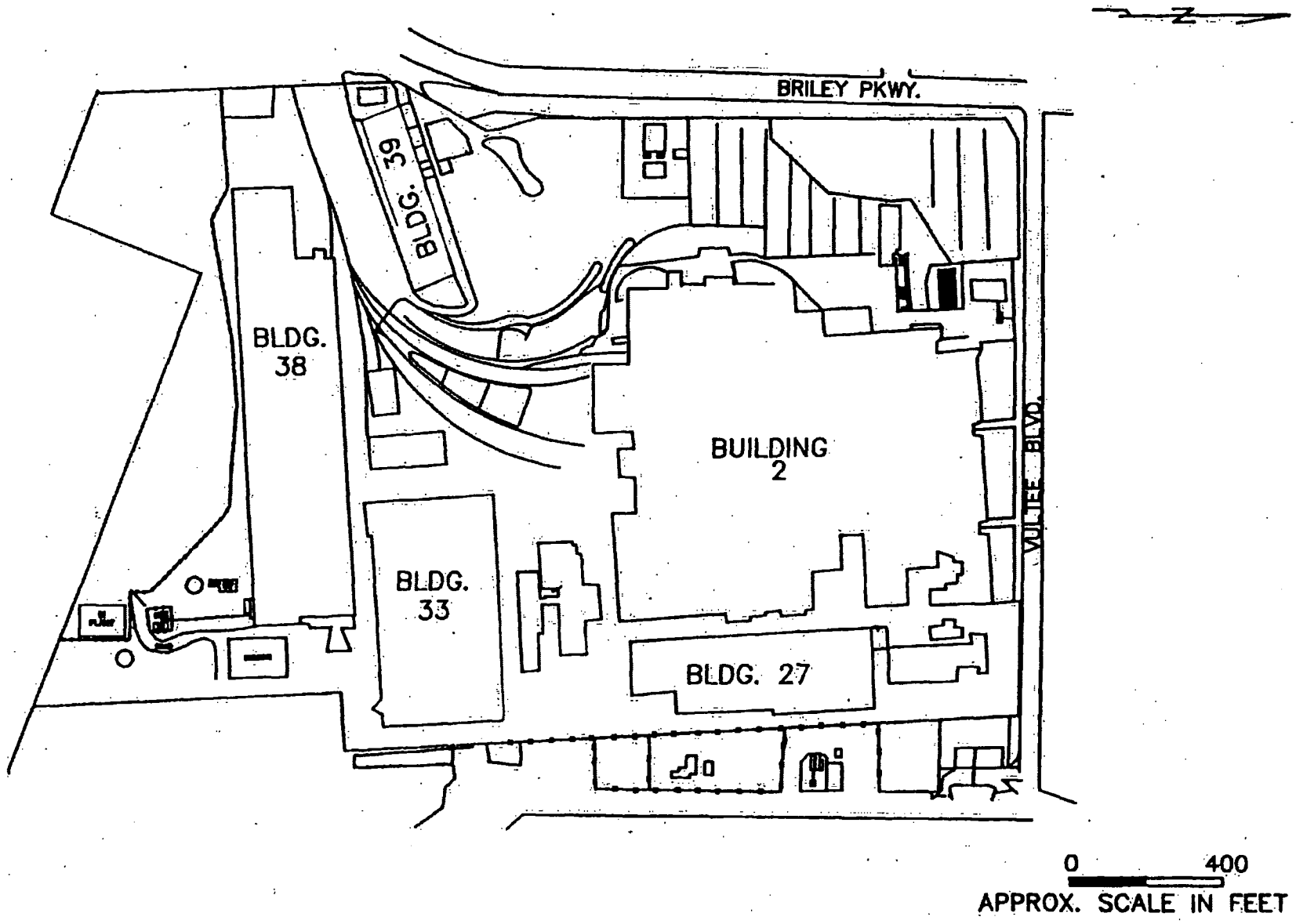


Figure 3a: Layout of the Aerostructures Facility (Source: UST report from ERM – Southeast Inc.)

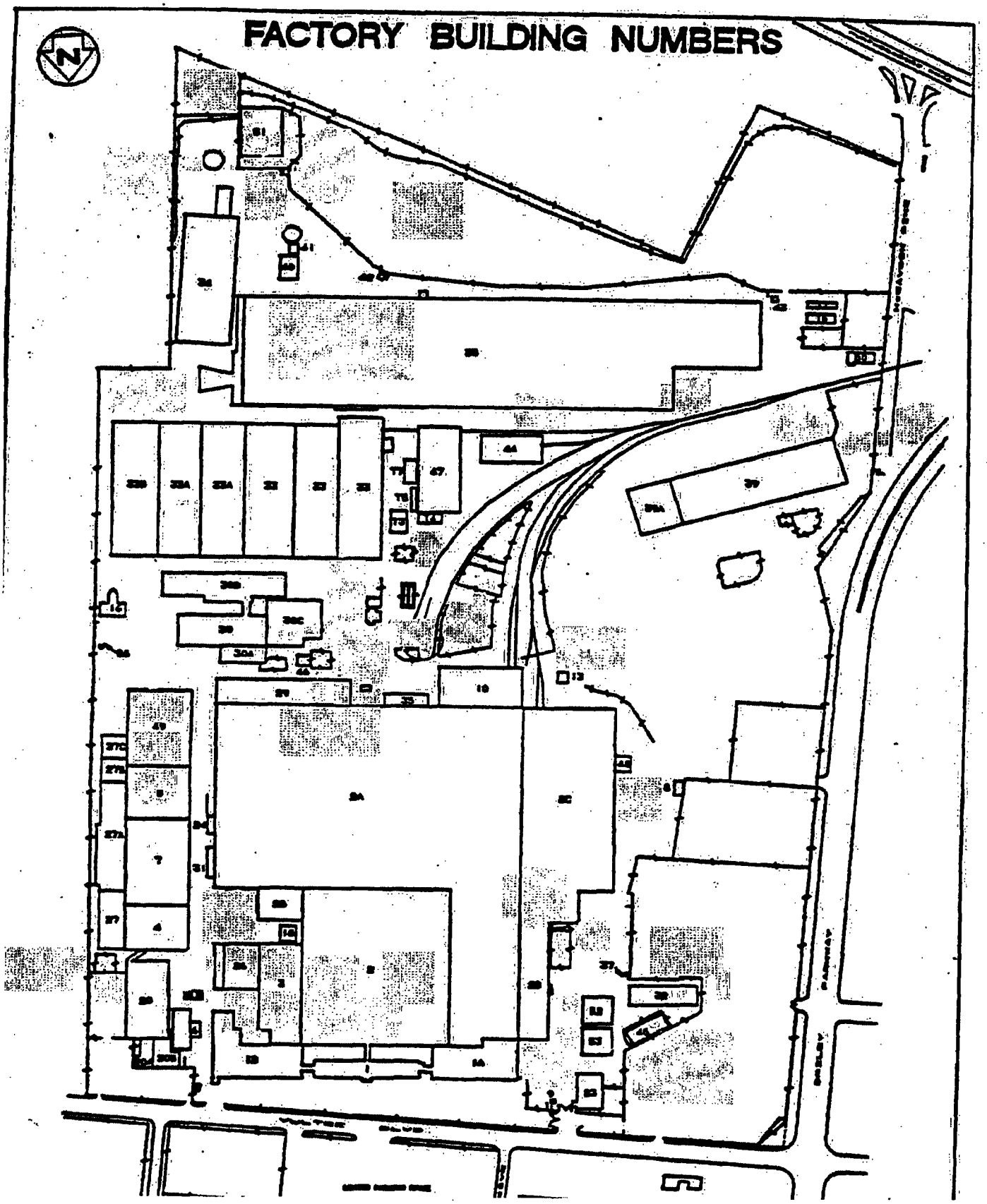


Figure 3b: Layout of the Aerostructures Facility (Source: 1999 and 2001 Consolidated Environmental Contingency Plan)

operation under the name Aerostructures Corporation. In July 2003, the facility's name was changed to Vought Aircraft subsequent to a merger with a sister company based in Dallas, TX. During its operation tenure, the company employee count has ranged from 1000 to 7000. The most recent employee count reported in 2003 is approximately 1100. (References 6a, 6b, 5f, 11a)

Products currently produced by the Aerostructures Corporation include aircraft parts and auxiliary equipment with emphasis on wings, wing components, and tail sections. Additional products include guided missile and space vehicle parts, fluid power valves, and hose fittings. At one time, aircraft, steel office furniture, and refrigeration/freezer units were part of the facility's product line. (References 6a, 6b, 5f, 11b)

2.2.1 Site Regulatory History

Aerostructures is a large quantity generator with permitted air, surfacewater, and sanitary sewer discharges. Metropolitan Nashville and Davidson County (Metro) regulates facility air emissions and facility discharges to the sanitary sewer. No municipal compliance issues with the facility were found; however, records indicate that a penalty of $377,777 was assessed against the facility (1987-1989) by federal authorities for a performance standard violation related to section 110 of the Clean Air Act (CAA) (References 5c, 6d, 9).

Tennessee Water Pollution Control (WPC) regulates facility discharges to area surfacewater via two National Pollutant Discharge Elimination System (NPDES) (#TN0001597) permitted outfalls designated as 001 and 002. Prior to the NPDES permit, records indicate state permitted discharges dating back to the early 1950s. The permit allows stormwater runoff and effluent from the facility's non-contact cooling water and boiler blowdown to be discharged to Mill Creek, provided the discharge meets an established standard. Early permits limited parameters such as pH, temperature, biochemical oxygen demand (BOD), total suspended solids (TSS), oil & grease, and effluent toxic metals (cadmium, chromium, copper, nickel) concentrations. Trichloroethylene (TCE) was added to the list of monitoring parameters with the issuance of the 1985-1990 permit. TCE was removed from the permit in 1995, after previous years of monitoring indicated concentrations consistently below the established standard. In 1986, the facility was required to install emergency detection and diversion systems at each outfall to detect and prevent the release of non-complying discharges. The system monitors each outfall continuously for pH, hexavalent chromium (Cr^{6+}), and turbidity. In case of an unpermitted release, the discharge is diverted to the sanitary sewer upon approval by Metro. If permission is not granted, outfall 001 can be valved to create a natural temporary holding pond. Outfall 002 has no holding capacity. (Reference 5a, 7b)

Under the current permit, the discharge is separated into two categories, dry weather and wet weather discharge, to segregate process discharge from that stormwater runoff associated with industrial activity. Dry weather discharges have effluent limitations on TSS, oil and grease, total residual chlorine, copper, iron, and hexavalent chromium. The permit also requires monitoring and reporting of floating material, color, foam, and oil sheen, continuous pH and flow monitoring, and biomonitoring to assess effluent toxicity. Wet weather discharges are required to monitor and report flow, pH, BOD, TSS, oil and grease, and aluminum. Limits are not set for the wet weather discharge; however, maximum concentration benchmarks are

established to screen the effluent and assess the effectiveness of the facility's storm water pollution prevention plan (SWPPP). Exceedances for several parameters including Cr^{6+} and TCE have occurred in the past. (References 7b, 7c)

The most recent inspection report (December 2002) documented by WPC indicates no compliance violations for the facility. However, during its regulatory history, the facility incurred several state issued fines and notices of non-compliance due to the release of unpermitted discharges, discharges that exceed compliance limits, and malfunctioning or inoperable spill detection equipment. The state also initiated a federal enforcement action against the facility which culminated in a 1980 civil penalty assessment from the Environmental Protection Agency (EPA) for violating section 301 of the Clean Water Act (CWA). (Reference 6d, 7a, 7c)

Tennessee Solid Waste Management (SWM) files document regulatory oversight of the facility from the early 80s to the year 2001. During this period, the division provided oversight during the landfill investigation and closure, performed facility inspections, and investigated several releases at the facility. The most recent inspection in 1994 yielded no violations; however, violations noted from previous inspections include improper drum storage/labeling, failure to upkeep personnel records, and failure to upkeep and notify local authorities of the facility's Environmental Contingency Plan. Improvements noted in the inspection records include waste generation reductions of over 50% by 1991. (Reference 5)

Records from the state's Underground Storage Tank (UST) division indicate involvement with the closure of several petroleum underground storage tanks at the facility, and the implementation of a corrective action plan to remediate contaminated areas of total petroleum hydrocarbon (TPH) and stoddard contamination. (Reference 8)

2.2.2 Hazardous Substance Release History

Numerous hazardous substance releases associated with the Aerostructures operation were reported between 1955 and 2001. The majority of the releases impacted the surfacewater pathway; however, releases to the ground surface and air are also reported. Hazardous substances released in these incidents include spent paint, strippers, cleaners, and other process effluent that contained several substances including hexavalent chromium, cyanide, chlorine, zinc chromate, ammonium bisulfide, sodium dichromate, and chlorinated constituents (TCE, TCA, DCE, VC, chloroform, etc.). SWM files document several releases between 1986 and 2001 involving chromic/sulfuric acid waste, ethylene glycol, petroleum, and hexavalent chromium. Assessments conducted at several neighboring properties rendered partial attribution to offsite sources for releases involving certain substances, such as chlorine and petroleum products. The other substances released over the years have been specifically attributed to the Aerostructures operation. (References 5f, 7c, 8)

The most recent release at the Aerostructures facility occurred in July 2001. Elevated concentrations of hexavalent chromium were detected in discharge from outfall 001. Portions of the storm sewer network running through the onsite landfill to the outfall were found to contain breaches by which solid materials from the landfill infiltrated the network. It is believed that chromium in the material leached into the non-contact process water flowing to

the outfall. Hexavalent chromium concentrations detected at the outfall ranged from 0.08 to 0.8 mg/l. The NPDES monthly average and daily maximum concentrations at the time of the release were 0.11 and 0.16 mg/*l*, respectively. To prevent similar releases from occurring in the future, Avco initiated a corrective action to plug the storm sewer line running through the landfill with a grout-like material and construct a new section of sewer line outside of the landfill limits. The facility reportedly received approval to redirect the flow to the sanitary sewer during the investigation and corrective action period. (Reference 9)

2.3 Waste Description, Quantity Generated

Raw materials used by Aerostructures for their product development include aluminum, titanium, stainless steel, magnesium, plastics, fabrics, composite materials, cutting oils, degreasing and cleaning solvents, acid and alkaline solutions, metal and cyanide bearing solutions, and solvent or water based paints. Manufacturing processes associated with product construction include machining, forming, degreasing, milling, inspecting, plating, anodizing, painting, and assembly. Waste typically generated as a result of these operations include scrap metal, metal shavings and dust, waste solvents, metal wastes, filter sludges, plating waste (Cu, Cr, Cd), waste paint, and paint/solvent sludges. A 1999 hazardous wastestream generation report for the facility lists 22 wastestreams, several consistently generated since the 1940s, for the 1998 reporting year. A description of these wastestreams as documented in the report is listed in Table 1. In addition to process wastestreams, the facility reported having PCB containing items (transformers, capacitors, etc.) onsite at one time. The facility reports the removal of most PCB containing items with the exception of a small number of ballasts and capacitors. (References 5a, 5d, 5e, 6c, 7b)

Waste quantities listed in the 1999 hazardous wastestream report indicate that waste reduction efforts implemented by the facility terminated or reduced waste generation for several wastestreams. Reduction measures reported include raw material substitutions, equipment and technology modifications, and in-process recycling measures such as the mid-80's addition of a wastewater treatment facility for process rinse water recycling and a distillation process for reclaiming and reusing trichloroethylene for the vapor degreasers. The facility was issued a variance from classification as a waste for trichloroethylene in 1987 for product reclaimed and reused in this process. (Reference 5e)

A cumulative waste quantity of 234,517 kg was reportedly shipped offsite in 1998. In 1990, an offsite waste shipment of 585,362 kg was recorded with the facility reporting a 50% reduction in waste generation over the preceding 3 years. For each year from 1982-1984, the facility reported waste shipments of 2,331,921 kg, 2,807,008 kg, and 3,026,170 kg. An audit by SWM noted that the facility under-reported waste generation for the latter two years by 110,310 kg and 66,662 kg, respectively. The cumulative quantity reported in 1998 is about 90% less than those reported in the early 80s. (Reference 5e)

2.3.1 Storage, Treatment, and Disposal Practices

Hazardous wastes and virgin hazardous substances are generated and/or handled at various locations throughout the facility; however, several specific locations are noted as being designated storage, staging, or holding areas from 1985-2001 (Figure 4). A description of these

Table 1: Hazardous Waste Streams

Waste Stream No.	Waste Name	Year First Generated, Annual Frequency	Physical Form (% Solids)	Generation Rates (kg)		Amt. From 1998 Handled Onsite/Waste Handling Code[2]	Generation Process	Constituents
				Ann. Avg.	Amt. 1998[1]			
1	Waste Sodium Hydroxide Solution	1965, Various	Liquid (5)	550K	8,616.8	0 / NA	Alkaline etch surface treatment of aluminum parts, chemical milling to finish surface of aluminum parts	Sodium Hydroxide, sodium bisulfide, sodium gluconate, dissolved aluminum
2	Spent Caustic Soda	A written note on a page in the 1993 Hazardous Waste Stream report indicates that this wastestream is a spent caustic soda wastestream that receive a non-waste classification after the facility indicated the material would be shipped to Reynolds in Texas and recycled in their products.						
3	Waste Paint/Solvent Mix	1941, Various	Liquid (80)	55K	65,405.8	0 / NA	Painting operations and paint equipment clean-up	MEK, MIBK, toluene, acetone, chromium
4	Paint Booth Sludge	1941, Various	Slurry (80)	3K	0	0 / NA	Water wash paint booth operations	Paint solids, paint solids, mixed solvents, chromium
5	Waste Cyanide Sludge	1941, Various	Slurry (5)	2K	0	0 / NA	Generated from decarbonization of cadmium cyanide plating solution	Copper cyanide, sodium cyanide, sodium carbonate, rochelle salts
6	Sodium Hydroxide Sludge (tank bottom)	1941, Various	Slurry (90)	1K	0	0 / NA	Sodium hydroxide metal finishing process	Chromium, cadmium, mixed solids, aluminum hydroxide
7	Chromic Acid Sludge (tank bottom)	1941, Various	Slurry (75)	2K	81,469.4	0 / NA	Chromic acid metal finishing process	Chromic acid, mixed solids
8	Paint Solids	1941, Various	Sludge (70)	4.5K	0	0 / NA	Build-up chipped from hangers on paint conveyor line, paint chips, and blast media	Chromium, lead, plastic/glass blast media, pigments/curing agents
9	Spent Chromic Acid Solution	1941, Various	Liquid (5)	4000K	0	0 /NA	Surface treatment of aluminum	Chromic acid, sulphuric acid, ammonium bifluoride
10	Spent 1,1,1 Trichloroethane	1970, Continuous	Liquid (5)	1.5K	0	0 /NA	Vapor degreasing & handwiping of aluminum parts	1,1,1 trichloroethane, oil & grease
11	Waste Poison Liquid	1940, Various	Liquid (5)	5K	1877.6	0 /NA	Metal parts plating operation	Cadmium metal, sodium cyanide, sodium hydroxide, copper cyanide, sodium carbonate
12	Waste Corrosive Liquid	1985, Various	Liquid (5)	36K	0	0 /NA	Outdated laboratory chemicals and bulk process chemicals	
13	Nitric Acid	1983, Various	Liquid (2)	30.4K	0	0 /NA	Titanium parts anodizing process	Nitric acid, sodium dichromate, ammonium bifluoride
14	Waste Hydrofluoric Acid Solution	1941, Various	Liquid (2)	200	0	0 /NA	Cleaning of titanium parts and stainless steel for electroplating or brazing, outdated chemicals	Pure hydrofluoric acid or hydrofluoric and nitric acids
15	Waste Petroleum Naptha	1985, Various	Liquid (5)	7K	0	0 /NA	Degreasing of machinery	Naptha, oil & grease
16	Waste Phosphoric Acid	1983, Various	Liquid (2)	7.5 K	0	0 /NA	Anodizing of aluminum parts	Phosphoric acid
17	Wastewater Treatment Waste	1985, Various	Liquid (4)	4500K	80562.4	0 /NA	Regeneration of ion-exchange resins & carbon filters treating water from rinse tanks	Cadmium, chromium, copper, nickel, lead
18	Waste Corrosive Liquid	1986, Various	Liquid (5)	450K	0	0 /NA	Processing metal parts with extremely acid or basic substances	Chromic acid, nitric acids, sodium hydroxide, aluminum
19	Spent Chemicals	1986, Various	Liquid, other	13K	383.9	0 /NA	Expired chemicals and used batteries	Virgin acids, bases, poisons, misc. chemicals, used batteries

[1]A '0' value for the 1998 generation amount reflect reductions due to changes in generation processes such as equipment/technology modification, raw materials substitution, in-process recycling, etc.
[2]See Reference 5e for TSDR/Waste Management Handling Codes. Materials not handled onsite were temporarily stored onsite, then transported offsite for treatment and disposal.
NA – Not Applicable (no onsite handling for the reported year)

Table 1: Hazardous Waste Streams (continued)

Waste Stream No.	Waste Name	Year First Generated, Annual Frequency	Physical Form (% Solids)	Generation Rates (kg)		Amt. From 1998 Handled Onsite/Waste Handling Code[2]	Generation Process	Constituents
				Ann. Avg.	Amt. 1998[1]			
20	Spent Halogenated Solvent - Trichloroethylene	Not listed, Various	Liquid (5)	14K	13687.1	13278.9 /H09	Degreasers and wipedown	Trichloroethylene, oil & grease
21	Chromium Contaminated Sludge	1941, Various	Sludge (50), other	10K	317.5	0 /NA	Cleanup operations, paint stripper sand blast media, process filters	Chromium, mixed solids
22	Compressed Gas	1950, Various	Gas (0-40)	2.5K	249.5	0 /NA	Spray paint cans from touchup painting operations, gas cylinders from maintenance activities	Compressed gas, paint residue, chromium, metal/plastic

[1]A '0' value for the 1998 generation amount reflect reductions due to changes in generation processes such as equipment/technology modification, raw materials substitution, in-process recycling, etc.
[2]See Reference 5e for TSDR/Waste Management Handling Codes. Materials not handled onsite were temporarily stored onsite, then transported offsite for treatment and disposal.
NA – Not Applicable (no onsite handling for the reported year)

locations, as indicated by the 2001 facility Environmental Contingency Plan, is listed below. Previous designations and descriptions as indicated in earlier plans are also reported. Table 2 lists oil and hazardous substances or wastes generally stored at each location. (Reference 5a)

- **Location A** houses one above ground storage (AST) tank with a 500,000 gallon capacity. The tank stores No. 2 Fuel oil for use in the building 40 boilers.
- **Location B** contains an 8,000-gallon capacity AST which stores fuel oil used for wing testing in building 39. Fuel is pumped to one of several test bays in the building via an aboveground-piping system. The tank was installed in 1998 to replace the three 12,000-gallon underground tanks and underground-piping system formerly located here.
- **Location C** contains one No. 2 fuel oil AST with a 2,000-gallon capacity. This tank, installed in 1999, as a standby energy source for a boiler in building 39, replaces a 20,000-gallon UST installed in 1977.
- **Locations D-D7** are holding areas for waste oil - hydraulic, motor, cutting fluids, used oil from mills and other machinery, used oil/coolant from aluminum chip collection. The oil is collected in various size containers – 55-gallon drums, 500-1000-gallon portable polytanks, 100-300-gallon sumps. Sump contents from the aluminum chip collection are transferred to 1,000-gallon holding tanks whose contents are removed and disposed of by an aluminum-recycling contractor. The other oils are transferred to a 12,000-gallon used oil tank whose contents are periodically removed and disposed of by an outside vendor.
- **Location E** contains one 2,000-gallon unleaded gasoline AST and one 1,130-gallon diesel fuel AST. Both supply fuel for facility vehicle use. Earlier plans indicate that this location referenced a 20,000-gallon underground test fuel storage tank located near building 39.
- **Locations F1-F3** are buildings for storing incoming oils, process chemicals and compressed gas. The area includes one explosion-proof building (F3) for storing the flammable materials. Materials are received in various size containers with an average storage content of 10,000-gallons per area. Previous plans indicate the original area consisted of a canopied type shed located in the F2 area.
- **Location G** is the hazardous waste storage building for staging drummed waste, all reportedly removed in less than 90 days. Building is roofed with walls on three sides. This area was formerly located in what is currently designated as F1 and consisted of an open paved area secured by fencing.
- **Locations H1-H4,** at building 51, designate the location of the deionization water treatment plant and the two 18,000-gallon tanks for accumulating process waste from building 38. The water treatment system consists of two 5,000-gallon fiberglass storage tanks for the hydrochloric acid and sodium hydroxide regeneration chemicals and one 40,000-gallon regenerant waste storage tank. The two process waste tanks are located at the south end of building 51 and receive material via an aboveground pipeline. Normal storage time is reportedly less than one week. The waste from building 38 was previously transferred to two fiberglass lined ponds, a 30,000-gallon and a –15,000 gallon, via an underground pipeline. The ponds appear to have been located immediately north of building 51.
- **Location I1-I3** are partially enclosed structures for dispensing solvents and collecting waste used in facility cleaning and painting operations. Materials are handled in 55-gallon drums or 200-300 gallon totes. In previous documents, the location 'I' designated the flammables storage building (F3).
- **Location J**, building 30C, is the paint mixing room for painting operations throughout the facility.

Consoli ted Environmental Contin cy Plan

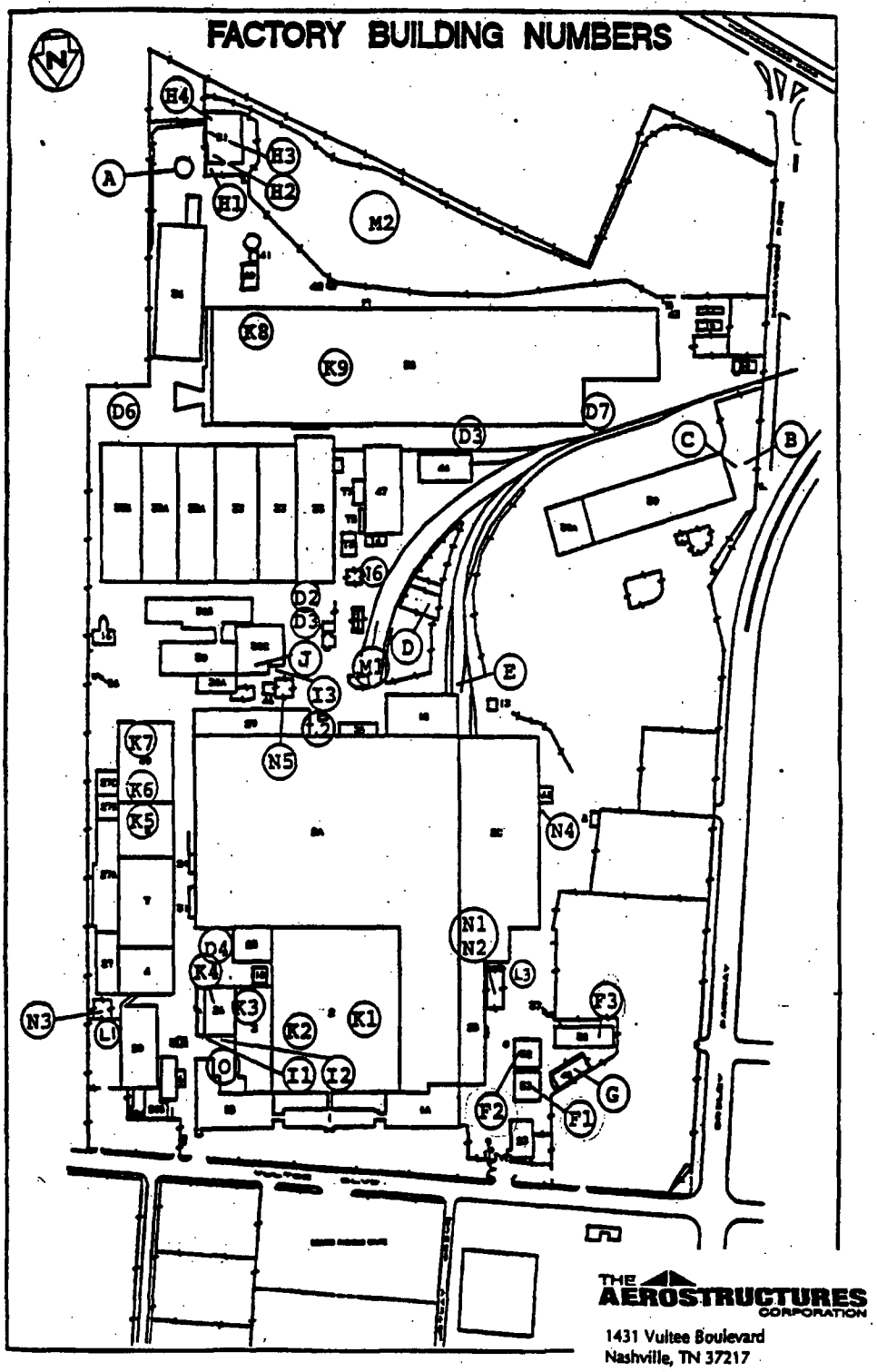


Figure 4: Oil, Hazardous Substance and Hazardous Waste Storage Locations (Source: 1999 and 2001 Consolidated Environmental Contingency Plans)

Table 2: List of materials associated with the figure 4 storage/staging locations.
(Source: 1999 and 2001 Consolidated Environmental Contingency Plans)

OIL, HAZARDOUS MATERIAL, AND HAZARDOUS WASTE STORAGE LOCATIONS

Location	Representative Materials
A	No. 2 fuel oil
B	Shell Pella Oil A
C	No. 2 fuel oil
D1 through D7	Waste oil, cutting fluids
E	Gasoline*, Diesel
F1 (Building 53)	Gas cylinders, chromic*, sulfuric, phosphoric, and nitric* acids, sodium sulfide, sodium bicarbonate, sodium dichromate*, aluminum sulfate, sodium hydroxide
F2 (Building 52)	Not presently in use
F3 (Building 32)	Paints*, activators* and thinners*, sealants*, diacetone and ethyl alcohol, maskant*, 140 solvent, xylene*, toluene*, Oxsol solvent, TA-50 solvent, trichloroethylene*, acetone, oils, cutting fluids, penetrant oil
G (Building 45)	Waste: paint* and solvents*, trichloroethylene*, acids* and acid sludges*, sodium hydroxide and alkaline sludges, cyanide/cadmium compounds*, chrome bearing waste*, asbestos debris, non-hazardous waste
H1 (Building 51)	Hydrochloric acid
H2 (Building 51)	Sodium hydroxide
H3 (Building 51)	Waste corrosive liquid* (contains chrome, normally acidic)
H4 (Building 51)	Chromic*, sulfuric, nitric*, hydrofluoric* acid or sodium hydroxide
I1	Solvent blends, diacetone and ethyl alcohol, acetone
I2	Xylene*
I3	Solvent blends, acetone, toluene*, waste paint*/thinners*

* Contains SARA 313 chemicals.

Table 2: (continued)

Location	Representative Materials
J	Paints*, thinners*, solvents, activators*
K1 (Building 2)	PPP process system: cyanide, cadmium*, chromic*, sulfuric, hydrochloric, hydrofluoric*, and nitric* acids, sodium hydroxide, trichloroethylene*
K2 (Building 2)	Heat treat: sodium nitrate, potassium nitrate, hexavalent chrome compounds*
K3 (Building 3)	GPS process system: chromic acid*, sulfuric acid, hexavalent chromium solutions*, sodium hydroxide, trichloroethylene*
K4 (Building 26)	Chem Mill, ACM process: strong sodium hydroxide, sulfides, sulfuric acid, maskant* and xylene*
K5 (Building 5)	SPS process: sodium hydroxide, chromic* and sulfuric acids, penetrant oil
K6 (Building 49)	CA, CC, and FPL processes: chromic* and sulfuric acids, sodium hydroxide, penetrant oil
K7 (Building 49)	TSC process: chromic*, sulfuric and nitric* acids, sodium hydroxide
K8 (Building 38)	LSA process: chromic*, sulfuric, and nitric* acids, hexavalent chrome solutions*, sodium hydroxide
K9 (Building 38)	LPI process: chromic* and sulfuric acids, sodium hydroxide, penetrant oil
L1, L2, and L3	Liquid nitrogen
M1 and M2	Propane gas (LP)
N1 through N6	Dielectric oil

* Contains SARA 313 chemicals.

- **Locations K1-K9** indicate the locations of tank arrangements that hold materials for various chemical process systems (plating, cleaning, anodizing, chemical milling, & inspecting). The tanks range in size from 60-35,000-gallons.
- **Locations L1-L3** identifies two-13,000 gallon and one-2,000 gallon pressurized tanks containing liquid nitrogen for the cooling system used in the autoclave forming process.
- **Locations M1-M2** are tanks for storing propane used to fuel facility towmotors and as a backup to the natural gas supply fueling the boilers and heating equipment. M1 consists of an 18,000-gallon storage tank and dispensing station. M2 consists of 2-30,000-gallon supply tanks, vaporizer, blending station, and associated piping. The tanks reportedly meet all fire and safety specifications.
- **Locations N1-N6** identifies transformer yards located throughout the property. Each yard has a riprap cover and reportedly contains up to six oil filled transformers with 50-467 gallon capacities. PCB containing transformers have been used and stored onsite in the past.

In addition to the listed staging/storage/holding areas, an onsite landfill was also operated between 1940-1977. The landfill (latitude N 36°07'14" and longitude W 86°41'45") covers approximately nine acres and is reportedly located along a drainage valley that formerly existed between the main plant and Briley Parkway. An investigation conducted prior to the landfill's closure indicates that the facility reported disposal of a variety of waste in the landfill including paper, wood, cardboard, metal banding, paint cans, styrofoam, rubber, rags, fiberglass epoxy and resin residue, washing machine tubs, miscellaneous scrap steel, construction/demolition debris. Information obtained from WPC files indicate that several facility wastes, including chromic acid paints, oil & grease, and cyanide wastes, were discharged to the dump or buried onsite. The cyanide wastes reportedly consisted of cyanide crystals that were originally buried in metal containers. The waste was later retrieved and transferred to a large concrete septic tank, then sealed and reburied after the contents were neutralized (Reference 5b, 7b).

The initial pre-closure investigation (ten borings converted to monitoring wells and eight observation trenches) of the landfill revealed waste in the observation pits and in two borings (4 and 11). The waste was described as being consistent with materials the facility reported to have buried at the site. Odors described as petrochemical were observed in some trenches. Soil, water, and waste samples were collected and analyzed for chemical makeup and leaching capacity. An additional thirteen trenches were excavated to further characterize landfill contents after TCE concentrations of up to 13,000 ug/l and 1,700 ug/kg were detected in a monitoring-well water sample and a 20-25-ft soil core sample, respectively. Oil and grease contamination was discovered as well. The additional excavations revealed what appeared to be petroleum contamination weeps and odors in some trenches. Samples collected from the additional trenches were analyzed for petroleum content only. (Reference 5b)

Investigation findings indicate that the landfill is generally covered with 4-8" of crushed stone followed by up to 4.5 ft of brown, silty clay. A waste layer ranging from 2-41feet reportedly underlies the silty clay layer. The waste layer is thickest near the north-central portion of the landfill (pit 11/11A). At this location, the waste is in contact w/bedrock and thins around the periphery of the site where it is underlain by up to 15-ft of undisturbed residual soil with permeability typically ranging from 10^{-6} - 10^{-8} cm/sec. Most of the landfill is now covered by asphalt pavement. (Reference 5b)

With the exception of the transformer yard, containment features (dikes, sumps, and/or secondary basins) are currently present at each of the listed holding/staging locations. Contingency plans from the mid-80s indicate that containment features currently described for several areas - the oil and hazardous substance storage building (F2), the hazardous waste storage shed (G), and the hazardous waste holding tanks (H4) - were not present at that time. (Reference 5a)

A variety of methods has been used to dispose of the waste generated by the facility. Records indicate disposal by operation of an onsite landfill (and dumping on the ground in the vicinity of the landfill), and disposal by discharge to outfalls, the sanitary sewer, and onsite waste ponds. The facility also reported the vending used oil and thinners to a salvage company during the 1950s. During the 80s, a deionization wastewater treatment system and a system for recycling TCE from vapor degreasers were added. Current disposal methods consist of offsite disposal by permitted facilities, onsite treatment and recycling, and permitted discharges to the air, sanitary sewer, and surfacewater. (Reference 5a, 5d, 5e)

3.0 PATHWAY AND TARGET ASSESSMENT

3.1 Groundwater Pathway

The Aerostructures/Avco facility is underlain by Ordovician age bedrock. The youngest geologic formation underlying the site is the Hermitage Formation. The Hermitage is about 50-90 ft deep and consists of four major units. The surficial unit is a medium-bedded granular phosphatic limestone ranging in thickness from 9-20 ft. A fossiliferous coquina unit follows. This medium-bedded unit is up to 10 ft thick and contains disseminated silt and shale partings. Below the coquina unit is laminated argillaceous limestone with a thickness ranging from 50-70 ft. This is a sandy, very fine- to medium-grained unit with laminated- to thin-beds. The base unit is a fine- to medium-grained, thin-bedded fossiliferous limestone, 9-10 ft thick with thin shale partings. (References 3b, 8b)

The Hermitage Formation is underlain by the Carters and Lebanon formations, respectively. The Carters Formation consists of two primary members and is medium light- to brownish-gray and yellowish-brown in color. The unit is generally very fine-grained to cryptocrystalline with some beds ranging up to coarse-grained in the lower member. The upper member is approximately 10 ft thick and thinly bedded with thin shale partings. The lower member is medium- to thick-bedded with thin bands of magnesian limestone and thin lenses of chert. The lower member ranges from 40 to 80 ft in thickness. A bentonite bed 6-12 inches thick separate the lower and upper members. This layer, referred to as the T-3 layer, consists of green (fresh) to white and yellow (weathered) sticky clay. The next lower formation, Lebanon Limestone, is medium-gray to medium dark-gray and brownish-gray to yellowish-brown. The thin-bedded formation is fossiliferous with thin shale partings and a maximum thickness of 60-ft. (References 3b, 8b)

According to the landfill pre-closure investigation report, weathering of the Hermitage (stained bedding planes, fractures, and cavities) was observed down to about 12-ft below the bedrock surface followed by relatively unweathered bedrock. The bedrock interval was pressure tested in two borings to quantify permeability characteristics of the bedrock. The test indicated that

below the zone of weathering, the Hermitage is relatively impermeable on the order of $1x10^{-10}$ cm/sec. The report also notes that the Hermitage may provide a vertical migration barrier where unweathered; but that in the vicinity of the site it is phosphatic and very prone to solutioning. Contact between the Hermitage and underlying Carters was reportedly encountered between 490 – 508 ft. The report describes the Carters formation as soluble and indicates that while extensive weathering was not observed, vertical migration to the Carters may exist where the Hermitage has been degraded or breached. (Reference 5b)

Groundwater in the area occurs mainly in the rock formations along secondary openings such as fractures, joints, and bedding planes, many of which have been solutionally enlarged. Boring and/or well log information from subsurface investigations conducted at the facility and nearby gas stations indicates that bedrock is generally encountered from 11-50 ft below ground surface (bgs). Extensive secondary porosity features within the Hermitage bedrock were also observed. Slight weathering along horizontal bedding planes was detected in the Carters formation. The investigations reported water encountered in the Hermitage and Carters formations with a minimum depth to groundwater between 20-25 ft bgs. Local groundwater flow is reportedly directed to the southwest. The T-3 layer of the Carters was encountered no less than 40-ft bgs. (References 5b, 8b)

The landfill investigation also reports perched zones of water within the overburden. These saturated areas are suspected to be the result of water leaking from sections of reinforced concrete sanitary sewer and storm sewer lines buried in the landfill. The pipes carry the outfall 001 discharge and range from 12-42 inches in diameter. (Reference 5b)

Groundwater encountered during past facility investigations was sampled on several occasions to assess hazardous substance impact. Some of the hazardous constituents detected in 1982 monitoring well samples include TCE, trans 1,2-DCE, 1,1,1 TCA, and cyanide with maximum concentrations of 13,000 ug/l, 5,200 ug/l, 370 ug/l, and 2.32 mg/l, respectively. A composite leachate sample collected from the landfill in 1980 indicated the presence of the same constituents. (Reference 5b)

3.1.1 Groundwater Targets

The site is located within the Metropolitan area of Nashville. The facility and residents within the 4-mile target area for the facility obtain their water from a surfacewater-supplied source distributed by Metro Water Services. It is reported that municipal water service to the area dates back to the 1940s. (Reference 7?,8b)

3.1.2 Groundwater Conclusion

Hazardous substances associated with the Avco Aerostructures operation have been found in groundwater and landfill leachate samples. Thus, an observed impact to groundwater has occurred. However, exposure due to use of groundwater as a potable supply is unlikely since the area is served by municipal supplies derived from a surfacewater source. Migration of groundwater and landfill leachate to surfacewater is possible since springs are known to exist in the area and leachate breaches have direct access to the SW-1 drainage path.

3.2 SURFACE WATER PATHWAY AND TARGET ASSESSMENT

3.2 Surfacewater Pathway

The Aerostructures facility lies within the Mill Creek watershed which has a drainage area covering approximately 101 square miles (mi^2) in southern Davidson and northern Williamson counties. Landuse in the watershed is predominantly residential with commercial and industrial zones dispersed throughout. Agricultural landuse segments occur in Williamson County near the headwaters of Mill Creek. Mill Creek is on Tennessee's 303(d) list as an impacted stream with partial support of its designated use. Urban and agriculture runoff, industrial discharge, and sanitary sewer overflows are listed as the source of the pollutants contributing to creek's deteriorating water quality. (Reference 7d)

The majority of the runoff from the Aerostructures property is directed through a network of storm drains to two NPDES permitted outfalls, designated as outfall-001 and outfall-002. Each outfall discharges to tributaries of Mill Creek. Input to the outfalls is from direct runoff, noncontact cooling water, and boiler feed water associated with facility operations. Direct runoff includes runoff from Aerostructures property as well as some areas neighboring the facility to the north and east. Two other outfalls, 003 and 004, are known exist on the property as well. These outfalls are reportedly exempt from the permit and are listed surface runoff conveyances only. They are said to drain areas of 1-acre and 9-acres, respectively. A facility investigation to locate all drainage networks resulted in the discovery of several interior process drains connected to the storm drain system. These drains were reportedly plugged. (References 5a, 7b, 7c)

Outfall-001 drains an area of 70-acres (60 impervious) and discharges to mile 1.5 of an unnamed tributary confluent to Mill Creek at mile 4.6. Outfall-002 drains a 38-acre area (20 impervious) and discharges to mile 1.3 of the Finley Branch tributary confluent to Mill Creek at mile 7.2. The 15-mile surface water pathway for the facility continues northwest along Mill Creek for about 4-miles, through its confluence with the Cumberland River near mile 198.4, and along the Cumberland River for about 10-miles. The surfacewater target distance limit is completed between river mile 187-188. Average flows ranging from 195 – 600 gpm and 75 - 400 gpm, are reportedly discharged from outfalls 001 and 002. The tributaries to which they discharge are zero to low flow streams. The annual average flow of Mill Creek is 90-131 ft^3/s. Currently, the discharge to outfall 001 is being routed to the sanitary sewer. (References 7b, 7c, 7d)

Each permitted outfall has been the source of numerous hazardous waste releases. Observable impacts to the surfacewater pathway documented following facility releases include fish kills, discolored sediment and water, and diminished quantity and diversity of stream macroinvertebrates. No recent reports of fish kills or discolored water/sediment were found. A 1998 assessment of Mill Creek suggests continued deficiencies in the creek's macroinvertebrate population. Some of the substances detected and quantified in water samples collected subsequent to these releases include chromium, hexavalent chromium, aluminum, copper, 1,1,dichloroethane (DCA), 1,1,1 trichloroethane (TCA), trans-1,2 dichloroethylene (DCE), chloroform, and trichloroethylene (TCE). Each of the these substances has been

detected in outfall and tributary samples on several occasions with maximum concentrations as follows: 1,1 DCA - 11.8 ppb; 1,1,1 TCA -30.7 ppb; 1,2 DCE – 30 ppb; chloroform – 10.7 ppb; TCE - 42.1 ppb; Al - 10,900 ppb; Cu - 13 ppb; Cr_{total} – 35,000 ppb; and Cr^{6+} - 25.6 ppm. (References 7c, 7d)

3.2.1 Surfacewater Targets

Surfacewater is the source for the municipal water supply serving the target area. The nearest intake is located within the 15-mile surfacewater pathway on the Cumberland River near river mile 194. The intake serves approximately 412,067 people. Past releases attributed to the facility have migrated along the surfacewater pathway and entered the Cumberland River prompting additional sampling and monitoring of influent and effluent at the water treatment facility. The water department is noted as reporting no adverse affect from the releases. (References 3c, 7c)

Designated uses for Mill Creek include irrigation, recreation, fish and aquatic life, livestock watering and wildlife, and industrial water supply. The creek's status as an impaired stream renders it unsuitable to fully support the designated uses. The creek is also accessible to residential areas due to the lack of vegetative buffer between the creek and some residential sections and the presence of boat docks along the creek near the Cumberland River. (References 7b, 7c, 7d)

Several federal and state endangered and threatened terrestrial and aquatic species are listed as inhabitants of areas within the target distance limit. However, Mill Creek is the listed habitat of one species, the Nashville Crayfish (Orconectus Shoupi). The nearest wetland identified is located about 2-2.5 miles downstream of outfall 001. The wetland, which is adjacent to a bridge along Interstate 40, consists of water oak, black willow, willow oak, sweet gum, river birch, sycamore and cottonwood. Crayfish were observed in the creek at this area. Other wetlands are reported to exist further downstream just before the Cumberland River confluence. (References 7c, 7d)

3.2.2 Surfacewater Conclusion

Analytical data, visual observations, and stream assessments have all indicated an adverse impact to surfacewater due to past hazardous waste releases from the Aerostructures operation. No sediment data was found for this pathway; thus impact to sediment is unknown. Targets potentially affected include the area municipal water supply whose intake is within the target distance limit near the confluence of Mill Creek and the Cumberland River, and the Nashville crayfish that is known to inhabit Mill Creek. Some segments of the creek are also accessible to residential areas.

Past releases attributed to the facility have entered the Cumberland River; however, the water department is noted as reporting no adverse affect from the releases. Impact to the Crayfish population is unknown; but, crayfish have been observed about 2-2.5 miles downstream of the outfall 001 confluence with Mill Creek.

3.3 SOIL AND AIR PATHWAYS AND TARGET ASSESSMENT

3.3 Soil and Air Pathways

Native soils on the Aerostructures property fall within the Maury-Urban land-Armour series. It consists predominantly of dark brown silt loam surface soil underlain by reddish brown silty clay loam that transitions to a yellowish red firm clay. Generally, the thickness of the undisturbed soil ranges from zero up to 65". Soils in this group have moderate to moderately slow permeability and have a high water holding capacity. At present, exposed native soils are almost entirely nonexistent since most of the Aerostructures property is covered by pavement. The largest unpaved area is the densely vegetated drainage valley within the southwestern limit of the landfill (around outfall 001), and the adjacent gravel covered NES substation. (Reference 5b)

Visual observations of releases or disposal to the ground surface have been documented in the past. These observations include staining around the former waste holding pits, and around the test fuel building leading into the outfall 001 drainage path (building 39). Aerial photos from 1947 reveal landfilling activities and the path of the landfill drainage valley. In addition to the visually observed ground surface impacts, reported breaches in sumps and pipelines holding and transmitting process waste indicate subsurface impacts as well. (References 7c, 11c)

Several investigations conducted at the facility during the 80s, resulted in soil boring sampling in various areas known or suspected to have been impacted by releases or disposal activities. These samples, which were collected at depths up to 20-ft below ground surface (bgs), indicated the presence of several hazardous constituents including TCE at concentrations ranging from <0.01-1.7 mg/kg and chromium (total) at concentrations of 14.7-67.7 mg/kg. (References 5a, 8b)

Facility releases to the air have resulted in no known air quality problems. However, at least two reportedly accidental air releases are documented. The most recent documented release occurred in 1995 and involved the discharge of deoxidizing cleaning solution, containing chromic and sulfuric acid, through a process exhaust fan. The material reportedly settled on the facility grounds in small droplets. (Reference 5f)

3.3.1 Soil and Air Targets

Aerostructures employs approximately 1800 persons and approximately 7140 persons reside within 1-mile of the property. Approximately 98,337 persons reside within 4-miles of the facility. The nearest resident/residential area is over 200-ft but less than ¼-mile to the west, separated from facility property by fencing and a major 4-lane highway. The nearest daycare is less than ¼-mile south of the property. It is separated from the Aerostructures property by a commercial business bordering the facility to the south, followed by the Finley Branch tributary to which outfall 002 discharges. (References 6b, 6f)

3.3.2 Soil and Air Pathway Conclusion

Contaminants have been identified in the soil; however, the area is predominantly paved and the nearest non-worker population does not have access to the property. Onsite workers have minimal, if any, soil contact due to the extensive pavement. Anyone within target distance of the facility is potentially impacted by air releases; however, currently the facility is reported to have no air release compliance issues.

4.0 SUMMARY AND CONCLUSION

The Aerostructures Corporation, which began in 1940, is a large quantity generator that manufactures various aerospace components. Waste typically generated include scrap metal, metal shavings and dust, waste solvents, metal wastes, filter sludges, plating waste, waste paint, and paint/solvent sludges. Disposal methods employed by the facility over the years include the operation of an onsite landfill, the vending of used oil and thinners to a salvage company, offsite disposal of drummed or waste pond accumulated material, onsite treatment and recycling, and permitted discharges to surfacewater outfalls, the air, and sanitary sewer.

Between 1955 and 2001, the facility was responsible for numerous hazardous substance releases to the surfacewater pathway. The permitted outfalls were the primary release source for many of these releases and served as a secondary source for releases from the landfill and waste ponds. Substances released include spent paint, strippers, cleaners, and process effluent that containing hexavalent chromium, cyanide, chlorine, zinc chromate, ammonium bisulfide, sodium dichromate, chlorinated constituents (TCE, TCA, DCE, VC, chloroform, etc.), chromic/sulfuric acid waste, ethylene glycol, and petroleum.

Analytical data obtained from samples collected subsequent to releases or during facility environmental assessment investigations indicate impact to the soil, groundwater, and surfacewater pathways due to the frequent releases and some of the hazardous materials disposal/handling methods employed. In addition to analytical data, observable impacts to the surfacewater pathway, such as fish kills, discolored sediment and water, and diminished quantity and diversity of stream macroinvertebrates, have been documented in the past.

Several investigations conducted at the facility during the 80s, resulted in soil boring sampling in various areas known or suspected to have been impacted by releases or disposal activities. These samples, which were collected at depths up to 25-ft below ground surface (bgs), indicated the presence of several hazardous constituents including TCE at concentrations ranging from <0.01-1.7 mg/kg and chromium (total) at concentrations of 14.7-67.7 mg/kg. Monitoring-well samples revealed TCE concentrations of up to 13,000 ug/l, and trans 1,2-DCE, 1,1,1 TCA, and cyanide with maximum concentrations of 5,200 ug/l, 370 ug/l, and 2.32 mg/l, respectively. Oil and grease contamination was present as well. Targets for the soil and groundwater pathway are minimal. The site is gated and almost entirely paved; thus reducing exposure to persons or terrestrial species in the area. Exposure potential increases for onsite workers involved in activities such as excavation and drilling. There is no drinking water threat via the groundwater pathway as persons living and working within the target distance limit use surfacewater municipal source for potable water. Migration of groundwater and landfill

leachate to surfacewater is possible since springs are known to exist in the area and leachate breaches have direct access to the outfall 001 drainage path.

Surfacewater samples collected subsequent to various releases indicated the presence of chromium, hexavalent chromium, aluminum, copper, 1,1,dichloroethane (DCA), 1,1,1 trichloroethane (TCA), trans-1,2 dichloroethylene (DCE), chloroform, and trichloroethylene (TCE). Each of the these substances were detected in outfall and tributary samples on several occasions with maximum concentrations as follows: 1,1 DCA - 11.8 ppb; 1,1,1 TCA -30.7 ppb; 1,2 DCE – 30 ppb; chloroform – 10.7 ppb; TCE - 42.1 ppb; Al - 10,900 ppb; Cu - 13 ppb; Cr_{total} – 35,000 ppb; and Cr^{6+} - 25.6 ppm. Analytical data for sediment was not found.

Targets potentially affected include the area municipal water supply whose intake is within the target distance limit near the confluence of Mill Creek and the Cumberland River, and the Nashville crayfish that is known to inhabit Mill Creek. Some segments of the creek are also accessible to residential areas. Past releases attributed to the facility have entered the Cumberland River; however, the water department is noted as reporting no adverse affect from the releases. Impact to the crayfish population is unknown; but, crayfish have been observed about 2-2.5 miles downstream of the outfall 001 confluence with Mill Creek.

Based on historical analytical data, the facility's spill/release history, and the known (landfill) and suspected (former waste pond, waste staging/storing areas, etc.) areas of hazardous materials remaining on facility property; soil, groundwater, and surfacewater are all pathways of concern due to observable impact. Targets potentially affected include site workers, area residents, a drinking water intake, and federal/state listed endangered or threatened species. The surfacewater pathway is documented as being the most impacted by facility releases. The Nashville Crayfish, and residents who use Mill Creek for fishing or recreational purposes may be exposed to threats created by historical releases to the creek. Distance from the facility and the absence of current releases are expected to eliminate the exposure threat to the surfacewater intake. Although no recent data suggesting continued impact from hazardous substances specifically related to the facility was found, the facility's historical releases are suspected to have contributed to the continued impaired status of Mill Creek. Impact to sediment is unknown as analytical data for this medium was not found. Exposure to groundwater impacted by the facility is of minimal concern since area residents and businesses use surfacewater supplied sources. Site fencing and the extensive pavement reduces exposure to site workers, area residents, and terrestrial species with habitats in the area.

Additional investigation of the soil, air, and groundwater pathways are not warranted due to the containment of hazardous substance sources remaining onsite and the lack of groundwater targets. However, due to the lack of sediment samples, additional evaluation of the surfacewater pathway is recommended.

5.0 REFERENCES

1. (a) U. S. Geological Survey. 7.5-Minute Topographic Quadrangle Maps (GIS): Nashville East; Oakhill; Nashville West; Antioch; Hermitage; LaVergne. (b) Population Data Generated Using GIS and Census 2002 Data.

2. Topozone.com

3. (a) U.S. Department of Agriculture, "*Soil Surveys: Davidson County*", 1977. (b) Tennessee Division of Geology, "*Geologic Map and Mineral Resources Summary: Antioch Quadrangle*". (c) Tennessee Division of Water Supply, File# 0000494. Nashville Water Department Information.

4. (a) Metropolitan Government of Nashville and Davidson County Planning Commission, Online Mapping and Property Information. (b) Metropolitan Government of Nashville and Davidson County Property Assessor, Real Estate Appraisal Cards. (c) 2002 Polk Directory.

5. State of Tennessee Department of Environment and Conservation, Division of Solid Waste, File# TND004042057, 1981 - present. (a) Consolidated Environmental Contingency Plans 2001, 1991, 1985. (b) Avco/Aerostructures Landfill Pre-closure Report & Plan and Related Correspondence. (c) Hazardous Waste Notification Generation Form (d) 1994 Facility Inspection Report (e) Hazardous Waste Generation, Shipping Reports and Related Documents (f) General Correspondence (facility description, spill information, etc.)

6. Aerostructures Information from Miscellaneous Sources. (a) Council Resolution 1896, Authorizing Creation of Avco, 1939. (b) Nashville Business Journal article on Vought/Aerostructures merger. (c) Aerospace Industry Sector Notebook. (d) Right to Know Network (RTK-NET), EPA Docket Database (last updated 10/18/00).

7. State of Tennessee, Department of Environment and Conservation, Division of Water Pollution Control File# TN0001597, 1954-present. (a) December 2002 Compliance Inspection Report. (b) NPDES Permits, Applications, and Related Documents (c) General Correspondence. (d) 1998 Mill Creek Pollution Survey Report, and Tennessee 303d Status Report.

8. State of Tennessee, Department of Environment and Conservation, Division of Underground Storage Tanks File# 190056 (a) General Correspondence (b) BWSC Appendix: Environmental Assessment Site Activity Summary Report, 1989; and Textron Corrective Action Plan for the Test Fuel Area, 1991.

9. State of Tennessee, Department of Environment and Conservation, Division of Superfund File# 19585, General Correspondence.

10. State of Tennessee, Department of Environment and Conservation, Division of Natural Heritage, Species Occurrence Quadrangles.

11. Aerostructures Facility Aerials, Layouts, and Images. (a) Sanborn Map of Vultee Aircraft, 1941. Tennessee State Library and Archives. (b) Archive Images from Plant and Assembly Line. Tennessee State Library and Archives, Box 48. (c) Aerial Images (1947, 1980, 1982, 1984). Tennessee Department of Transportation.

REFERENCE 1

U.S. EPA REGION IV

SDMS

Unscannable Material Target Sheet

DocID: 10660173 Site ID: TND004042057

Site Name: Cirostructures Corporation

Nature of Material:

Map:	☑	Computer Disks:	☐
Photos:	☐	CD-ROM:	☐
Blueprints:	☐	Oversized Report:	☐
Slides:	☐	Log Book:	☐

Other (describe): 4 mile radius map

Amount of material: _____

* Please contact the appropriate Records Center to view the material *

TN Division of Superfund (NEAC)

Memorandum

TO: TDSF File # 19-585

FROM: Pamela R. Franklin, TDSF, Nashville Field Office

Re: Population Info from GIS Using Census 2002 Data

Mile Interval	# of People
0 - 0.5	2207
0 – 1	7140
0 – 2	21648
0 – 3	54434
0 – 4	98337

Distance Intervals are with respect to the landfill @ the Heroostructures facility.

Reprint

REFERENCE 2

TopoZone.com

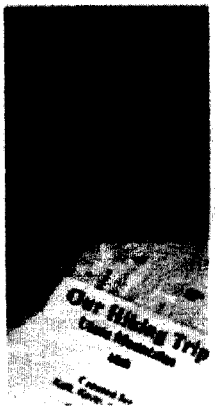
Get a Map
Place name search
Decimal degrees
Deg/min/sec
UTM coords

Download Maps
TopoFactory Login
About TopoFactory
Specifications
TopoFactory Store

How to...
Put topo maps on your Web site
Get digital data
Link to us

What's New?
Get the TopoTimes
Press releases
New @ TopoZone
Awards

Help
Map tips
Topo map symbols
FAQ
Support
Privacy policy
About us



Target is 36° 07' 26"N, 86° 41' 45"W - **ANTIOCH** quad [Quad Info]

Click here to download a custom topographic map with *TopoFact*

meters 0 500 1000 1500 2000

miles 0 0.5 1.0

Coordinates (NAD27): UTM DD.DDDD D/M/S Show target

Email this map | Bookmark this map | Print this map

The TopoZone is produced by Maps a la carte, Inc. - © 2000 Maps a la carte, Inc. - All rights reserved. Use of this site is governed b
and Terms of Use. **We care about your privacy - please consult our** Privacy Statement **for details.**

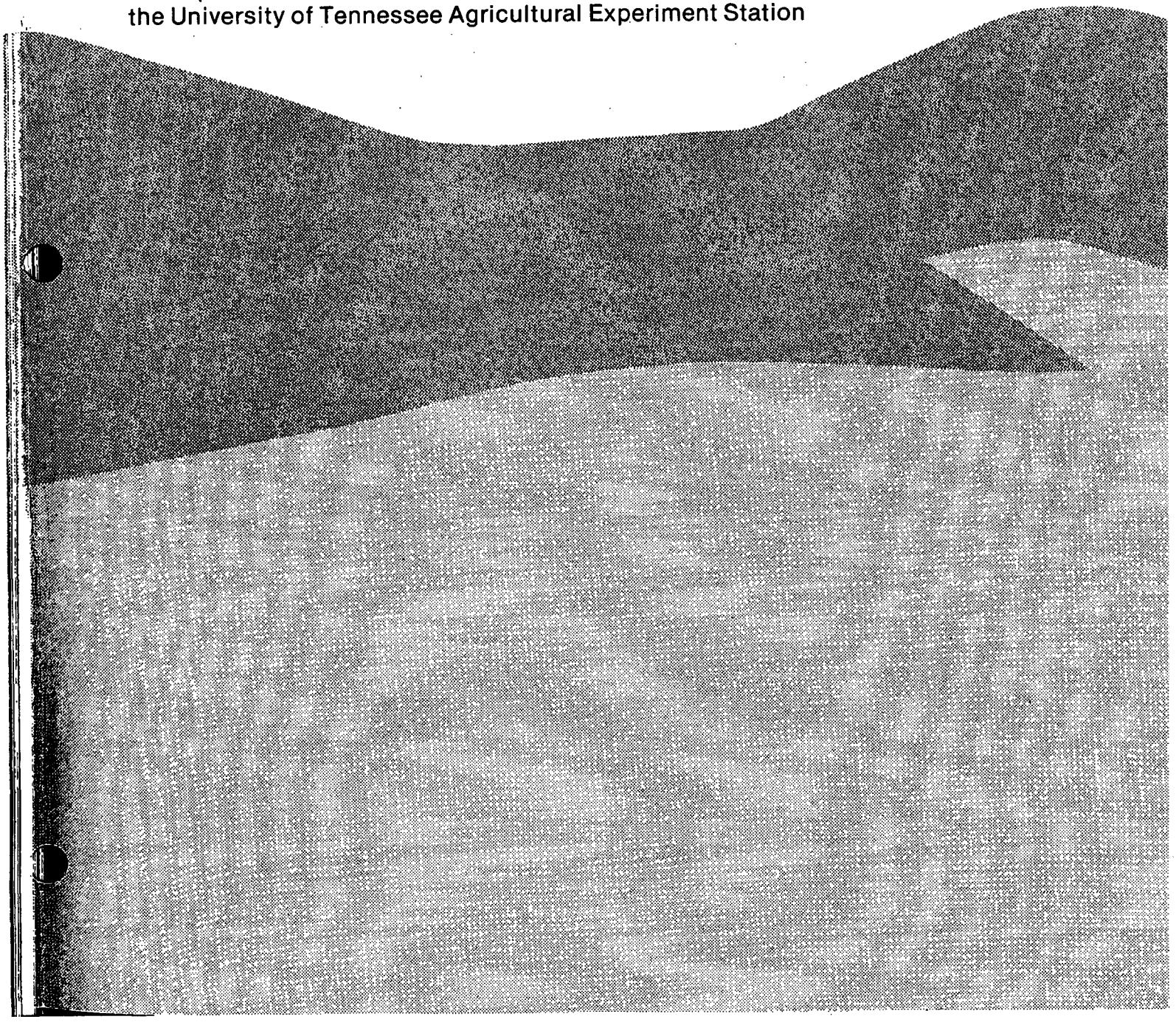
REFERENCE 3

CS MAP MISSING

Soil Survey of

Davidson County, Tennessee

United States Department of Agriculture
Soil Conservation Service
in cooperation with
the University of Tennessee Agricultural Experiment Station



This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other federal agencies, state agencies including the Agricultural Experiment Stations, and local agencies. The Soil Conservation Service has leadership for the federal part of the National Cooperative Soil Survey. In line with Department of Agriculture policies, benefits of this program are available to all, regardless of race, color, national origin, sex, religion, marital status, or age.

Major fieldwork for this soil survey was performed in the period 1970-1977. Soil names and descriptions were approved in 1977. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1977. This survey was made cooperatively by the Soil Conservation Service and the University of Tennessee Agricultural Experiment Station. It is part of the technical assistance furnished to the Davidson County Soil Conservation District.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

This survey supersedes the soil survey of Davidson County published in 1904 (*7*).

soil survey of
Davidson County, Tennessee

By Olin L. North, Soil Conservation Service

Soils surveyed by Olin L. North, Ted E. Cox, Hershel D. Dollar,
William G. Hall, Robert B. Hinton, Carlie McCowan
and Charles E. McCroskey, Soil Conservation Service

United States Department of Agriculture, Soil Conservation Service,
in cooperation with
the University of Tennessee Agricultural Experiment Station

general nature of the survey area

DAVIDSON COUNTY is in north-central Tennessee. It has a total land area of 325,700 acres, or 509 square miles. Elevation ranges from about 400 to 1,100 feet above sea level.

Nashville, the county seat, is the capital and second largest city of Tennessee. The population of the Nashville metropolitan area is about 500,000. The city has encroached on much of the good agricultural land, but farming is still a viable enterprise in the county.

The county is part of the Central Highland Geologic Province. Most of the county is the north and west. It is gently rolling in the southeast. The Cumberland River meanders from east to west across the center of the county.

Most soils on hilltops in the northwest section formed in about 2 to 3 feet of loess. Most soils in the central and southeastern sections formed in material weathered from the underlying limestone bedrock. There are many rock outcrops and sinkholes in this region. Soils along the Cumberland River and its tributaries formed in alluvial deposits. The formation of the soils in Davidson County is described in "The soils of the Nashville Basin" (*3*).

settlement

When the first settlements were made in the Davidson County area, the territory that is now Tennessee was still part of North Carolina. Fort Nashborough, the first settlement in the area, was named for General Francis Nash, a Revolutionary War officer of North Carolina. Fort Nashborough was founded by James Robertson in 1779.

Davidson County was formed on October 6, 1783. It was named for General William Davidson, one of North Carolina's Revolutionary War heroes. The county extended from the Cumberland Mountains westward to the Tennessee River and from 35 degrees 50 minutes north latitude south to the Duck River (*6*). The present boundaries of the county were not established until much later. In the same year that the county was established, patriotic revolutionary sentiment resulted in the substitution of the French *ville* for the British *borough*, and Nashborough became Nashville.

One renowned early settler was Andrew Jackson, who moved to Nashville in 1788 and began practicing law. He was elected President in 1828 and served two terms. His home, the Hermitage, near Donelson, Tennessee, is now a historical landmark.

The early settlers hunted, cleared new land, and grew corn. The need for improvement of crop production was apparent, and in 1819 a group of farmers in Davidson County formed a conservation group called the "Cumberland Agricultural Society" (*4*). Before the Civil War, cotton was a major crop, but by 1900 it was grown on only a limited acreage. Tobacco had become a major crop, especially on the Highland Rim.

industry and transportation

Industries in Davidson County include manufacturing, marketing, banking, printing and publishing, agribusiness, housing, and tourism. The more than 750 industries in the county employ more than 30 percent of the nonagricultural workers. Manufacturing and printing and publishing are the chief industries.

Nashville is one of the largest American centers for recording and distributing music. More than half of all single records sold in the United States are recorded in Nashville.

Farmland makes up 41 percent of the total land area of the county. The major farm enterprises are crop and livestock production. Hay, corn, soybeans, wheat, tobacco, livestock, and poultry are important products. Processing and distributing agricultural products are also important to the local economy.

Davidson County has an excellent network of 16 state, federal, and interstate highways. Interstate highways 24, 40, and 65, which meet in Nashville, are arteries of transportation to other large cities. The many state and county highways make every part of the county accessible for easy movement of farm products and freight. Sixty-six common carrier freight lines and 6 bus lines operate within county boundaries.

The Cumberland, Tennessee, Ohio, and Mississippi Rivers connect Nashville and Davidson County to the Gulf of Mexico. Barges use the Cumberland River to transport sand, gravel, asphalt, cement, petroleum, steel, and other products to and from the county.

Ten airlines and two railroads serve Nashville. About 185 scheduled commercial flights and 75 tons of freight move through the Nashville Metropolitan Airport daily. Railroads move more than 36 million tons of cargo through Nashville yearly.

climate

Prepared by the National Climatic Center, Asheville, North Carolina.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Nashville in the period 1951 to 1975. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on length of the growing season.

In winter the average temperature is 40 degrees F, and the average daily minimum temperature is 30 degrees. The lowest temperature on record, which occurred at Nashville on January 24, 1963, is -15 degrees. In summer the average temperature is 78 degrees, and the average daily maximum temperature is 89 degrees. The highest recorded temperature, which occurred at Nashville on July 27, 1952, is 107 degrees.

Growing degree days are shown in table 1. They are equivalent to "heat units." During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (50 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The total annual precipitation is 47.83 inches. Of this, 23 inches, or 48 percent, usually falls in April through September, which includes the growing season for most crops. In 2 years out of 10, the rainfall in April through September is less than 20 inches. The heaviest 1-day rainfall during the period of record was 5.09 inches at Nashville on September 13, 1962. Thunderstorms occur on about 55 days each year, and most occur in summer.

Average seasonal snowfall is 11 inches. The greatest snow depth at any one time during the period of record was 9 inches. On an average of 4 days, at least 1 inch of snow is on the ground. The number of such days varies greatly from year to year.

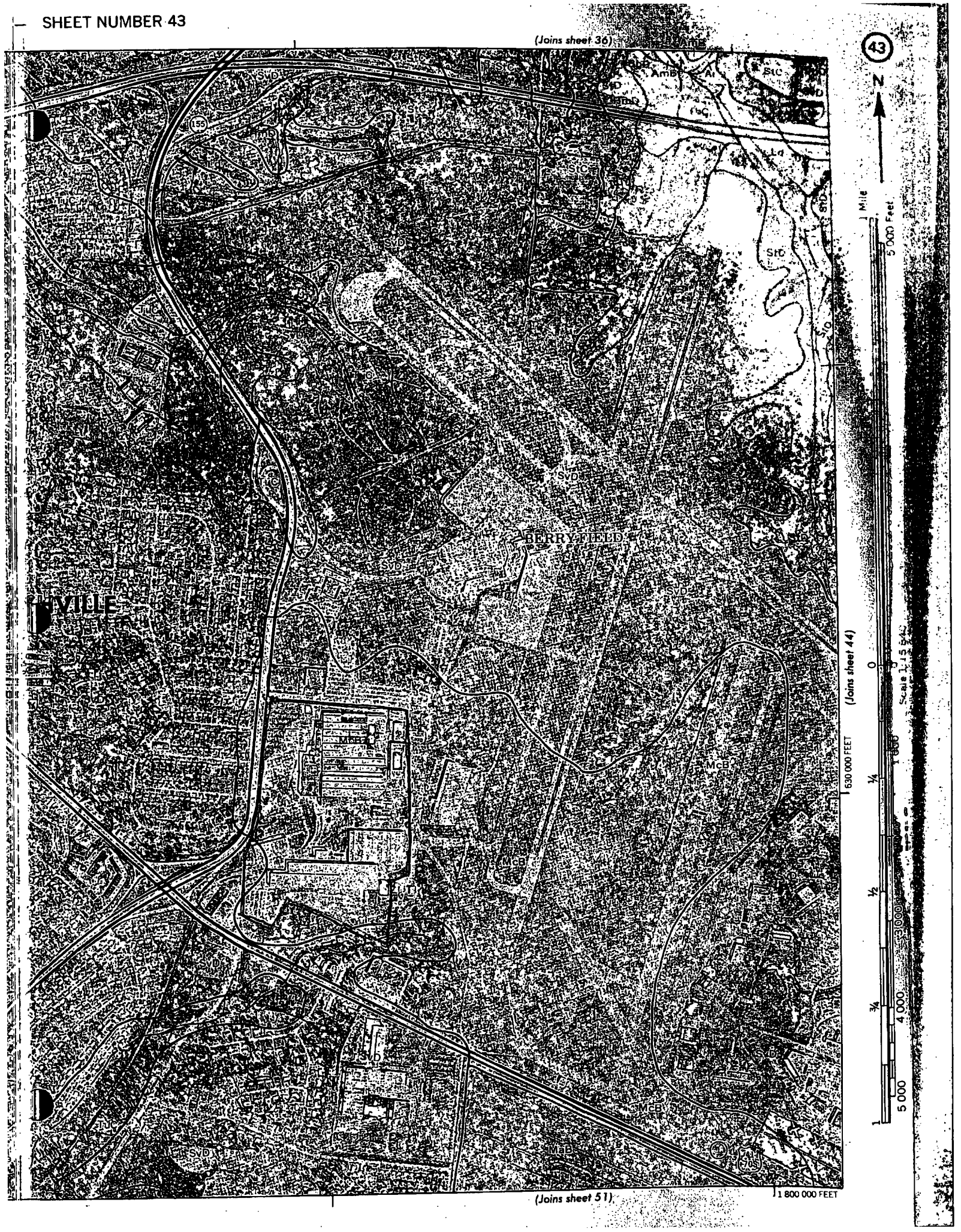
The average relative humidity in midafternoon in spring is less than 55 percent; during the rest of the year it is about 60 percent. Humidity is higher at night, and the average at dawn is about 85 percent. The sun shines 66 percent of the time possible in summer and 40 percent in winter. The prevailing wind is from the south. Average windspeed is highest, 10 miles per hour, in March.

how this survey was made

Soil scientists made this survey to learn what soils are in the survey area, where they are, and how they can be used. They observed the steepness, length, and shape of slopes; the size of streams and the general pattern of drainage; the kinds of native plants or crops; and the kinds of rock. They dug many holes to study soil profiles. A profile is the sequence of natural layers, or horizons, in a soil. It extends from the surface down into the parent material, which has been changed very little by leaching or by plant roots.

The soil scientists recorded the characteristics of the profiles they studied and compared those profiles with others in nearby counties and in more distant places. They classified and named the soils according to nationwide uniform procedures. They drew the boundaries of the soils on aerial photographs. These photographs show trees, buildings, fields, roads, and other details that help in drawing boundaries accurately. The soil maps at the back of this publication were prepared from aerial photographs.

The areas shown on a soil map are called map units. Most map units are made up of one kind of soil. Some


(Joins sheet 36)
(Joins sheet 44)
(Joins sheet 51)
43
N
1 Mile
5 000 Feet
Scale 1:15 840
BERRY FIELD
VILLE
McB
SvD
StC
StD
AmB
630 000 FEET
1 800 000 FEET

capacity is high. The content of phosphorus ranges from medium to high.

Included with this soil in mapping are a few small areas where the subsoil is dark brown silty clay loam. Also included are some small areas where rounded fragments of rock and chert are scattered throughout the soil. Soils in eroded areas have a surface layer that is silty clay loam or finer in texture.

The potential is high for farming. This Maury soil is one of the most productive soils on the uplands in Davidson County. Slope is a limitation, and erosion is a hazard. Contour plowing, stripcropping, and cropping systems that include pasture or hay and a row crop reduce runoff and erosion.

The potential is medium for most urban uses. Slope is a limitation for most urban uses. Low strength is a limitation for local roads and streets. These limitations can be overcome by good design and careful installation.

The capability subclass is IVe. The woodland suitability subclass is 2o.

McB—Maury-Urban land complex, 2 to 7 percent slopes. This unit consists of deep, gently sloping to sloping, well drained Maury soils and urban areas on uplands in the outer part of the Nashville Basin. Much of the unit is in residential developments and shopping centers and recreation facilities. Areas are 5 to 60 acres.

About 45 to 60 percent of each mapped area is Maury soil. This part is mostly yards, gardens, and vacant lots where the soil has not been significantly disturbed. The other 35 to 50 percent of each mapped area consists mostly of house sites, driveways, streets, and industrial buildings. Hills have been cut and low areas have been filled to make road frontages more accessible.

Typically, the surface layer of Maury soil is dark brown silt loam about 7 inches thick. The subsoil extends to a depth of 65 inches. It is brown and reddish brown, friable silty clay loam in the upper part; reddish brown, firm silty clay in the middle part; and yellowish red, firm silty clay in the lower part.

Maury soils are medium acid or strongly acid except for the surface layer in limed areas. Natural fertility is medium. The content of phosphorus ranges from medium to high. Permeability is moderate, and the available water capacity is high. The root zone is deep and is easily penetrated by roots.

Included in mapping are a few small areas of soils that are well drained or moderately well drained and are silt loam throughout. Also included are a few small areas where the subsoil is brown clay. In a few small areas the soils are less than 40 inches thick over rock.

Maury soils have few or no limitations for urban development. The slope is a minor limitation for some uses but can be easily overcome by good design and installation.

This map unit is not assigned to a capability subclass. The Maury soils are in woodland suitability subclass 2o. Urban land is not assigned to a woodland suitability subclass.

MmC—Mimosa silt loam, 2 to 12 percent slopes. This deep, gently sloping to sloping, well drained soil is on uplands in the outer part of the Nashville Basin. Areas are 5 to 50 acres.

Typically, the surface layer is brown silt loam about 7 inches thick. The subsoil is brown, firm silty clay in the upper 7 inches and yellowish brown, firm clay in the lower part. Hard limestone bedrock is at a depth of 55 inches.

This soil is medium acid to very strongly acid except for the surface layer in areas that have been limed and the layer just above bedrock. Natural fertility is medium. The content of phosphorus is medium to high. Permeability is moderately slow, and the available water capacity is moderate. The shrink-swell potential is moderate. Depth to hard limestone bedrock is 40 to 60 inches.

Included with this soil in mapping are a few small areas where the subsoil is friable silty clay loam. Also included are a few areas of soils that are less than 40 inches thick over bedrock and a few of soils that contain many chert fragments.

The potential is medium to low for row crops. Strong slopes are a limitation. The potential is medium for hay crops and pasture and medium to high for small grains. Returning crop residue to the soil and using minimum tillage help to maintain better moisture conditions.

The potential is medium for urban uses. The moderate shrink-swell potential, restricted depth to bedrock, and slope are limitations for uses such as residential building and light industry. Low strength is a limitation for local roads and streets. These limitations can be partly overcome by good design, layout, and installation. Where deep cuts or excavations for basements, foundations, and roads are required, blasting in hard limestone bedrock may be needed.

The capability subclass is IVe. The woodland suitability subclass is 3o.

MmD—Mimosa silt loam, 12 to 25 percent slopes. This deep, moderately steep to steep, well drained soil is on uplands in the outer part of the Nashville Basin. Areas are 10 to 150 acres.

Typically, the surface layer is brown silt loam about 7 inches thick. The subsoil is brown, firm silty clay in the upper 7 inches and yellowish brown, firm clay in the lower part. Hard limestone bedrock is at a depth of 55 inches.

This soil is medium to very strongly acid except for the surface layer in areas that have been limed and the soil layer just above bedrock. It is medium to high in phosphorus. Natural fertility is medium. Permeability is moderately slow, and the available water capacity is moderate. The shrink-swell potential is moderate. Depth to hard limestone bedrock is 40 to 60 inches.

Included in mapping are a few small areas where the subsoil is less than 35 percent clay. Also included are a few small areas of soils that contain more than 15

TABLE 8.--WILDLIFE HABITAT--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
HmD: Hampshire	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
HuB: Humphreys	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Ld: Lindell	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Ln:*										
Lindell	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Urban land.										
LoB: Lomond	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
MaB: Maury	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
MaC: Maury	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
McB:*										
Maury	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Urban land.										
MmC: Mimosa	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
MmD: Mimosa	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
MoE3: Mimosa	Poor	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
MrD:*										
Mimosa	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Rock outcrop.										
MrE:*										
Mimosa	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Rock outcrop.										
MsD:*										
Mimosa	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Urban land.										
MvC: Mountview	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Poor.
Ne: Newark	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
Oc: Ocana	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Poor.

See footnote at end of table.

TABLE 14.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS--Continued

Map symbol and soil name	Depth	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T
	In	In/hr	In/in	pH			
HmC, HmD---------- Hampshire	0-5	0.6-2.0	0.18-0.22	4.5-6.0	Low----------	0.37	3
	5-45	0.6-2.0	0.12-0.16	4.5-6.0	Moderate--------	0.28	
	45-53	0.6-2.0	0.07-0.12	4.5-6.5	Low----------	0.24	
HuB---------- Humphreys	0-8	2.0-6.0	0.10-0.15	4.5-6.0	Low----------	0.20	5
	8-55	2.0-6.0	0.09-0.14	4.5-6.0	Low----------	0.24	
	55-62	2.0-6.0	0.06-0.12	4.5-6.0	Low----------	0.24	
Ld---------- Lindell	0-11	0.6-2.0	0.16-0.20	5.6-7.3	Low----------	0.28	5
	11-62	0.6-2.0	0.14-0.17	5.6-7.3	Low----------	0.28	
Ln:*							
Lindell---------	0-11	0.6-2.0	0.16-0.20	5.6-7.3	Low----------	0.28	5
	11-62	0.6-2.0	0.14-0.17	5.6-7.3	Low----------	0.28	
Urban land.							
LoB---------- Lomond	0-9	0.6-2.0	0.18-0.22	4.5-6.5	Low----------	0.43	5
	9-16	0.6-2.0	0.17-0.22	4.5-5.5	Low----------	0.37	
	16-46	0.6-2.0	0.12-0.17	4.5-5.5	Low----------	0.32	
	46-65	0.6-2.0	0.11-0.15	5.1-6.5	Moderate--------	0.28	
MaB, MaC--------- Maury	0-7	2.0-6.0	0.18-0.23	5.1-7.3	Low----------	0.32	4
	7-24	0.6-6.0	0.18-0.22	5.1-6.5	Low----------	0.28	
	24-48	0.6-6.0	0.15-0.20	5.1-6.5	Low----------	0.28	
	48-65	0.6-2.0	0.13-0.18	4.5-6.0	Low----------	0.28	
McB:*							
Maury----------	0-7	2.0-6.0	0.18-0.23	5.1-7.3	Low----------	0.32	4
	7-24	0.6-6.0	0.18-0.22	5.1-6.5	Low----------	0.28	
	24-48	0.6-6.0	0.15-0.20	5.1-6.5	Low----------	0.28	
	48-65	0.6-2.0	0.13-0.18	4.5-6.0	Low----------	0.28	
Urban land.							
MmC, MmD--------- Mimosa	0-7	0.6-2.0	0.12-0.20	4.5-6.0	Low----------	0.20	3
	7-14	0.2-0.6	0.12-0.16	4.5-6.0	Moderate--------	0.20	
	14-55	0.2-0.6	0.12-0.16	4.5-6.0	Moderate--------	0.20	
	55	---	---	---	----------	----	
MoE3---------- Mimosa	0-6	0.2-0.6	0.12-0.18	4.5-6.0	Moderate--------	0.20	3
	6-55	0.2-0.6	0.12-0.16	4.5-6.0	Moderate--------	0.20	
	55	---	---	---	----------	----	
MrD,* MrE:*							
Mimosa----------	0-7	0.6-2.0	0.12-0.20	4.5-6.0	Low----------	0.20	3
	7-14	0.2-0.6	0.12-0.16	4.5-6.0	Moderate--------	0.20	
	14-55	0.2-0.6	0.12-0.16	4.5-6.0	Moderate--------	0.20	
	55	---	---	---	----------	----	
Rock outcrop.							
MsD:*							
Mimosa----------	0-7	0.6-2.0	0.12-0.20	4.5-6.0	Low----------	0.20	3
	7-14	0.2-0.6	0.12-0.16	4.5-6.0	Moderate--------	0.20	
	14-55	0.2-0.6	0.12-0.16	4.5-6.0	Moderate--------	0.20	
	55	---	---	---	----------	----	
Urban land.							
MvC---------- Mountview	0-7	0.6-2.0	0.18-0.22	4.5-5.5	Low----------	0.43	5
	7-39	0.6-2.0	0.17-0.20	4.5-5.5	Low----------	0.43	
	39-73	0.6-2.0	0.10-0.15	4.5-5.5	Moderate--------	0.32	
Ne---------- Newark	0-6	0.6-2.0	0.15-0.23	5.6-7.8	Low----------	0.43	5
	6-43	0.6-2.0	0.18-0.23	5.6-7.8	Low----------	0.43	
	43-60	0.6-2.0	0.15-0.22	5.6-7.8	Low----------	0.43	

See footnote at end of table.

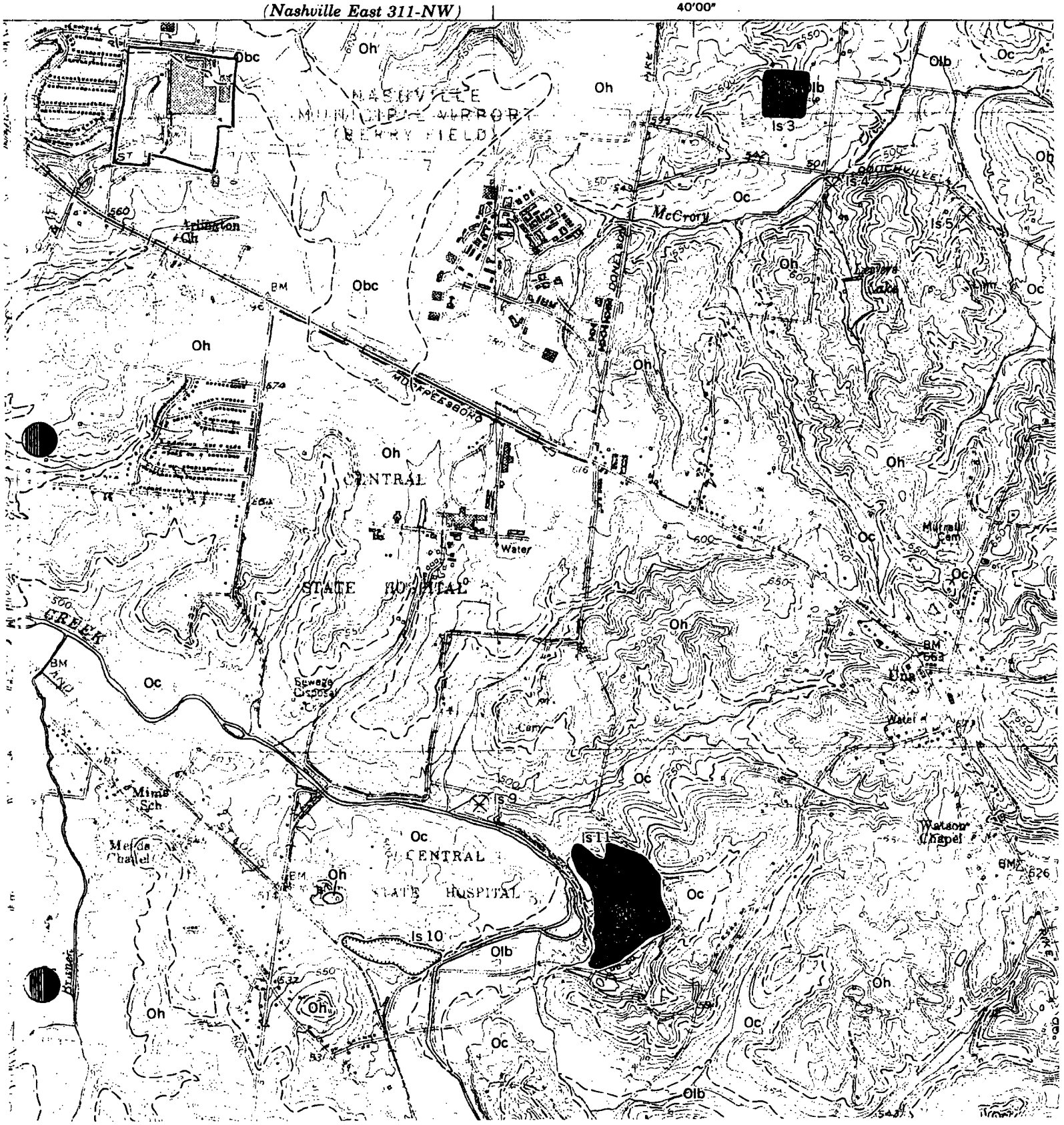
TABLE 15.--SOIL AND WATER FEATURES--Continued

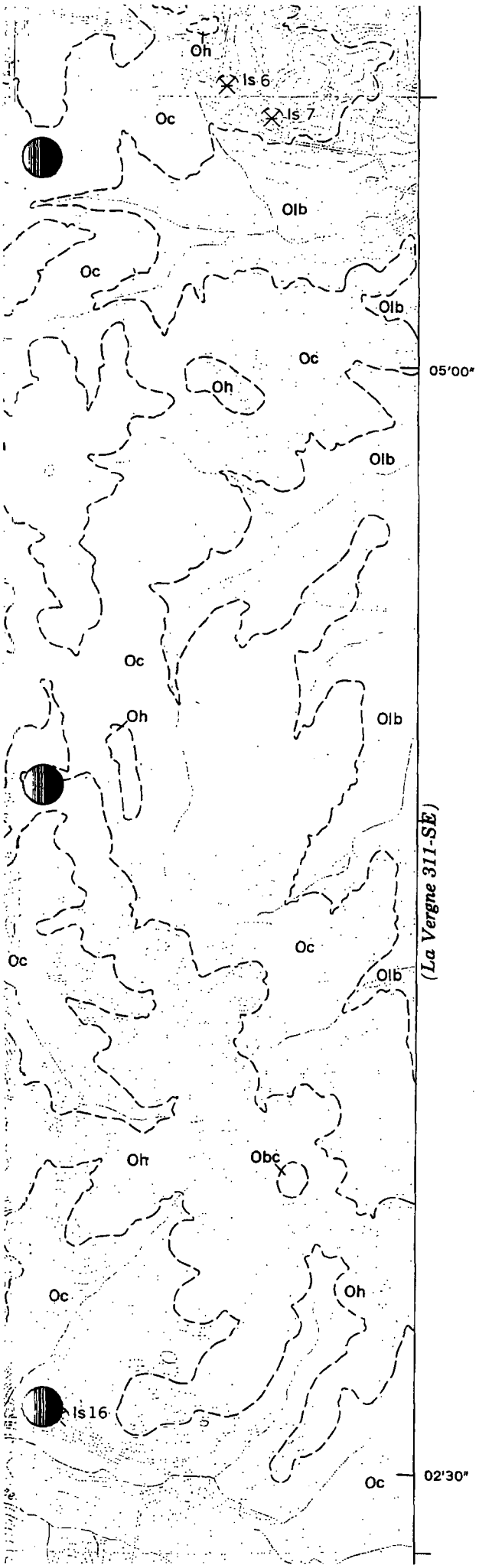
Map symbol and soil name	Hydrologic group	Flooding			High water table			Bedrock		Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth	Hardness	Uncoated steel	Concrete
					Ft			In			
:B:* laury	B	None	---	---	>6.0	---	---	>60	---	Moderate	Moderate.
rban land.											
C, MmD, MoE3 limosa	C	None	---	---	>6.0	---	---	40-60	Hard	High	Moderate.
D,* MrE:* imosa	C	None	---	---	>6.0	---	---	40-60	Hard	High	Moderate.
ock outcrop.											
D:* limosa	C	None	---	---	>6.0	---	---	40-60	Hard	High	Moderate.
rban land.											
C ountview	B	None	---	---	>6.0	---	---	>60	---	Moderate	Moderate.
ewark	C	Frequent	Brief	Jan-Apr	0.5-1.5	Apparent	Dec-May	>60	---	High	Low.
cana	B	Rare	---	---	>6.0	---	---	>60	---	Low	Low.
its											
:* oc' terop.											
albott	C	None	---	---	>6.0	---	---	20-40	Hard	High	Moderate.
equatchie	B	None	---	---	>6.0	---	---	>60	---	Low	Moderate.
C emley	C	None	---	---	2.5-4.5	Apparent	Nov-Mar	>60	---	Moderate	High.
C, StD tiversville	B	None	---	---	>6.0	---	---	40-60	Hard	Moderate	Moderate.
D:* tiversville	B	None	---	---	>6.0	---	---	40-60	Hard	Moderate	Moderate.
rban land.											
aft	C	None	---	---	1.0-2.0	Perched	Jan-Apr	>60	---	High	High.
C, TcC3 albott	C	None	---	---	>6.0	---	---	20-40	Hard	High	Moderate.
C:* albott	C	None	---	---	>6.0	---	---	20-40	Hard	High	Moderate.
ock outcrop											
C:* albott	C	None	---	---	>6.0	---	---	20-40	Hard	High	Moderate.
rban land.											
lftever	C	Common	Very brief	Dec-Mar	3.0-4.0	Apparent	Dec-Mar	>60	---	High	High.

* Se escription of the map unit for composition and behavior characteristics of the map unit.

STATE OF TENNESSEE
DEPARTMENT OF CONSERVATION
DIVISION OF GEOLOGY
William D. Hardeman, *State Geologist*

(Nashville East 311-NW) 40'00"





Leipers and Catheys Formations

Limestone, argillaceous, nodular and shaly, medium dark-gray to brownish-gray, thin-bedded, fossiliferous; limestone, dark-gray (weathers to pale yellowish-brown), fine-grained, thin- to medium-bedded; calcarenite, medium light-gray to brownish-gray, coarse-grained, medium-bedded, crossbedded; and thin zones of limestone, clayey, medium-gray (weathers to light-gray surface), cryptocrystalline, medium-bedded, breaks with conchoidal fracture. Basal beds contain abundant *Constellaria*. Thickness about 175 feet.

Obc

Bigby-Cannon Limestone

The Bigby-Cannon Limestone in the Antioch quadrangle consists of three facies—the Cannon limestone, Dove-colored limestone, and Bigby limestone—which replace each other laterally and vertically. In the western part of the quadrangle Bigby limestone facies occurs at the base of the formation, and there locally also comprises the top. Eastward, however, the Bigby limestone thins and the other two facies comprise most of the formation. The formation ranges in thickness from 70 to 120 feet.

Cannon limestone facies is medium dark-gray to brownish-gray, microcrystalline to medium-grained, thin- to medium-bedded, evenly bedded. Composite thickness 25 to 50 feet; thickens eastward.

Dove-colored limestone facies is medium light-gray to medium-gray (weathers to light-gray surface), cryptocrystalline, medium- and even-bedded, brittle, breaks with pronounced conchoidal fracture, contains specks and stringers of clear calcite. Composite thickness 5 to 30 feet; thickens eastward.

Bigby limestone facies is calcarenite, medium light-gray to brownish-gray, coarse-grained, medium-bedded, crossbedded, contains brown phosphate pellets, weathers to brown phosphatic residuum. Composite thickness 10 to 50 feet; thickens westward.

Oh

Hermitage Formation

Granular phosphatic limestone facies is calcarenite, medium light-gray to brownish-gray, coarse-grained, medium-bedded, crossbedded, contains brown phosphate pellets. Thickness 0 to 20 feet; absent in the west.

Coquina facies is limestone with disseminated silt and shale partings, medium-gray to brownish-gray, medium-bedded, characterized by numerous shells of the brachiopod *Resserella fertilis* (formerly *Dalmanella fertilis*). Thickness 0 to 10 feet; absent in the east.

Laminated argillaceous limestone facies is sandy, medium-gray to dark-gray (weathers to pale and dark yellowish-brown), very fine- to medium-grained, laminated to thin-bedded with thin shale partings. Thickness 50 to 70 feet.

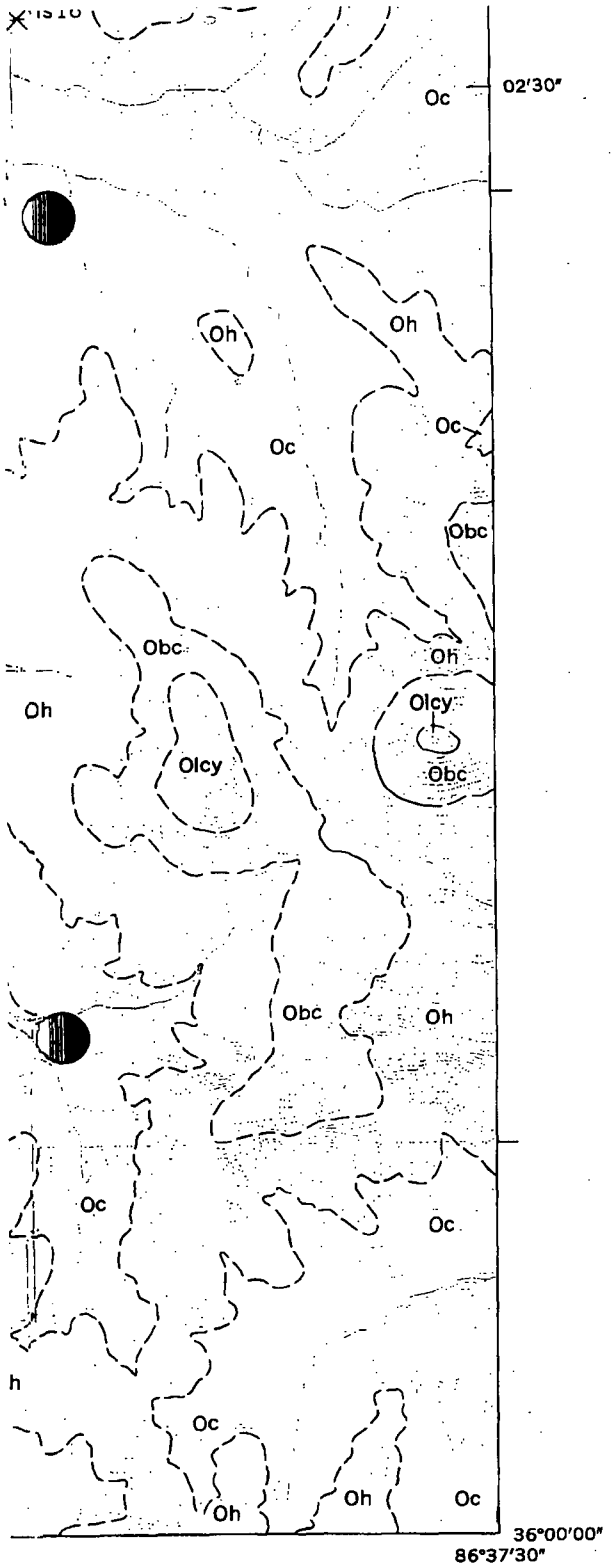
Curdsville Limestone Member at base is medium- to dark-gray, fine- to medium-grained, thin-bedded with thin shale partings, fossiliferous. Thickness 0 to 10 feet; absent in the east.

Thickness of formation 50 to 90 feet.

Oc

Carters Limestone

ORDOVICIAN



Thickness of formation 50 to 90 feet.

Oc

Carters Limestone

Upper member is limestone, medium light-gray to brownish-gray and yellowish-brown, very fine-grained to cryptocrystalline, thin-bedded with thin shale partings. Thickness about 10 feet.

Bentonite (T-3 bed), green when fresh but weathers to white and yellow sticky clay, 6 to 12 inches thick; occurs between upper and lower members, but rarely seen in natural exposures. (This is the "Pencil Cave" of drillers' terminology in Central Tennessee.)

Lower member is limestone, medium light-gray to brownish-gray and yellowish-brown, cryptocrystalline to very fine-grained with some beds ranging up to coarse-grained, medium- to thick-bedded, with minor amounts of magnesian limestone as small irregular mottlings and thin bands, and thin lenses of chert locally. Thickness 40 to 80 feet.

Olb

Lebanon Limestone

Limestone, medium-gray to medium dark-gray and brownish-gray to yellowish-brown, cryptocrystalline to very fine-grained with some beds ranging up to coarse-grained, thin-bedded with thin shale partings, fossiliferous, dolomitic fucoids common. Maximum exposed thickness 60 feet.

Contact, dashed where approximate

Strike and dip of beds

Active mine or quarry — ls Limestone

Abandoned mine or quarry — ph Phosphate

2 Map numbers refer to descriptions in Mineral Resources Summary

gy mapped by Charles W. Wilson, Jr., with the
ssistance of Robert A. Miller.
al resources mapped by Donald S. Fullerton.
preparation and editing by Donald S. Fullerton
nd Robert J. Floyd.

ARMY MAP SERVICE, CORPS OF ENGINEERS, 97800

(Smyrna 70-NE)

Table 6
TENNESSEE'S HYDROGEOLOGICAL CHARACTERISTICS

WESTERN TENNESSEE

Alluvial Aquifer. The Alluvial Aquifer in western Tennessee underlies the flood plain of the Mississippi River and its tributaries and the southern end of the Western Valley of the Tennessee River. This aquifer, which consists of sand and gravel with interbeds of clay, is used primarily for rural domestic supplies and for some irrigation. This aquifer is capable of yielding more than 1,500 gallons per minute to wells in the Mississippi River area. In some areas iron concentrations which exceed 1.0 milligram per liter are a problem.

Memphis Sand. In western Tennessee, the Memphis Sand ("500 Foot Sand") is the primary aquifer of use. The Memphis Sand underlies approximately 7,400 mi^2 in western Tennessee. It primarily consists of a thick body of sand that contains subordinate lenses or beds of clay or silt at various horizons. The sand ranges from very fine to very coarse, but commonly it is locally fine, fine to medium, or medium to coarse. The Memphis Sand ranges from 0 to about 900 feet in thickness but, where the original thickness is preserved, it is about 400 to 900 feet thick. The base of the Memphis Sand dips westward at rates of about 20 to 50 ft/mi, but it is faulted at many places. The Memphis Sand yields water to wells in most of the area of occurrence and, where saturated, makes up the Memphis aquifer.

Recharge to the Memphis aquifer is from precipitation on the outcrop, which is a broad belt across western Tennessee, or by downward infiltration of water from the overlying fluvial deposits and alluvium. In the outcrop-recharge belt, the Memphis aquifer is under water-table conditions (unconfined), and the configuration of the potentiometric surface is complex and generally conforms to the topography. In the subsurface to the west of the outcrop-recharge belt where the Memphis aquifer is confined (artesian), the potentiometric surface generally gently slopes westward, and water moves slowly in that direction.

Fort Pillow Sand. The Fort Pillow Sand ("1400 Foot Sand") underlies the Memphis Sand and the Flour Island Formation in the western portion of West Tennessee. The Flour Island Formation acts as an upper confining layer to the Fort Pillow and a lower confining layer for the Memphis Sand. The sand is fine to medium; thickest in the southwest portion of the Memphis area; thinnest in the northern and northeastern parts. Once the second principal aquifer supplying the city of Memphis; still used by industry. Principal aquifer providing water for municipal and industrial supplies west of the Mississippi River.

Cretaceous Sand. The Cretaceous Sand aquifer is composed of the McNairy and Coffee Sands, and the Tuscaloosa Formation. The formations crop out in the eastern part of the Coastal Plain and underlie the Tertiary Sand to the west. The Cretaceous Sand aquifer (recently renamed the Western Valley aquifer) is used primarily in and near the outcrop area where it supplies water for municipal, industrial, and rural use. Water in the aquifer is unconfined in the outcrop area and confined in the subsurface farther west. The Cretaceous Sand aquifer is underlain by the Ordovician Carbonate aquifer and the Cambrian-Ordovician Carbonate aquifer (Knox).

MIDDLE TENNESSEE

Mississippian Carbonate (*KARST*). The Mississippian Carbonate aquifer (recently renamed the Highland Rim aquifer) consists of flat-lying carbonate rocks of Mississippian age and underlies the Highland Rim physiographic province. Land in the eastern, northern, and southern parts of the province is predominantly undulating, whereas the western part is more dissected and hilly to steep. Altitude of land surface averages about 1,000 feet above sea level. The bedrock formations weather of form a deep (up to 100 feet thick) chert regolith, which stores ground water and releases it to openings in the bedrock. Fractures in the bedrock have been widened selectively by solution, permitting rapid transmission of water, as well as providing some storage. Well yields commonly range from 5 to 50 gal/min.

Ordovician Carbonate (*KARST*). The Ordovician Carbonate aquifer (recently renamed the Central Basin aquifer) consists of generally flat-lying carbonate rocks of Ordovician age and underlies the Central Basin physiographic province. The outer part of the Central Basin is predominantly hilly and steep; average altitude of land surface is about 750 feet above sea level. Regolith in the outer part of the Central Basin ranges form less than 2 to more than 10 feet thick. Land in the inner part of the province is predominantly rolling and undulating with an average altitude of about 600 feet above sea level. Regolith cover in the inner part of the province is thin (less than a foot) to absent. Water is stored in and moves through solution-enlarged vertical joints and horizontal bedding planes. Wells commonly yield from 5 to 20 gal/min. At depth (>1000 ft) the Central Basin is underlain by the Knox Aquifer, whose upper formations can provide substantial quantities of water.

Pennsylvanian Sandstone (*PREDOMINANTLY FRACTURED ROCK AQUIFER*). The Pennsylvanian Sandstone aquifer (recently renamed the Cumberland Plateau aquifer) consists of generally flat-lying sandstone, shale, and conglomerate of Pennsylvanian age and underlies the Cumberland Plateau physiographic province. Land surface in this province is gently rolling to hilly, bordered by a prominent escarpment of both sides. Altitude of the plateau surface is generally between 1,700 and 1,900 feet above sea level; the height of the escarpments averages 900 feet. Regolith is generally less than 4 feet thick. Water is stored in and moves through fractures, faults, and bedding plane openings in the bedrock. Wells commonly yield from 5 to 50 gal/min.

EASTERN TENNESSEE

Cambrian-Ordovician Carbonate (*KARST*). The Cambrian-Ordovician Carbonate aquifer (recently renamed the Valley and Ridge aquifer) consists of extensively folded and faulted carbonate, sandstone, and shale of Cambrian and Ordovician age underlying the Valley and Ridge physiographic province. The rock formations crop out alternately in long, narrow belts, so that aquifer characteristics show marked areal variability. The ridges range in altitude from about 1,500 to over 7,000 feet above sea level; valleys

NASHVILLE WATER DEPT #1

BASIC INFORMATION

0000494 NASHVILLE WATER DEPT #1

DATE LAST UPDATED:	2/26/2001		COUNTY:	037	
POPULATION	412067		E.A.C.	04	
SURVEY DATE:	6/15/1999		OFFICE AREA CODE	615	
SURVEY SCORE:	94		OFFICE PHONE NUM	8624584	
SURVEY LTR DATE:	6/30/1999		FAX_ARCO:		
PRIMARY SOURCE CODE:	S		FAX_PNUM:		
TURB CERT.	Y		START DATE:	6/1/1977	
SYSTEM TYPE:	C		SYSTEM STATUS:	A	
OWNER TYPE:	L		DEACT. DATE:		
NUMBER OF SOURCES:	2		DEACT. REASON:		
			EMAIL_ADDR	david_tucker@ws.nashville.org	

CAPACITIES AND MONITORING

0000494

NUMBER OF SERVICES:	133859		# TTHM SAMPLES:	8	
NUMBER OF METERS:	133859		# TTHM PLANTS:	2	
AVERAGE PRODUCTION:	73564		TTHM FREQUENCY:	Q	
MAXIMUM PRODUCTION:	111050000				
DESIGN CAPACITY:	131000000		GROSS ALPHA FREQ (MOS		
STORAGE CAPACITY	81,175,000	88,175,000	GROSS ALPHA # SAMPLES:		
EMERGENCY:	0				

TCR SAMPLES: 180 PER M

SERVICE AREA CHARACTERISTICS

CITY SERVED:

RESIDENTIAL:	P	[ ]	INDUSTRY:	[ ]	CHURCH:	[ ]	CAMPGROUND:	[ ]
MOBILE HOME PARK:		[ ]	HEALTH CARE:	[ ]	RECREATION:	[ ]	SUMMER CAMP:	[ ]
APARTMENT:		[ ]	INSTITUTION:	[ ]	MOTEL:	[ ]	REST AREA:	[ ]
UTILITY DISTRICT:		[ ]	SCHOOL:	[ ]	RESTAURANT:	[ ]	OTHER TRANS.:	[ ]
OTHER RESIDENTIAL:		[ ]	DAY CARE:	[ ]	SERVICE STATION:	[ ]		
			OTHER NTNC:	[ ]				

COMMUNITY CROSS CONNECTION

ORDINANCE / POLICY STATUS:	A	PROGRAM STATUS:	M	
ORDINANCE / POLICY DATE:		PROGRAM DATE:	6/15/1999	
PLAN STATUS:	A			
PLAN DATE:				

Highlighted Fields Must Be Verified/Completed.

Addresses and Legal Entities

0000494

Legal Entity

SALU:	F_NAME:	MID_IN:	L_NAME:	TITLE:
	DAVID	M	TUCKER	ASST. DIR

Street	City	State	Zip
1600 Second Avenue, North	Nashville	TN	37201

Entity Type

Responsible Party	Sampler	Corresp	Owner	Operator	Physical Location	FedEx Address
T	F	F	F	F	F	F

Legal Entity

SALU:	F_NAME:	MID_IN:	L_NAME:	TITLE:
	ROBERT	J	WINGO	ACTING DI

Street	City	State	Zip
1600 Second Avenue, North	Nashville	TN	37201

Entity Type

Responsible Party	Sampler	Corresp	Owner	Operator	Physical Location	FedEx Address
F	T	1	F	F	T	F

OPERATORS IN DIRECT CHARGE

UPDATED: 7/21/1999

PLANT OPERATOR:	LAWRENCE G. NAVE, JR	[	]
CERT NUMBER:	415921245	[	]
OPER. REQ.:	WT4	[	]
OPER. ACTUAL:	WT4	[	]
DIST. SYS. OPER:	VERNON W. FRYE	[	]
CERT. NUMBER:	414766918	[	]
OPER REQ.:	DS2	[	]
OPER. ACTUAL:	DS2	[	]

SOURCE: 01 CUMB. RVR-PL#1

0000494

SOURCE NAME:	CUMB. RVR-PL#1	WELL BEGIN DATE:			
SOURCE CODE:	S	NUMBER OF WELLS	0		
SELLER PWSID:		RIVER BASIN:			
AVAILABILITY:	P	RIVER MILE:	193.8		
LATITUDE:	036° 09' 48"	METHOD OF COLLECTION:	028		
DECIMAL DEGREES:	36.16333	ACCURACY VALUE (meters):	50		
LONGITUDE:	086° 43' 31"	DESCRIPTION CATEGORY:	030		
DECIMAL DEGREES:	86.72528	HORIZONTAL DATUM:	002		
		SOURCE SCALE:	N		

TREATMENTS

PRECHLORINATION:	200	[ ]	TASTE AND ODOR:	125	[ ]	MANGANESE:		[ ]
FILTRATION	345	[ ]	IRON REMOVAL		[ ]	DISINFECTION:	401	[ ]
COAGULATION	240	[ ]	CORROSION:	443	[ ]	UNTREATED:		[ ]
SEDIMENTATION:	660	[ ]	SOFTENING:		[ ]	FLUORIDE:	380	[ ]

SOURCE: 02 CUMB. RVR-PL#2 0000494

SOURCE NAME:	CUMB. RVR-PL#2		WELL BEGIN DATE:		
SOURCE CODE:	S		NUMBER OF WELLS	0	
SELLER PWSID:			RIVER BASIN:		
AVAILABILITY:	P		RIVER MILE:	206.3	
LATITUDE:	036° 11' 40"		METHOD OF COLLECTION:	028	
DECIMAL DEGREES:	36.19444		ACCURACY VALUE (meters):	50	
LONGITUDE:	086° 39' 25"		DESCRIPTION CATEGORY:	030	
DECIMAL DEGREES:	86.65694		HORIZONTAL DATUM:	002	
			SOURCE SCALE:	N	

TREATMENTS

PRECHLORINATION:	200		TASTE AND ODOR:	125		MANGANESE:		
FILTRATION	345		IRON REMOVAL			DISINFECTION:	401	
COAGULATION	240		CORROSION:	443		UNTREATED:		
SEDIMENTATION:	660		SOFTENING:			FLUORIDE:	380	

ENTRY POINT: A HARRINGTON PLNT 0000494

ENTRY POINT NAME: HARRINGTON PLNT [ ] NUMBER OF SAMPLES: 1 [ ]

ENTRY POINT CODE: A [ ]

WATER PLANT INFORMATION

WTP NAME: HARRINGTON PLNT PLANT [ ]

STREET: 3181 HEARTLAND DRIVE [ ]

CITY: NASHVILLE [ ]

STATE, ZIP: TN 37210 [ ] [ ]

WTP_EMAIL: gilbert_nave@ws.nashville.org [ ]

WTP TELEPHONE: [ ] [ ]

WTP FAX: 615 8624967 [ ] [ ]

ENTRY POINT: B OMOHUNDRO PLAN 0000494

ENTRY POINT NAME: MOHUNDRO PLANT [ ] NUMBER OF SAMPLES: 1 [ ]

ENTRY POINT CODE: A [ ]

WATER PLANT INFORMATION

WTP NAME: OMOHUNDRO PLANT [ ]

STREET: 1400 OMOHUNDRO DRIVE [ ]

CITY: NASHVILLE [ ]

STATE, ZIP: TN 37214 [ ] [ ]

WTP_EMAIL: lee_luton@ws.nashville.org [ ]

WTP TELEPHONE: [ ] [ ]

WTP FAX: 615 8627224 [ ] [ ]

Safe Drinking Water Information System (SDWIS)

Query Results

Report an Error

Query Selections:
Water system id entered: **TN0000494**
water_system_status: **Both--Active/Closed**
Query executed on: **AUG-05-2003**
Results are based on data extracted on: **JUL-20-2003**

List of Water Systems in SDWIS

For a detailed Violation and Enforcement History, click on the underlined Water System Name. To obtain additional information about drinking water please call EPA's Safe Drinking Water hotline at 1-800-426-4791.

Community Water Systems: Water Systems that serve the same people year-round (e.g. in homes or businesses).

Water System Name	Principal County Served	Population Served	Primary Water Source Type	System Status	Date Closed	Water System ID
NASHVILLE WATER DEPT #1	DAVIDSON	412067	Surface water	Active		TN0000494

133859 intakes according to water supply file under this ID

Non-Transient Non-Community Water Systems: Water Systems that serve the same people, but not year-round (e.g. schools that have their own water system).

No systems were found.

Transient Non-Community Water Systems: Water Systems that do not consistently serve the same people (e.g. rest stops, campgrounds, gas stations).

No systems were found.

Omnivendro Facility

Rev. 3c

REFERENCE 4

Parcel ID: 12000003500

Property Address:
1432 VULTEE BV
NASHVILLE, TN , TN 37217

Owner Information:

AEROSTRUCTURES
CORP., THE
1431 VULTEE BV
NASHVILLE, TN 37217

Date Acquired:	12/11/1996
Book:	10294
Page:	453

Property Information:

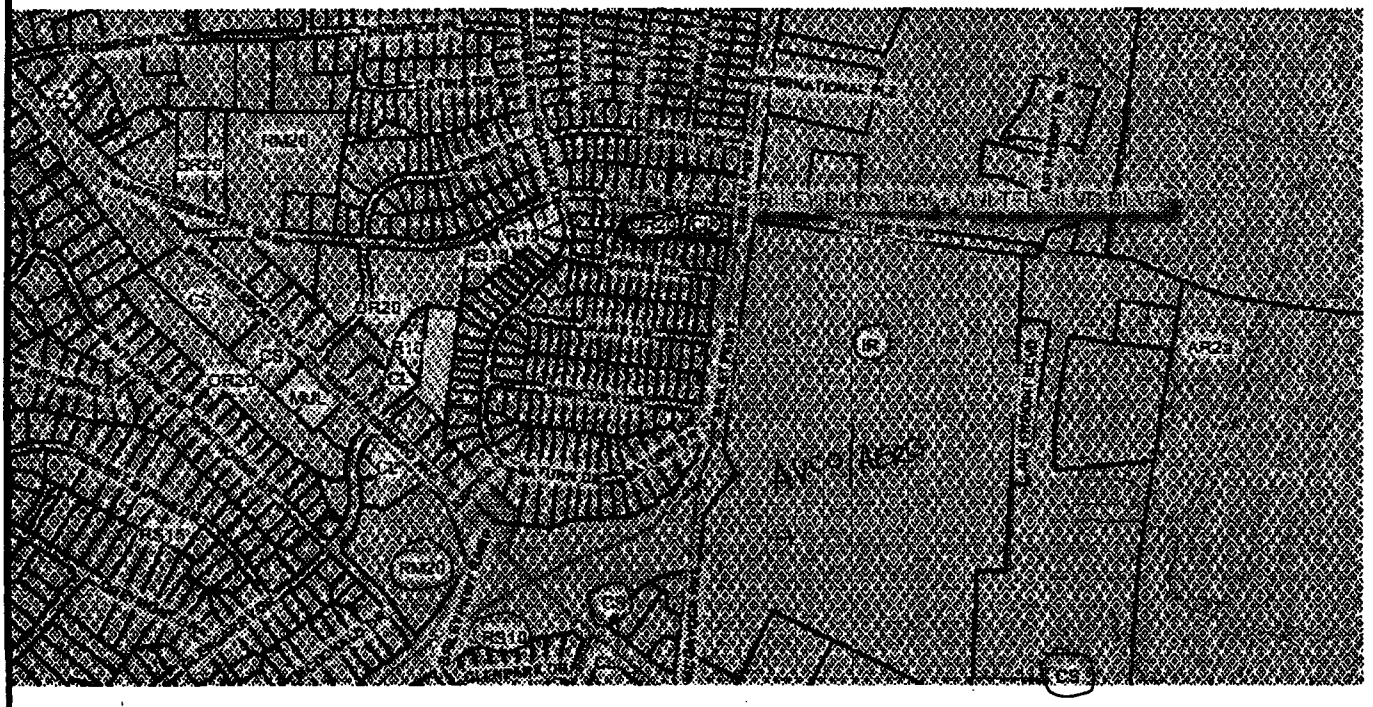
Description:	S SIDE VULTEE BLVD. E OF MCGAVOCK PK.
Acreage:	96.74
Dimensions:	000X000X
Book:	1877
Page:	266

General Information:

Census Tract:	157
Census Block:	901
Councilmatic Distric:	13
Voting Precinct:	2
Zoning:	IR , INDUSTRIAL, RESTRICTIVE
Overlay District:	
Landuse:	72, Heavy Manufacturing

Assessment Information:

Sale Price:	$0
Date Assessed:	01/01/2001
Assessed Classes:	I
Land Appraised Value:	$4,897,000
Improvement Appraised Value:	$13,842,500
Total Appraised Value:	$18,739,500
USD/GSD:	USD
Service Area:	02DA
Field Book:	57850


RM20
CS
CS
CS

17.08.020 Zoning districts described.

A. Agricultural Districts. The AG and AR2a districts are intended to implement the natural conservation or interim nonurban land use policies of the general plan. Natural conservation policy is applied to those areas of the county which are unsuitable for urban scale development due to severe environmental constraints. Interim non-urban policy is applied to those areas that are not intended to urbanize within the planning period of the general plan. Furthermore, some areas of very steep topography, potentially unstable soils or a propensity to flood are intolerant of development of significant intensity and are appropriate for agricultural zoning.

The AG and AR2a districts are designed for uses that generally occur in rural rather than urban areas. These districts permit very low density residential development generally on unsubdivided tracts of land where public sanitary sewer service and public water supply are least practical. Because of their rural character, these districts will better accommodate some of the more impactive special exception uses that must be located within the county. By application of effective locational and operational standards, it is the intent of this title to minimize the impacts of such uses on residential home sites scattered throughout these districts.

B. Residential Districts. The residential districts allow a range of densities from very low (less than one unit per acre) to as high as sixty units per acre. These districts offer a diversity of housing types (including single-family, two-family and multifamily developments) throughout all density ranges established by the general plan.

Residential districts are to be applied in a manner consistent with the general plan. Residential districts should be applied according to the compatibility of the associated density with the topographic and soil conditions that prevail in the area, or when so recommended by the general plan, the prevailing development pattern of the area.

Residential districts also permit a limited range of compatible and supportive community-related uses that typically desire to locate within a residential setting. As a general rule, progressively higher density districts within each residential policy category of the general plan should be located along higher classifications of street and in closer proximity to mass transit corridors, retail services or employment opportunities.

Although it is intended that development in residential districts be served with sanitary sewers, some low-density districts may be appropriate in nonsewered areas of the county if topographic and soil conditions are suitable for individual sewage disposal fields. Except for low-density districts, it is the intent of this code that sufficient urban services and facilities, including sanitary sewers, be available to or provided concurrent with development.

1. Single-Family (RS) Districts. Intended for single-family residential development at a variety of densities, these districts may be applied to preserve the character of developed residential areas that are predominately single-family in nature and recommended to remain so by the general plan. These districts also may be applied to establish single-family character in developing areas at densities recommended by the general plan.

a. RS80, RS40, RS30 Districts. Designed for low intensity single-family development, these districts are appropriate for implementing the residential low density policies of the general plan. These districts may also be appropriate within selected areas of natural conservation policy that are environmentally suitable and can be provided necessary support services.

b. RS20, RS15, and RS10 Districts. Designed for relatively low to moderate intensity single-family development, these districts are appropriate for implementing the residential low-medium policies of the general plan. These districts may also be appropriate within selected areas of natural conservation policy, with urban services. The RS20 and RS15 districts may be applied along edges of areas classified within residential low density policy that have suitable physical characteristics and good street access.

c. RS7.5, RS5, and RS3.75 Districts. Designed for higher intensity single-family development, these districts are appropriate for implementing the residential medium density policies of the general plan. As a general rule, these districts should have good access to either arterial or collector streets with the RS3.75 district located in proximity to mass transit service.

2. One and Two-Family (R) Districts. The R districts are intended either for established residential subdivisions where the pattern of development contains both one- and two-family structures and where maintaining a mixture of housing types is desirable or for the development of new general plan.

a. R80 and R40 Districts. Intended for low intensity one- and two-family development, these districts are appropriate for implementing the residential low density polices of the general plan. These districts may also be appropriate within selected areas of natural conservation policy that are environmentally suitable and can be provided necessary support services. The R40 district also may be appropriate for selected areas policied for low-medium density development.

b. R30 and R20 Districts. Intended for low to moderate intensity one-family and two-family development, these districts are appropriate for implementing the residential low-medium density policies of the general plan. These districts also may be appropriate within those areas of natural conservation policy that are environmentally suitable and have urban services.

c. R15, R10 and R8 Districts. Intended for medium intensity one-family and two-family development, these districts are appropriate for implementing the residential medium density policies of the general plan. The R8 district also may be applied to areas policed for medium-high density residential development. Generally, these districts should have good access to either arterial or collector streets.

d. R6 District. Intended to provide for higher intensity one-family and two-family development, this district is appropriate for implementing the residential medium or medium-high density policies of the general plan. This district should have good access to arterial streets with preference given to locations with mass transit service.

3. Multifamily (RM) Districts. The RM districts are designed for a range of low to very high intensity residential development characterized by multi-family structures. The lower density districts are appropriate for tracts of land encumbered by severe environmental constraints. Districts at the higher end of the density range for each density category of the general plan are intended to be placed on higher classifications of streets and in closer proximity to mass transit corridors, retail services, or employment opportunities. High density districts also may be appropriate in certain nonresidential policy areas where residential development would implement the general plan. Owners are encouraged to plan and develop multifamily complexes capitalizing on the more flexible design opportunities of Article V of Chapter 17.40.

a. RM2 and RM4 Districts. These districts are designed primarily for low intensity multi-family structures of one, two or three stories, and are appropriate for implementing the residential low-medium density policies of the general plan. These districts also may be employed within selected areas of natural conservation policy that are environmentally suitable and have urban services. The RM4 district may be used in areas policied for medium density residential development.

b. RM6 and RM9 Districts. Designed primarily for low to medium intensity multifamily development of two-story or three-story structures, these districts are appropriate for implementing the residential medium density policies of the general plan. The RM9 district also may be appropriate for areas policied either for medium-high density residential development, concentrations of office and mixed commercial development, or within existing arterial commercial development. Generally, these districts should have good access to either arterial or collector streets.

c. RM15 and RM20 Districts. Designed for moderately high intensity multifamily structures, these districts are appropriate for implementing the residential medium-high density policies of the general plan, and in areas policied for concentrations of office and mixed commercial development or as an alternative to commercial zoning along arterial streets. These districts should have good access to arterial streets and public transportation service.

d. RM40 and RM60 Districts. These districts are designed for high intensity multifamily developments, typically characterized by mid and high-rise structures and structured parking. These districts are appropriate for implementing the residential high density policies of the general plan. Based on locational policies, they also may be appropriate in regional activity centers, within the downtown core, and in areas policied for concentrations of office and mixed commercial

development. These districts should have good access to arterial streets and public transportation service.

4. Mobile Home Park (MHP) District. Designed for mobile home parks, this district may be used to implement the residential medium density policies of the general plan. This district should have good access to collector streets, preferably with access to public transportation service.

C. Institutional (I) District. The institutional (I) district is intended for specialized community uses which typically desire to locate within or near residential areas. Uses permitted within this district are those which can be reasonably accommodated without resulting in adverse impacts on adjacent land uses. Application of this district in areas of residential policy should be guided by the written policies and locational principles for "community uses limited" in the general plan. Large area application of this district should have good access to arterial or collector streets and public transportation service.

D. Mixed-Use Districts. The purpose of all mixed-use districts is to provide for and encourage a mix of compatible land uses that provide opportunities to live, work and shop within compact areas. Included among the common goals for these districts is the efficient use of land capitalizing on a high level of services, reduced reliance on the automobile with enhanced usage of mass transit, strong pedestrian relationships, and creative opportunities for the economical preservation and adaptive reuse of existing structures, most notably those which contribute to the historic resources of the community. A mixture of residential, office, personal service and retail shopping opportunities is encouraged within all mixed-use districts with individual components complimenting and reinforcing other uses within the district. Owners are encouraged to plan and develop mixed-use projects capitalizing on the more flexible design opportunities offered by Article V of Chapter 17.40.

To effectively implement the mixed use policies of the general plan, a variety of mixed-use districts are provided that offer a range of permitted uses and intensities of development. The lowest intensity districts encourage development at intensities commensurate with nearby residential areas and local shopping services. The higher intensity mixed-use districts, being more permissive in the allowable intensity of development and the range of nonresidential uses, are intended to be located in areas characterized by excellent mass transit opportunities and high levels of support services.

1. MUN, Mixed-Use Neighborhood District. Designed to implement the lower intensity mixed use policies of the general plan, this district also may be used as an alternative to commercial zoning along midblock sections of major arterial streets, or to promote the preservation and adaptive reuse of existing buildings that contribute to the historical or architectural character of an area. Bulk standards are designed to maintain a residential scale of development. At a minimum, this district should have good access to collector streets and public transportation service.

2. MUL, Mixed-Use Limited District. The MUL district is intended to implement the moderate intensity mixed use policies of the general plan. This district also may be used in areas policied for concentrations of mixed commercial uses and for existing areas of commercial arterial development that are located in the vicinity of major intersections. The bulk standards permitted by this district, along with the range of allowable uses, are designed to promote the preservation and adaptive reuse of larger structures that contribute to the historical or architectural character of an area. This district should be applied to areas that have good access to arterial streets and public transportation service.

3. MUG, Mixed-Use General District. The MUG district is intended to implement the moderately high intensity mixed use policies of the general plan, being appropriate near major concentrations of employment, commercial or institutional uses. This district also may be used near the central business district, within regional activity centers, or in areas otherwise policied for concentrations of mixed commercial development with high levels of accessibility, including public transit service. The bulk regulations are designed to encourage consolidation of land and large scale development on or near arterial streets.

4. MUI, Mixed-Use Intensive District. The MUI district permits a mixture of high intensity residential, office and compatible commercial uses in areas characterized by the highest levels of accessibility, mass transit opportunities and essential support services. The bulk standards for this district permit large scale buildings, and include incentives to locate off-street parking within structures. It is intended that this district be applied to portions of the downtown core area in a manner consistent with the general plan and other adopted redevelopment plans, to selected segments of major traffic arteries extending from the downtown core area, or for selected portions of activity centers designated by the general plan.

E. Office Districts. These districts are intended for office development at various scales and levels of intensity, ranging from low intensity structures providing neighborhood services immediately adjacent to residential areas to structures of moderately high bulk located along major street corridors. When conventional methods of buffering would be ineffective, low intensity office districts may be used as a land use transition separating a residential area from more intrusive commercial (or industrial) zoning, provided there is a clear market demand for additional office use opportunities.

1. OR20, Office/Residential District. The OR20 district is designed for a mixture of compatible office and multifamily residential use at medium-high density levels of intensity. These districts are encouraged to locate in areas with good vehicular accessibility, preferably along collector or arterial streets, with access to public transportation services.

2. OR40, Office/Residential District. The OR40 district is designed for a mixture of office and multi-family uses at high density levels of intensity. These districts are encouraged to locate in areas characterized by high levels of accessibility, preferably along arterial streets, with access to public transportation services.

3. ON, Office Neighborhood District. The ON district is designed for low intensity office development, the ON district is appropriate for implementing the general plan's transitional office policies where the application of physical buffers would be ineffective or not feasible. Since this district often abuts residential areas, permitted uses and the associated bulk standards are limited accordingly.

4. OL, Office Limited District. The OL district is designed for moderate intensity office development, being appropriate for areas where concentration of office and /or mixed commercial areas are intended. If warranted, this district may be employed as a land use transition between higher density residential areas and noncompatible commercial or industrial uses.

5. OG, Office General District. The OG district is designed for moderately high intensity office development and may be appropriate for use within regional activity centers, or areas policied for concentrations of office and commercial uses. The OG district should be served by an arterial street with mass transportation service.

6. ORI, Office/Residential Intensive District. The ORI district is designed to provide adequate and suitable space in appropriate locations for high intensity office uses mutually compatible with high-density residential uses. Commercial developments which have a minimum of characteristics objectionable in a high density residential and office environment are permitted. A selective list of retail trade, business service and personal care service uses are permitted if the principal purpose is to serve the recurring needs of the occupants or employees of other permitted uses in these districts. These districts are appropriately located between districts characterized by lower density residential and office development and areas of more intensive commercial uses, or they are extensions along major traffic arteries from areas used for more intensive commercial purposes.

F. Commercial Districts. Commercial districts are designed for establishments engaged in a variety of consumer sales and service uses, professional and business services, and recreational uses. Freestanding structures are common within these commercial districts, with most businesses desiring to be oriented toward major streets and thoroughfares.

1. CN, Commercial Neighborhood District. The CN district will implement the local convenience and neighborhood retail policies of the general plan. This district is designed to provide for the recurring shopping and personal service needs of nearby residential areas. The range of permitted uses is limited to those which are generally patronized on a frequent basis by neighborhood residents. The bulk and buffering standards are intended to insure good compatibility between the commercial uses and adjacent residential properties.

2. CL, Commercial Limited District. The CL district is designed to provide for a limited range of commercial uses primarily concerned with retail trade and consumer services, general and fast food restaurants, financial institutions, administrative and consulting offices. This district may be used in areas policied for concentrations of mixed commercial development, super community or regional scale retail concentrations, or in the vicinity of major intersections within existing arterial commercial areas. The uses in this district serve a moderately wide market area, and therefore ease of automobile access is requisite.

3. CS, Commercial Service District. The CS district is intended to provide opportunities for a diverse range of commercial uses that include retail trade and consumer services, automobile sales and

repair, small scale custom assembly, restaurants, entertainment and amusement establishments, financial, consulting and administrative services. This district may be used in areas policied for concentrations of mixed commercial community development, at selected locations within super community retail concentrations and regional activity centers, or in the vicinity of major intersections within existing arterial commercial areas.

Business establishments in the CS district often serve a wide market area, and ease of automobile access is requisite. However, it is not intended that this district permit uses which generate truck traffic other than the stocking of products. Because of the diverse nature of uses found in this district, bulk and buffering standards are designed to protect neighboring areas.

4. CA, Commercial Attraction District. The CA district provides a diverse range of amusement and recreational uses in association with overnight accommodations and a variety of retail and support services typically affiliated with the tourist industry. Bulk and parking standards are designed to reflect the high traffic generation rates commonly associated with uses found in this district. The CA district may be appropriate for selected areas policied for a regional activity center, or for concentrations of mixed commercial development. This district also may have limited application within super community scale retail concentrations, and in the vicinity of major intersections within existing arterial commercial areas.

5. CF, Core Frame District. The CF district is intended to implement the general plan's central business district land use policies for support services. The district is designed primarily for a diverse variety of business service functions along with retail trade and consumer service establishments and large parking structures that require locations in proximity to the central business district.

6. CC, Commercial Core District. The CC district is intended for implementation of the commercial core policy of the general plan. This district is designed to provide for a concentration of financial, professional and administrative office uses, in conjunction with retail, food service, amusement and high density residential uses normally associated with a diverse and economically strong central business district. Development standards in this district encourage full and intense utilization of land, along with integration of multiple uses within structures. When provided in this district, off-street parking is encouraged to be in underground structures. Particular importance is given to ease of pedestrian circulation in the core area and the extent to which development can contribute to a pedestrian environment along the street. Pedestrian-oriented activity at street level is an objective of the CC district, and to that end development incentives are offered in return for a pedestrian-oriented street frontage.

G. Shopping Center Districts. Shopping center districts provide retail shopping opportunities within developments that are encouraged to function as planned centers. Designed to implement specific retail and mixed use policies of the general plan, the range of uses and scale are established in accordance with defined market objectives and locational criteria. Property owners are encouraged to plan and develop shopping centers capitalizing on the more flexible design opportunities offered by Article V of Chapter 17.40.

1. SCN, Shopping Center Neighborhood District. The SCN district will implement the neighborhood retail polices of the general plan, being designed to provide sufficient space in planned development for local retail and service trades catering specifically to the recurring shopping needs of nearby residences. The range of permitted uses and restrictive bulk standards are reflective of the limited market base served by this district and its close proximity to residential areas. Guided by locational policies of the general plan, appropriate locations for this district will be at selected intersections of collector or arterial streets that are centrally located within the intended market area.

2. SCC, Shopping Center Community district. The SCC district will implement the community and super community retail policies of the general plan. The SCC district is designed for retail and service trades catering to a community-scale market of approximately thirty-five thousand to one hundred thousand people with the range of permitted uses and bulk standards reflective of a community-scale market base. The SCC district is to be applied in a compact manner at major street intersections, centrally located within the intended market area, with preference given to arterial intersections in which both streets have at least four travel lanes.

3. SCR, Shopping Center Regional District. The SCR district will implement the super community and regional activity center policies of the general plan. This district is designed for retail and service trades catering to a regional market area, with bulk standards and a broad range of permitted uses supporting the development of shopping malls with large specialized retail anchors.

Accessibility to and circulation within SCR districts is of particular importance due to the anticipated intensity of development and the relatively high rates of traffic generated by certain uses within a center. Preferred locations are at intersections of six-lane streets or at the interchange of a freeway and a four-lane (or greater) arterial street. This district should be served by a variety of public transit services.

H. Industrial Districts. The industrial districts will implement the various industrial policy objectives of the general plan. The range of permitted uses, bulk requirements and operational standards reflect the intended purpose of the respective district.

1. IWD, Industrial Warehousing/Distribution District. The IWD district implements those industrial policies of the general plan that provide opportunities for wholesaling, warehousing and bulk distribution uses. This district also may be used to implement major transportation policies of the general plan. By their nature, the principal uses of this district require relatively flat, large acreage tracts of land and may generate large volumes of heavy truck traffic, necessitating very good access to major arterial streets and the interstate system. Some businesses also may require direct rail or river access.

2. IR, Industrial Restrictive District. The IR district implements those industrial policies of the general plan that provide adequate opportunities for a wide range of light industrial uses at a small to moderate scale. Uses most suitable in this district are those which operate within completely enclosed buildings with limited outdoor storage. Potential impacts on abutting properties are minimized by the light industrial nature of the uses permitted in this district and high operational standards. Uses within this district should have a high level of access to the major street network.

3. IG, Industrial General District. The IG district implements those industrial policies of the general plan which provide opportunities for intensive manufacturing uses that are essential for the economic viability of the metropolitan area. Industrial uses associated with this district often require large, relatively flat sites with good access to the regional highway system, the Cumberland River or a rail line. Due to these special locational requirements, the integrity of this district is protected by a minimum lot size requirement and limiting the range of uses to those which are clearly supportive of the principal uses associated with the IG district. (§ 1(3) of Amdt. 1 with Ord. 96-555 § 2.2, 1997)

Nashville And Davidson County

PROPERTY LOCATION

No.	Alt No.	Direction/Street/City
1432		VULTEE BV, NASHVILLE

OWNERSHIP

Owner 1:	AEROSTRUCTURES CORP., THE
Owner 2:	
Owner 3:	
Street 1:	13155 NOEL RD FL 12 LB 71 GALLERIA TOWER
Street 2:	
Twn/City:	DALLAS
St/Prov:	TX Cntry: Own Occ:
Postal:	75240 Type:

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	Cntry:
Postal:	

NARRATIVE DESCRIPTION

This Parcel contains . Units of land mainly classified as IND with a(n) OFFICE Building Built about 1940, Having Primarily BRICK Exterior and TYPICAL Roof Cover, with 1 Units, 0 Baths, 0 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com. Int

PROPERTY FACTORS

Item	Code	Descip	%	Item	Code	Descrip
Z	IR	IND REST	100	U		
O				t		
n				l		
Census:						
Flood Haz:						
D	USD	URBAN		Topo		
s				Street		
t				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
I72	1,463,400	724,200	0.000	4,897,000	7,084,600
Total Card	1,463,400	724,200	0.000	4,897,000	7,084,600
Total Parcel	13,118,300	724,200	0.000	4,897,000	18,739,500

Source: Market Adj Cost | Total Value per SQ unit /Card: 54.74 | /Parcel: 9.32

Legal Description: S SIDE VULTEE BLVD. E OF MCGAVOCK PK. 000X000

Entered Lot Size | Total Land: 96.74 | Land Unit Type: A

User Acct: 12000003500 | GIS Ref | GIS Ref | Insp. Date

PREVIOUS ASSESSMENT

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date
2001	I72	ROLL	13,118,300	724200		4,897,000	18,739,500	7,495,800	Year End Roll	5/2/2001
2000	I72	ROLL	14,130,400	0		3,869,600	18,000,000	9,843,160		1/2/1999
1999	I72	ROLL	14,130,400	0		3,869,600	18,000,000	9,843,160		1/1/1999

Parcel ID: 120 00 0 035.00

PRINT

Date	Time
12/18/02	13:04:21

LAST REV

Date	Time
09/11/02	15:14:47

PAT ACCT. 137214

USER DEFINED

Prior Id # 1:	MAILED
Prior Id # 2:	
Prior Id # 3:	AS99NFP0
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	25899869
Prior Id # 2:	24607900
Prior Id # 3:	0
ASR Map:	
Fact Dist:	7218
Reval Dist:	
Year:	
LandReason:	
BldReason:	

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Assoc PCL Value	Notes
	00010294-000	QC	12/11/1996	PART INT	0	No	No			
	00010184-000	DB	9/5/1996	LIMITED SALE	10419000	No	No			
	00001877-000	DB	8/7/1950		0	No	No			

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	V1.Date	V2.Date	V3.Date	Comment
10/25/2001	14538A	NEW LOW	25	C	7/1/2002			
4/24/2001	03119A	ADD NON	125,000	C	7/1/2002			CONSTRUCT 21X86 SH
2/3/1999	F00058	FIRE REP	250,000	C	12/13/1999	5/8/2000		NVC

ACTIVITY INFORMATION

Date	Result	By	Name
12/13/99	CHANGE	46	A KNOX
07/01/02	CHANGE	46	A KNOX
06/14/99	CHANGE	CONV	
05/08/00	CHANGE	46	A KNOX
02/20/02	LIST	34	S RICHARDS

Sign: VERIFICATION OF VISIT NOT DATA ___/___/___

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth/ PriceUnits	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
I72	IND		96.74		R PRIME A	3011 V	1.0	0	50,000.	1.000	3011		134E ADJUSTM							4,837,000				8	1.	4,837,000	
I72	IND		1		TOWER SIT	3011	1.0	0	60,000.	1.000	3011		134							60,000				8	1.	60,000	

Total AC/HA: 0 | Total SF/SM: | Parcel LUC: I72 IND | Prime NB Desc: COM | Total: 4,897,000 | Spl Credit | Total: 4,897,000

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

EXTERIOR INFORMATION

Type:	OF - OFFICE
Sty/Ht:	33
(Liv) Units:	1
Foundation:	00 - TYPICAL
Frame:	12 - COM MASONRY
Prime Wall:	01 - BRICK
Sec Wall:	%
Roof Struct:	
Roof Cover:	00 - TYPICAL
Color:	
View/Desir:	134N - 3011 N

BATH FEATURES

Full Bath:	0	Rating:	
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth:		Rating:	
1/2 Bath:	0	Rating:	
A 1HBth:		Rating:	
Othr Fix:	0	Rating:	

OTHER FEATURES

Kits:	0	Rating:	
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

COMMENTS

AEROSTRUCTURES TEXTRON BLDGS 1 & 1B OBSOLETE 3 STY WALKUP. @118 FT CONTEL CELLULAR TOWER ASSESSED BY PSC@ ATTACHED TO BLDG3 OF 29.

SKETCH

Undisplayed Areas:
BAS: 63864,P 1734
BSE: 65552

8

RESIDENTIAL GRID

1st Res Grid:	Desc:										# Units	1
Level	FY	LR	DR	K	D	ER	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												
Totals	RMS:	0	BRS:	0	Baths:	0	HB	0				

GENERAL INFORMATION

Grade:	OFC - GRADE		
Year Blt:	1940	Eff Yr Blt:	1952
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:			
Lump Sum Adj:			

CONDO INFORMATION

Location:	
Unit #:	
Floor:	
% Own:	
Name:	

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
1		0	
Totals			
1		0	

INTERIOR INFORMATION

Avg Ht/Fl:	13
Prim Int Wal	A - AVERAGE
Sec Int Wall:	%
Partition:	
Prim Floors:	T - TYPICAL
Sec Floors:	%
Bsmnt Flr:	
Bsmnt Gar:	
Electric:	T - TYPICAL
Insulation:	T - TYPICAL
Int vs Ext:	
Heat Fuel:	T - TYPICAL
Heat Type:	02 - HTG/CLG
# Heat Sys:	1
% Heated:	% AC:
Solar HW:	NO Central Vac: NO
% Com Wal	% Sprinkled

DEPRECIATION

Phys Cond:	AV - Average	67. %
Functional:	L - LAYOUT	40 %
Economic:		%
Special:		%
Override:		%
Total:		80.70 %

CALC SUMMARY

Basic $/SQ:	56.46
Size Adj:	1
Const Adj:	0.9207
Adj $/SQ:	51.983
Grade Factor:	1.00
Other Features:	0
Neighborhood Inf:	1
LUC Factor:	1.00
Adj Total:	6727396
Depreciation:	5427663
Depreciated Total:	1299733

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

Wt Av $/SQ:		Av Rate:	Ind Val
Juris Factor:		Val/Su Fin:	11.31
Special Features:	163700	Val/Su Net:	11.31
Final Total:	1463400	Val/Su SzAd	11.31

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
BAS	BASE AREA	63,864	51.980	3,319,825
BSE	RESIDUAL	65,552	51.980	3,407,571

Net Sketched Area:	129,416	Total:	6,727,395		
Size Ad	129416	Gross Area	129416	Fin Area	129416

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	Type	%	Qu	Ten

SPEC FEATURES/YARD ITEMS

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB	Fa	Appr Value	JCod	JFact	Juris Value
APH	ASP PAVING	D	Y	1	400000	T	AV	1998	1.28	T	35	I72				332,800			332,800
STGE	COM SHED	D	Y	1	800	T	AV	1998	10.75	T	35	I72				5,600			5,600
RR	RAIL SPUR	D	Y	1	6500	T	AV	1998	68.42	T	35	I72				289,100			289,100
STGE	COM SHED	D	Y	1	300	T	AV	1998	10.75	T	35	I72				2,100			2,100
CASH	CASHIER BTH	D	Y	1	360	T	AV	1998	92.01	T	35	I72				21,500			21,500
STGE	COM SHED	D	Y	1	160	T	AV	1998	10.75	T	35	I72				1,100			1,100
STGE	COM SHED	D	Y	1	1248	T	AV	1998	10.75	T	35	I72				8,700			8,700
STGE	COM SHED	D	Y	1	540	T	AV	1998	10.75	T	35	I72				3,800			3,800
CASH	CASHIER BTH	D	Y	1	80	T	AV	1998	92.01	T	35	I72				4,800			4,800
STGE	COM SHED	D	Y	1	500	T	AV	1998	10.75	T	35	I72				3,500			3,500
STGE	COM SHED	D	Y	1	360	T	AV	1998	10.75	T	35	I72				2,500			2,500
STGE	COM SHED	D	Y	1	525	T	AV	1998	10.75	T	35	I72				3,700			3,700
STGE	COM SHED	D	Y	1	396	T	AV	1998	10.75	T	35	I72				2,800			2,800
STGE	COM SHED	D	Y	1	1860	T	AV	1998	10.75	T	35	I72				13,000			13,000
STGE	COM SHED			1	1200	T	AV	1998	10.75	T	35	I72				8,400			8,400

More: Y

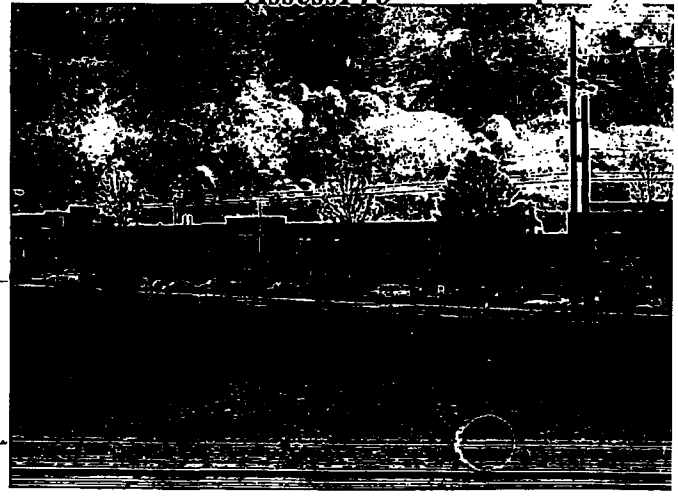
Total Yard Items: 724,200 | Total Special Features: 2,785,500 | Total: 3,509,700

PARCEL ID

120 00 0 035.00

IMAGE

AssessPro Patriot Properties, Inc



Nashville And Davidson County

PROPERTY LOCATION

No	Alt No	Direction/Street/City
1432		VULTEE BV, NASHVILLE

OWNERSHIP

Owner 1:	AEROSTRUCTURES CORP., THE
Owner 2:	
Owner 3:	
Street 1:	13155 NOEL RD FL 12 LB 71 GALLERIA TOWER
Street 2:	
Twn/City:	DALLAS
St/Prov:	TX Cntry: Own Occ:
Postal:	75240 Type:

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	Cntry:
Postal:	

NARRATIVE DESCRIPTION

This Parcel contains . Units of land mainly classified as IND with a(n) MANF PLANT Building Built about 1941, Having Primarily BRICK Exterior and TYPICAL Roof Cover, with 1 Units, 0 Baths, 0 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com. Int

PROPERTY FACTORS

Item	Code	Descip	%	Item	Code	Descrip
Z	IR	IND REST	100	U		
o				t		
n				l		
Census:						
Flood Haz:						
D	USD	URBAN		Topo		
s				Street		
t				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
I72	1,434,300		0.000		1,434,300
Total Card	1,434,300		0.000		1,434,300
Total Parcel	13,118,300	724,200	0.000	4,897,000	18,739,500

Source: Market Adj Cost | Total Value per SQ unit /Card: 2.59 | /Parcel: 9.32

Legal Description
S SIDE VULTEE BLVD. E OF MCGAVOCK PK. 000X000

Entered Lot Size
Total Land: 96.74
Land Unit Type: A

User Acct: 12000003500
GIS Ref:
GIS Ref:
Insp Date:

PREVIOUS ASSESSMENT

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date

Parcel ID: 120 00 0 035.00

PRINT

Date	Time
12/18/02	13:04:57

LAST REV

Date	Time
02/28/01	09:13:57

PAT ACCT. 137214

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Assoc PCL Value	Notes

USER DEFINED

Prior Id # 1:	MAILED
Prior Id # 2:	
Prior Id # 3:	AS99NFP0
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	0
ASR Map:	
Fact Dist:	7218
Reval Dist:	
Year:	
LandReason:	
BldReason:	

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	V1.Date	V2.Date	V3.Date	Comment

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: VERIFICATION OF VISIT NOT DATA ___/___/___

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth / PriceUnits	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
I72	IND		0	0	R PRIME A 3011 V		1.0	0	0.	0.000	3011																

Total AC/HA:	0	Total SF/SM:		Parcel LUC:	I72	IND	Prime NB Desc	COM	Total:		Spl Credit		Total:

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

EXTERIOR INFORMATION

Type:	IM - MANF PLANT
Sty Ht:	31
(Liv) Units:	1
Foundation:	00 - TYPICAL
Frame:	12 - COM MASONRY
Prime Wall:	01 - BRICK
Sec Wall:	%
Roof Struct:	
Roof Cover:	00 - TYPICAL
Color:	
View / Desir:	134N - 3011 N

GENERAL INFORMATION

Grade:	IMC - GRADE		
Year Blt:	1941	Eff Yr Blt:	1941
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:			
Lump Sum Adj:			

INTERIOR INFORMATION

Avg Ht/FL:	41		
Prim Int Wal	A - AVERAGE		
Sec Int Wall:	%		
Partition:			
Prim Floors:	T - TYPICAL		
Sec Floors:	%		
Bsmnt Flr:			
Bsmnt Gar:			
Electric:	T - TYPICAL		
Insulation:	T - TYPICAL		
Int vs Ext:			
Heat Fuel:	T - TYPICAL		
Heat Type:	02 - HTG/CLG		
# Heat Sys:	1		
% Heated:		% AC:	
Solar HW:	NO	Central Vac:	NO
% Com Wal		% Sprinkled	

BATH FEATURES

Full Bath	0	Rating:	
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth		Rating:	
1/2 Bath:	0	Rating:	
A HBth:		Rating:	
OthrFix:	0	Rating:	

OTHER FEATURES

Kits:	0	Rating:	
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

CONDO INFORMATION

Location:	
Unit #:	
Floor:	
% Own:	
Name:	

DEPRECIATION

Phys Cond:	FR - Fair	90. %
Functional:	L - LAYOUT	40 %
Economic:		%
Special:		%
Override:		%
Total:		94.10 %

CALC SUMMARY

Basic $ / SQ:	23.80
Size Adj.:	1
Const Adj.:	1.36637
Adj $ / SQ:	32.520
Grade Factor:	1.00
Other Features:	0
Neighborhood Inf:	1
LUC Factor:	1.00
Adj Total:	18015928
Depreciation:	16956592
Depreciated Total:	1059336

COMMENTS

TEXTRON BLDGS 2,2A & 3 FUNCTIONAL OBSO-LESENCE IN THE CEILING/ROOF DESIGN.INEFFICIENT HEATING &COOLING.

RESIDENTIAL GRID

1st Res Grid	Desc:		# Units	1

Level	FY	LR	DR	K	D	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												

Totals	RMs:	0	BRs:	0	Baths:	0	HB	0

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
1		0	
Totals			
1		0	

SKETCH

Undisplayed Areas:
BAS: 554000,P 3352

8

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAv$/SQ:		AvRate:	Ind.Val

Juris. Factor:		Val/Su Fin:	2.59
Special Features:	375000	Val/Su Net:	2.59
Final Total:	1434300	Val/Su SzAd	2.59

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
BAS	BASE AREA	554,000	32.520	18,015,930

Net Sketched Area:	554,000	Total:	18,015,928

Size Ad	554000	Gross Area	554000	FinArea	554000

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten

IMAGE

AssessPro Patriot Properties, Inc

PARCEL ID 120 00 0 035.00

SPEC FEATURES/YARD ITEMS

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value
LOD	LOADING DCK	A	S	1	840	T	AV	1941	9.14	B	94.1	I72			500			500
SPC	SPRINKLER	A	S	1	700798	T	AV	1941	1.22	B	94.1	I72			50,400			50,400
H18	HT/CL PACK	A	S	1	393960	T	AV	1941	4.83	B	94.1	I72			112,300			112,300
UFB	UNF BSMT	A	S	1	139206	T	AV	1941	19.82	B	94.1	I72			162,800			162,800
MZ3	MEZZ	A	S	1	6400	T	AV	1941	13.12	B	94.1	I72			5,000			5,000
EF1	F ELEV 2-17	A	S	1	2	T	AV	1941	22,705.00	B	94.1	I72			2,700			2,700
MSAC	MTL ADDN	A	S	1	1350	Z	AV	1941	12.41	B	94.1	I72			1,000			1,000
OSCC	CB ADDN	A	S	1	3080	V	AV	1941	15.37	B	94.1	I72			2,800			2,800
CPFC	COM PRT FIN	A	S	1	4512	U	AV	1941	14.18	B	94.1	I72			3,800			3,800
H16	HT/CL SPC	A	S	1	138040	T	AV	1941	1.06	B	94.1	I72			8,600			8,600
H15	HT/CL STM	A	S	1	22000	T	AV	1941	5.22	B	94.1	I72			6,800			6,800
H18	HT/CL PACK	A	S	1	2256	T	AV	1941	4.83	B	94.1	I72			600			600
H16	HT/CL SPC	A	S	1	139206	T	AV	1941	1.06	B	94.1	I72			8,700			8,700
COFC	OPEN FINISH	A	S	1	4512	U	AV	1941	14.18	B	94.1	I72			3,800			3,800
CRN	CRANE RAIL			1	2520	T	AV	1941	35.30	B	94.1	I72			5,200			5,200

More:	Y	Total Yard Items:	724,200	Total Special Features:	2,785,500	Total:	3,509,700

Nashville And Davidson County

PROPERTY LOCATION

No/Bldg	Alt No	Direction/Street/City
1432		VULTEE BV, NASHVILLE

OWNERSHIP

Owner 1:	AEROSTRUCTURES CORP., THE
Owner 2:	
Owner 3:	
Street 1:	13155 NOEL RD FL 12 LB 71 GALLERIA TOWER
Street 2:	
Twn/City:	DALLAS
St/Prov:	TX Cntry: Own Occ:
Postal:	75240 Type:

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	Cntry:
Postal:	

NARRATIVE DESCRIPTION

This Parcel contains . Units of land mainly classified as IND with a(n) WAREHOUSE Building Built about 1940, Having Primarily CONC BLK Exterior and TYPICAL Roof Cover, with 1 Units, 0 Baths, 0 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com. Int

PROPERTY FACTORS

Item	Code	Descrip	%	Item	Code	Descrip
Z	IR	IND REST	100	U		
o				t		
n				l		
Census:						
Flood Haz:						
D	USD	URBAN		Topo		
s				Street		
t				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
I72	853,100		0.000		853,100
Total Card	853,100		0.000		853,100
Total Parcel	13,118,300	724,200	0.000	4,897,000	18,739,500

Source: Market Adj Cost | Total Value per SQ unit /Card: 3.04 | /Parcel: 9.32

Legal Description: S SIDE VULTEE BLVD. E OF MCGAVOCK PK. 000X000

Entered Lot Size | Total Land: 96.74 | Land Unit Type: A

User Acct
12000003500
GIS Ref
GIS Ref
Insp Date

PREVIOUS ASSESSMENT

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date

Parcel ID: 120 00 0 035.00

PRINT

Date	Time
12/18/02	13:05:27

LAST REV

Date	Time
02/28/01	09:14:12

PAT ACCT. 137214

USER DEFINED

Prior Id # 1:	3
Prior Id # 2:	
Prior Id # 3:	AS99NFP0
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	0
ASR Map:	
Fact Dist:	7218
Reval Dist:	
Year:	
LandReason:	
BldReason:	

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Code #	Sale Price	V	Tst	Verif	Assoc PCL Value	Notes

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	V1.Date	V2.Date	V3.Date	Comment

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: VERIFICATION OF VISIT NOT DATA ___/___/___

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth / PriceUnits	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
I72	IND		0	0	R PRIME A	3011 V	1.0	0	0.	0.000	3011																

Total AC/HA: 0 | Total SF/SM: | Parcel LUC: I72 IND | Prime NB,Desc COM | Total: | Spl Credit | Total:

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

EXTERIOR INFORMATION

Type:	ID - WAREHOUSE
Sty Ht:	32
(Liv) Units:	1
Foundation:	00 - TYPICAL
Frame:	12 - COM MASONRY
Prime Wall:	04 - CONC BLK
Sec Wall:	%
Roof Struct:	
Roof Cover:	00 - TYPICAL
Color:	
View / Desir:	134N - 3011 N

GENERAL INFORMATION

Grade:	IDC - GRADE		
Year Blt:	1940	Eff Yr Blt:	1952
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:			
Lump Sum Adj:			

INTERIOR INFORMATION

Avg Ht/FL:	21
Prim Int Wal	A - AVERAGE
Sec Int Wall:	%
Partition:	
Prim Floors:	T - TYPICAL
Sec Floors:	%
Bsmnt Flr:	
Bsmnt Gar:	
Electric:	T - TYPICAL
Insulation:	T - TYPICAL
Int vs Ext:	
Heat Fuel:	T - TYPICAL
Heat Type:	02 - HTG/CLG
# Heat Sys:	1
% Heated:	% AC:
Solar HW:	NO Central Vac: NO
% Com Wal	% Sprinkled

BATH FEATURES

Full Bath	0	Rating:	
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth		Rating:	
1/2 Bath:	0	Rating:	
A HBth:		Rating:	
OthrFix:	0	Rating:	

OTHER FEATURES

Kits:	0	Rating:	
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

CONDO INFORMATION

Location:	
Unit #:	
Floor:	
% Own:	
Name:	

DEPRECIATION

Phys Cond:	AV - Average	83. %
Functional:	L - LAYOUT	40 %
Economic:		%
Special:		%
Override:		%
Total:		90.30 %

CALC SUMMARY

Basic $ / SQ:	27.87
Size Adj.:	1
Const Adj.:	0.868125
Adj $ / SQ:	24.195
Grade Factor:	1.00
Other Features:	0
Neighborhood Inf:	1
LUC Factor:	1.00
Adj Total:	6791147
Depreciation:	6135122
Depreciated Total:	656025

COMMENTS

TEXTRON BLDG 2B & 2C TRAIN WELL AT BASEMENT LEVEL.

RESIDENTIAL GRID

1st Res Grid	Desc:	# Units	1

Level	FY	LR	DR	K	O	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												

Totals	RMs: 0	BRs: 0	Baths: 0	HB 0

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
1		0	
Totals			
1		0	

SKETCH

Undisplayed Areas:
BAS: 140344,P 2160
BSE: 140344

8

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
BAS	BASE AREA	140,344	24.190	3,395,573
BSE	RESIDUAL	140,344	24.190	3,395,573

Net Sketched Area:	280,688	Total:	6,791,146
Size Ad 280688	Gross Area 280688	FinArea 280688	

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAv$/SQ:		AvRate:		Ind.Val	

Juris. Factor:		Val/Su Fin:	3.04
Special Features:	197100	Val/Su Net:	3.04
Final Total:	853100	Val/Su SzAd	3.04

IMAGE

AssessPro Patriot Properties, Inc

PARCEL ID 120 00 0 035.00

SPEC FEATURES/YARD ITEMS

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value
LOD	LOADING DCK	A	S	1	1200	T	AV	1952	9.14	B	90.3	I72			1,100			1,100
SPC	SPRINKLER	A	S	1	293794	T	AV	1952	1.22	B	90.3	I72			34,700			34,700
H18	HT/CL PACK	A	S	1	242688	T	AV	1952	4.83	B	90.3	I72			113,700			113,700
UFB	UNF BSMT	A	S	1	10815	T	AV	1952	19.82	B	90.3	I72			20,800			20,800
MZ3	MEZZ	A	S	1	7082	T	AV	1952	13.12	B	90.3	I72			9,000			9,000
EF1	F ELEV 2-17	A	S	1	2	T	AV	1952	22,705.00	B	90.3	I72			4,400			4,400
OSCC	CB ADDN	A	S	1	1400	V	AV	1952	15.37	B	90.3	I72			2,100			2,100
CPFC	COM PRT FIN	A	S	1	1181	U	AV	1952	14.18	B	90.3	I72			1,600			1,600
H16	HT/CL SPC	A	S	1	44400	T	AV	1952	1.06	B	90.3	I72			4,600			4,600
H18	HT/CL PACK	A	S	1	1181	T	AV	1952	4.83	B	90.3	I72			600			600
COFC	OPEN FINISH	A	S	1	1181	U	AV	1952	14.18	B	90.3	I72			1,600			1,600
CAC	CANOPY ATT	A	S	1	1824	C	AV	1952	16.67	B	90.3	I72			2,900			2,900

More:	N	Total Yard Items:	724,200	Total Special Features:	2,785,500	Total:	3,509,700

Nashville And Davidson County

PROPERTY LOCATION

No	Alt No	Direction/Street/City
1432		VULTEE BV, NASHVILLE

OWNERSHIP

Owner 1:	AEROSTRUCTURES CORP., THE
Owner 2:	
Owner 3:	
Street 1:	13155 NOEL RD FL 12 LB 71 GALLERIA TOWER
Street 2:	
Twn/City:	DALLAS
St/Prov:	TX Cntry Own Occ:
Postal:	75240 Type:

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	Cntry
Postal:	

NARRATIVE DESCRIPTION

This Parcel contains . Units of land mainly classified as IND with a(n) MANF PLANT Building Built about 1940, Having Primarily BRICK Exterior and TYPICAL Roof Cover, with 1 Units, 0 Baths, 0 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com Int

PROPERTY FACTORS

Item	Code	Descip	%	Item	Code	Descrip
Z	IR	IND REST	100	U		
o				t		
n				l		
Census:						
Flood Haz:						
D	USD	URBAN		Topo		
s				Street		
t				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
I72	88,500		0.000		88,500
Total Card	88,500		0.000		88,500
Total Parcel	13,118,300	724,200	0.000	4,897,000	18,739,500

Source: Market Adj Cost | Total Value per SQ unit /Card: 1.50 | /Parcel: 9.32

Legal Description: S SIDE VULTEE BLVD. E OF MCGAVOCK PK. 000X000

User Acct	12000003500
GIS Ref	
GIS Ref	
Insp Date	
Entered Lot Size	
Total Land:	96.74
Land Unit Type:	A

PREVIOUS ASSESSMENT

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date

Parcel ID 120 00 0 035.00

PRINT Date 12/18/02 Time 13:05:56

LAST REV Date 02/28/01 Time 09:14:22

PAT ACCT. 137214

USER DEFINED

Prior Id #1:	3
Prior Id #2:	
Prior Id # 3:	AS99NFP0
Prior Id #1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id #1:	
Prior Id # 2:	
Prior Id # 3:	0
ASR Map:	
Fact Dist:	7218
Reval Dist:	
Year:	
LandReason:	
BldReason:	

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Assoc PCL Value	Notes

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	V1.Date	V2.Date	V3.Date	Comment

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: VERIFICATION OF VISIT NOT DATA ___/___/___

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth / PriceUnits	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
I72	IND		0	0	R PRIME A	3011 V	1.0	0	0.	0.000	3011																

Total AC/HA:	0	Total SF/SM:		Parcel LUC:	I72	IND	Prime NB Desc	COM	Total:		Spl Credit		Total:

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

EXTERIOR INFORMATION

Type:	IM - MANF PLANT
Sty Ht:	31
(Liv) Units:	1
Foundation:	00 - TYPICAL
Frame:	12 - COM MASONRY
Prime Wall:	01 - BRICK
Sec Wall:	%
Roof Struct:	
Roof Cover:	00 - TYPICAL
Color:	
View / Desir:	134N - 3011 N

BATH FEATURES

Full Bath	0	Rating:	
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth		Rating:	
1/2 Bath:	0	Rating:	
A HBth:		Rating:	
OthrFix:	0	Rating:	

OTHER FEATURES

Kits:	0	Rating:	
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

COMMENTS

TEXTRON BLDGS 4,5 & 7 FLOORS NOT SOUNDOR WATERPROOF- PHYSICAL DEPREC-IATION IN ROOF- SOME ASBESTOS SIDING-FUNCTIONAL OBSOLESENCE.

SKETCH

Undisplayed Areas:
BAS: 59160,P 1106

8

GENERAL INFORMATION

Grade:	IMC - GRADE		
Year Blt:	1940	Eff Yr Blt:	1940
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:			
Lump Sum Adj:			

CONDO INFORMATION

Location:	
Unit #:	
Floor:	
% Own:	
Name:	

RESIDENTIAL GRID

1st Res Grid	Desc:	# Units	1

Level:	FY	LR	DR	K	D	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												

Totals:	RMs:	0	BRs:	0	Baths:	0	HB	0

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
1		0	
Totals			
1		0	

INTERIOR INFORMATION

Avg Ht/FL:	32
Prim Int Wal	A - AVERAGE
Sec Int Wall:	%
Partition:	
Prim Floors:	T - TYPICAL
Sec Floors:	%
Bsmnt Flr:	
Bsmnt Gar:	
Electric:	T - TYPICAL
Insulation:	T - TYPICAL
Int vs Ext:	
Heat Fuel:	T - TYPICAL
Heat Type:	15 - STEAM
# Heat Sys:	1
% Heated:	% AC:
Solar HW:	NO Central Vac: NO
% Com Wal	% Sprinkled

DEPRECIATION

Phys Cond:	PR - Poor	93.	%
Functional:	L - LAYOUT	40	%
Economic:			%
Special:			%
Override:			%
Total:		96.20	%

CALC SUMMARY

Basic $ / SQ:	23.80
Size Adj.:	1
Const Adj.:	1.19425
Adj $ / SQ:	28.423
Grade Factor:	1.00
Other Features:	0
Neighborhood Inf:	1
LUC Factor:	1.00
Adj Total:	1681514
Depreciation:	1617952
Depreciated Total:	63561

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAv$/SQ:		AvRate:		Ind.Val	

Juris. Factor:		Val/Su Fin:	1.50
Special Features:	24900	Val/Su Net:	1.50
Final Total:	88500	Val/Su SzAd	1.50

SUB AREA

Code	Description	Area SQ	Rate - AV	Undepr.Value
BAS	BASE AREA	59,160	28.420	1,681,514
Net Sketched Area:		59,160	Total:	1,681,514

Size Ad	59160	Gross Area	59160	FinArea	59160

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten

IMAGE

AssessPro Patriot Properties, Inc

SPEC FEATURES/YARD ITEMS

PARCEL ID 120 00 0 035.00

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value
SPC	SPRINKLER	A	S	1	67529	T	AV	1940	1.22	B	96.2	I72			3,100			3,100
H15	HT/CL STM	A	S	1	44080	T	AV	1940	5.22	B	96.2	I72			8,700			8,700
MZ3	MEZZ	A	S	1	2350	T	AV	1940	13.12	B	96.2	I72			1,200			1,200
CPFC	COM PRT FIN	A	S	1	8368	V	AV	1940	14.72	B	96.2	I72			4,700			4,700
H16	HT/CL SPC	A	S	1	15080	T	AV	1940	1.06	B	96.2	I72			600			600
H18	HT/CL PACK	A	S	1	8368	T	AV	1940	4.83	B	96.2	I72			1,500			1,500
COFC	OPEN FINISH	A	S	1	8368	V	AV	1940	14.72	B	96.2	I72			4,700			4,700
CRN	CRANE RAIL	A	S	1	280	T	AV	1940	35.30	B	96.2	I72			400			400

More:	N	Total Yard Items:	724,200	Total Special Features:	2,785,500	Total:	3,509,700

Nashville And Davidson County

PROPERTY LOCATION

No	Alt No	Direction/Street/City
1432		VULTEE BV, NASHVILLE

OWNERSHIP

Owner 1:	AEROSTRUCTURES CORP., THE
Owner 2:	
Owner 3:	[redacted]
Street 1:	13155 NOEL RD FL 12 LB 71 GALLERIA TOWER
Street 2:	
Twn/City:	DALLAS
St/Prov:	TX Cntry: Own Occ:
Postal:	75240 Type:

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	Cntry:
Postal:	

NARRATIVE DESCRIPTION

This Parcel contains . Units of land mainly classified as IND with a(n) MANF PLANT Building Built about 1953, Having Primarily BRICK Exterior and TYPICAL Roof Cover, with 1 Units, 0 Baths, 0 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com. Int

PROPERTY FACTORS

Item	Code	Descip	%	Item	Code	Descrip
Z	IR	IND REST	100	U		
o				t		
n				l		
Census:						
Flood Haz:						
D	USD	URBAN		Topo		
s				Street		
t				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
I72	78,200		0.000		78,200
Total Card	78,200		0.000		78,200
Total Parcel	13,118,300	724,200	0.000	4,897,000	18,739,500

Source: Market Adj Cost | Total Value per SQ unit /Card: 3.83 | /Parcel: 9.32

Legal Description: S SIDE VULTEE BLVD. E OF MCGAVOCK PK. 000X000

Entered Lot Size | Total Land: 96.74 | Land Unit Type: A

User Acct
12000003500
GIS Ref
GIS Ref
Insp Date

PREVIOUS ASSESSMENT

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date

Parcel ID: 120 00 0 035.00

PRINT: Date 12/18/02 | Time 13:06:23

LAST REV: Date 02/28/01 | Time 09:14:34

PAT ACCT.: 137214

USER DEFINED

Prior Id # 1:	3
Prior Id # 2:	
Prior Id # 3:	AS99NFP0
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	0
ASR Map:	
Fact Dist:	7218
Reval Dist:	
Year:	
LandReason:	
BldReason:	

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Assoc PCL Value	Notes

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	V1.Date	V2.Date	V3.Date	Comment

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: VERIFICATION OF VISIT NOT DATA ___/___/___

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth / Price	Units	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
I72	IND		0		0	R PRIME A	3011 V	1.0	0	0.	0.000	3011																

Total AC/HA:	0	Total SF/SM:		Parcel LUC:	I72	IND	Prime NB Desc	COM	Total:		Spl Credit		Total:	

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

EXTERIOR INFORMATION

Type:	IM - MANF PLANT
Sty Ht:	31
(Liv) Units:	1
Foundation:	00 - TYPICAL
Frame:	12 - COM MASONRY
Prime Wall:	01 - BRICK
Sec Wall:	%
Roof Struct:	
Roof Cover:	00 - TYPICAL
Color:	
View / Desir:	134N - 3011 N

GENERAL INFORMATION

Grade:	IMC - GRADE		
Year Blt:	1953	Eff Yr Blt:	1953
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:			
Lump Sum Adj:			

INTERIOR INFORMATION

Avg Ht/FL:	42
Prim Int Wal	A - AVERAGE
Sec Int Wall:	%
Partition:	
Prim Floors:	T - TYPICAL
Sec Floors:	%
Bsmnt Flr:	
Bsmnt Gar:	
Electric:	T - TYPICAL
Insulation:	T - TYPICAL
Int vs Ext:	
Heat Fuel:	T - TYPICAL
Heat Type:	16 - SPACE HEATER
# Heat Sys:	1
% Heated:	% AC:
Solar HW:	NO Central Vac: NO
% Com Wal	% Sprinkled

BATH FEATURES

Full Bath	0	Rating:	
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth		Rating:	
1/2 Bath:	0	Rating:	
A HBth:		Rating:	
OthrFix:	0	Rating:	

OTHER FEATURES

Kits:	0	Rating:	
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

CONDO INFORMATION

Location:	
Unit #:	
Floor:	
% Own:	
Name:	

DEPRECIATION

Phys Cond:	AV - Average	83.	%
Functional:	L - LAYOUT	40	%
Economic:			%
Special:			%
Override:			%
Total:		89.90	%

CALC SUMMARY

Basic $ / SQ:	23.80
Size Adj.:	1
Const Adj.:	1.46225
Adj $ / SQ:	34.802
Grade Factor:	1.00
Other Features:	0
Neighborhood Inf:	1
LUC Factor:	1.00
Adj Total:	709743
Depreciation:	637775
Depreciated Total:	71968

COMMENTS

TEXTRON BLDGS 10RAIL SPUR ENTERSBLDG.

RESIDENTIAL GRID

1st Res Grid	Desc:		# Units	1

Level	FY	LR	DR	K	D	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												

Totals	RMs:	0	BRs:	0	Baths:	0	HB	0

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
1		0	
Totals			
1		0	

SKETCH

Undisplayed Areas:
BAS: 20394,P 602

8

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAv$/SQ:		AvRate:		Ind.Val	

Juris. Factor:		Val/Su Fin:	3.83
Special Features:	6200	Val/Su Net:	3.83
Final Total:	78200	Val/Su SzAd	3.83

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
BAS	BASE AREA	20,394	34.800	709,743

Net Sketched Area:	20,394		Total:	709,742	
Size Ad	20394	Gross Area	20394	FinArea	20394

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten

IMAGE

AssessPro Patriot Properties, Inc

PARCEL ID 120 00 0 035.00

SPEC FEATURES/YARD ITEMS

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value
SPC	SPRINKLER	A	S	1	20394	T	AV	1953	1.28	B	89.9	I72			2,600			2,600
H16	HT/CL SPC	A	S	1	20394	T	AV	1953	1.06	B	89.9	I72			2,200			2,200
CRN	CRANE RAIL	A	S	1	396	T	AV	1953	35.30	B	89.9	I72			1,400			1,400

More:	N	Total Yard Items:	724,200	Total Special Features:	2,785,500	Total:	3,509,700

Nashville And Davidson County

PROPERTY LOCATION

No	Alt No	Direction/Street/City
1432		VULTEE BV, NASHVILLE

OWNERSHIP

Owner 1:	AEROSTRUCTURES CORP., THE
Owner 2:	
Owner 3:	
Street 1:	13155 NOEL RD FL 12 LB 71 GALLERIA TOWER
Street 2:	
Twn/City:	DALLAS
St/Prov:	TX Cntry: Own Occ:
Postal:	75240 Type:

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	Cntry
Postal:	

NARRATIVE DESCRIPTION

This Parcel contains . Units of land mainly classified as IND with a(n) MANF PLANT Building Built about 1957, Having Primarily METAL Exterior and TYPICAL Roof Cover, with 1 Units, 0 Baths, 0 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com. Int

PROPERTY FACTORS

Item	Code	Descip	%	Item	Code	Descrip
Z	IR	IND REST	100	U		
o				t		
n				l		
Census:						
Flood Haz:						
D	USD	URBAN		Topo		
s				Street		
t				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
I72	37,300		0.000		37,300
Total Card	37,300		0.000		37,300
Total Parcel	13,118,300	724,200	0.000	4,897,000	18,739,500

Source: Market Adj Cost | Total Value per SQ unit /Card: 3.11 | /Parcel: 9.32

Legal Description
S SIDE VULTEE BLVD. E OF MCGAVOCK PK. 000X000

Entered Lot Size
Total Land: 96.74
Land Unit Type: A

User Acct
12000003500

GIS Ref

GIS Ref

Insp Date

PREVIOUS ASSESSMENT

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date

Parcel ID
120 00 0 035.00

PRINT

Date	Time
12/18/02	13:06:48

LAST REV

Date	Time
02/28/01	09:14:47

PAT ACCT.
137214

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Assoc PCL Value	Notes

USER DEFINED

Prior Id # 1:	3
Prior Id # 2:	
Prior Id # 3:	AS99NFP0
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	0
ASR Map:	
Fact Dist:	7218
Reval Dist:	
Year:	
LandReason:	
BldReason:	

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	V1.Date	V2.Date	V3.Date	Comment

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: VERIFICATION OF VISIT NOT DATA ___/___/___

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth / Price	Units	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
I72	IND		0	0		R PRIME A	3011 V	1.0	0	0.	0.000	3011																

Total AC/HA:	0	Total SF/SM:		Parcel LUC:	I72	IND	Prime NB Desc	COM	Total:	Spl Credit	Total:

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

EXTERIOR INFORMATION

Type:	IM - MANF PLANT
Sty Ht:	31
(Liv) Units:	1
Foundation:	00 - TYPICAL
Frame:	15 - COM METAL
Prime Wall:	08 - METAL
Sec Wall:	%
Roof Struct:	
Roof Cover:	00 - TYPICAL
Color:	
View / Desir:	134N - 3011 N

GENERAL INFORMATION

Grade:	IMC - GRADE		
Year Blt:	1957	Eff Yr Blt:	1957
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:			
Lump Sum Adj:			

INTERIOR INFORMATION

Avg Ht/FL:	14
Prim Int Wal	A - AVERAGE
Sec Int Wall:	%
Partition:	
Prim Floors:	T - TYPICAL
Sec Floors:	%
Bsmnt Flr:	
Bsmnt Gar:	
Electric:	T - TYPICAL
Insulation:	T - TYPICAL
Int vs Ext:	
Heat Fuel:	T - TYPICAL
Heat Type:	16 - SPACE HEATER
# Heat Sys:	1
% Heated:	% AC:
Solar HW:	NO Central Vac: NO
% Com Wal	% Sprinkled

BATH FEATURES

Full Bath	0	Rating:	
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth		Rating:	
1/2 Bath:	0	Rating:	
A HBth:		Rating:	
OthrFix:	0	Rating:	

OTHER FEATURES

Kits:	0	Rating:	
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

CONDO INFORMATION

Location:	
Unit #:	
Floor:	
% Own:	
Name:	

DEPRECIATION

Phys Cond:	AV - Average	78.	%
Functional:	L - LAYOUT	40	%
Economic:			%
Special:			%
Override:			%
	Total:	86.90	%

CALC SUMMARY

Basic $ / SQ:	23.80
Size Adj.:	1
Const Adj.:	0.869298
Adj $ / SQ:	20.689
Grade.Factor:	1.00
Other Features:	0
Neighborhood Inf:	1
LUC Factor:	1.00
Adj Total:	248271
Depreciation:	215649
Depreciated Total:	32623

COMMENTS

TEXTRON BLDGS 26& 28.

RESIDENTIAL GRID

1st Res Grid	Desc:		# Units	1
Level	FY LR DR K D FR RR BR FB HB L O			
Other				
Upper				
Lvl 2				
Lvl 1				
Lower				
Totals	RMs: 0	BRs: 0	Baths: 0	HB 0

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
1		0	
Totals			
1		0	

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAv$/SQ:		AvRate:	Ind.Val

Juris. Factor:		Val/Su Fin:	3.11
Special Features:	4700	Val/Su Net:	3.11
Final Total:	37300	Val/Su SzAd	3.11

SKETCH

Undisplayed Areas:
BAS: 12000,P 440

8

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
BAS	BASE AREA	12,000	20.690	248,271

Net Sketched Area:	12,000		Total:	248,271	
Size Ad	12000	Gross Area	12000	FinArea	12000

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten.

IMAGE

AssessPro Patriot Properties, Inc

SPEC FEATURES/YARD ITEMS

PARCEL ID 120 00 0 035.00

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value
SPC	SPRINKLER	A	S	1	12000	T	AV	1957	1.45	B	86.9	I72			2,300			2,300
H16	HT/CL SPC	A	S	1	12000	T	AV	1957	1.06	B	86.9	I72			1,700			1,700
CRN	CRANE RAIL	A	S	1	160	T	AV	1957	35.30	B	86.9	I72			700			700

More:	N	Total Yard Items:	724,200	Total Special Features:	2,785,500	Total:	3,509,700

TOTAL ASSESSED: 18,739,500

Nashville And Davidson County

PROPERTY LOCATION

No	Alt No	Direction/Street/City
1432		VULTEE BV, NASHVILLE

OWNERSHIP

Owner 1:	AEROSTRUCTURES CORP., THE
Owner 2:	
Owner 3:	
Street 1:	13155 NOEL RD FL 12 LB 71 GALLERIA TOWER
Street 2:	
Twn/City:	DALLAS
St/Prov:	TX Cntry: Own Occ:
Postal:	75240 Type:

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	Cntry
Postal:	

NARRATIVE DESCRIPTION

This Parcel contains . Units of land mainly classified as IND with a(n) MANF PLANT Building Built about 1961, Having Primarily METAL Exterior and TYPICAL Roof Cover, with 1 Units, 0 Baths, 0 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com. Int

PROPERTY FACTORS

Item	Code	Descip	%	Item	Code	Descrip
Z	IR	IND REST	100	U		
o				t		
n				l		
Census:						
Flood Haz:						
D	USD	URBAN		Topo.		
s				Street		
t				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
I72	215,000		0.000		215,000
Total Card	215,000		0.000		215,000
Total Parcel	13,118,300	724,200	0.000	4,897,000	18,739,500

Source: Market Adj Cost | Total Value per SQ.unit /Card: 6.52 | /Parcel: 9.32

Legal Description: S SIDE VULTEE BLVD. E OF MCGAVOCK PK. 000X000

Entered Lot Size | Total Land: 96.74 | Land Unit Type: A

User Acct
12000003500
GIS Ref
GIS Ref
Insp Date

PREVIOUS ASSESSMENT

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date

Parcel ID: 120 00 0 035.00

PRINT: Date 12/18/02 | Time 13:07:17

LAST REV: Date 02/28/01 | Time 09:15:01

PAT ACCT.: 137214

USER DEFINED

Prior Id # 1:	3
Prior Id # 2:	
Prior Id # 3:	AS99NFP0
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	0
ASR Map:	
Fact Dist:	7218
Reval Dist:	
Year:	
LandReason:	
BldReason:	

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Assoc PCL Value	Notes

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	V1.Date	V2.Date	V3.Date	Comment

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: VERIFICATION OF VISIT NOT DATA ___/___/___

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth / PriceUnits	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
I72	IND		0	0	R PRIME A	3011 V	1.0	0	0.	0.000	3011																

Total AC/HA: 0 | Total SF/SM: | Parcel LUC: I72 IND | Prime NB Desc COM | Total: | Spl Credit | Total:

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

EXTERIOR INFORMATION

Type:	IM - MANF PLANT
Sty Ht:	31
(Liv) Units:	1
Foundation:	00 - TYPICAL
Frame:	15 - COM METAL
Prime Wall:	08 - METAL
Sec Wall:	%
Roof Struct:	
Roof Cover:	00 - TYPICAL
Color:	
View / Desir:	134N - 3011 N

GENERAL INFORMATION

Grade:	IMC - GRADE		
Year Blt:	1961	Eff Yr Blt:	1961
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:			
Lump Sum Adj:			

INTERIOR INFORMATION

Avg Ht/FL:	22
Prim Int Wal	A - AVERAGE
Sec Int Wall:	%
Partition:	
Prim Floors:	T - TYPICAL
Sec Floors:	%
Bsmnt Flr:	
Bsmnt Gar:	
Electric:	T - TYPICAL
Insulation:	T - TYPICAL
Int vs Ext:	
Heat Fuel:	T - TYPICAL
Heat Type:	16 - SPACE HEATER
# Heat Sys:	1
% Heated:	% AC:
Solar HW:	NO Central Vac: NO
% Com Wal	% Sprinkled

BATH FEATURES

Full Bath	0	Rating:	
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth		Rating:	
1/2 Bath:	0	Rating:	
A HBth:		Rating:	
OthrFix:	0	Rating:	

OTHER FEATURES

Kits:	0	Rating:	
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

CONDO INFORMATION

Location:	
Unit #:	
Floor:	
% Own:	
Name:	

DEPRECIATION

Phys Cond:	AV - Average	69.	%
Functional:	L - LAYOUT	40	%
Economic:			%
Special:			%
Override:			%
Total:		81.80	%

CALC SUMMARY

Basic $ / SQ:	23.80
Size Adj.:	1
Const Adj.:	1.02824
Adj $ / SQ:	24.472
Grade Factor:	1.00
Other Features:	0
Neighborhood Int:	1
LUC Factor:	1.00
Adj Total:	807583
Depreciation:	660765
Depreciated Total:	146819

COMMENTS

TEXTRON BLDGS 2727A,27B & 27C.

RESIDENTIAL GRID

1st Res Grid	Desc:		# Units	1

Level	FY	LR	DR	K	D	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												

Totals	RMs:	0	BRs:	0	Baths:	0	HB	0

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
1		0	
Totals	1	0	

SKETCH

Undisplayed Areas:
BAS: 33000,P 1220

8

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAv$/SQ:		AvRate:	Ind.Val

Juris. Factor:		Val/Su Fin:	6.52
Special Features:	68200	Val/Su Net:	6.52
Final Total:	215000	Val/Su SzAd	6.52

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
BAS	BASE AREA	33,000	24.470	807,583

Net Sketched Area:	33,000		Total:	807,583	
Size Ad	33000	Gross Area	33000	FinArea	33000

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten

IMAGE

AssessPro Patriot Properties, Inc

PARCEL ID 120 00 0 035.00

SPEC FEATURES/YARD ITEMS

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value
SPC	SPRINKLER	A	S	1	39600	T	AV	1961	1.22	B	81.8	I72			8,800			8,800
H16	HT/CL SPC	A	S	1	34500	T	AV	1961	1.06	B	81.8	I72			6,700			6,700
MZ3	MEZZ	A	S	1	3600	T	AV	1961	13.12	B	81.8	I72			8,600			8,600
MSAC	MTL ADDN	A	S	1	1500	U	AV	1961	10.75	B	81.8	I72			2,900			2,900
CPFC	COM PRT FIN	A	S	1	6600	V	AV	1961	14.72	B	81.8	I72			17,700			17,700
H18	HT/CL PACK	A	S	1	6600	T	AV	1961	4.83	B	81.8	I72			5,800			5,800
COFC	OPEN FINISH	A	S	1	6600	V	AV	1961	14.72	B	81.8	I72			17,700			17,700

More:	N	Total Yard Items:	724,200	Total Special Features:	2,785,500	Total:	3,509,700

Nashville And Davidson County

PROPERTY LOCATION

No	Alt No	Direction/Street/City
1432		VULTEE BV, NASHVILLE

OWNERSHIP

Owner 1:	AEROSTRUCTURES CORP., THE
Owner 2:	
Owner 3:	
Street 1:	13155 NOEL RD FL 12 LB 71 GALLERIA TOWER
Street 2:	
Twn/City:	DALLAS
St/Prov:	TX Cntry Own Occ:
Postal:	75240 Type:

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	Cntry
Postal:	

NARRATIVE DESCRIPTION

This Parcel contains . Units of land mainly classified as IND with a(n) MANF PLANT Building Built about 1962, Having Primarily METAL Exterior and TYPICAL Roof Cover, with 1 Units, 0 Baths, 0 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com. Int

PROPERTY FACTORS

Item	Code	Descip	%	Item	Code	Descrip
Z	IR	IND REST	100	U		
o				t		
n				l		
Census:						
Flood Haz:						
D	USD	URBAN		Topo.		
s				Street		
t				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
I72	93,400		0.000		93,400
Total Card	93,400		0.000		93,400
Total Parcel	13,118,300	724,200	0.000	4,897,000	18,739,500

Source: Market Adj Cost | Total Value per SQ unit /Card: 4.76 | /Parcel: 9.32

Legal Description: S SIDE VULTEE BLVD. E OF MCGAVOCK PK. 000X000

Entered Lot Size	
Total Land:	96.74
Land Unit Type:	A

User Acct
12000003500
GIS Ref
GIS Ref
Insp.Date

PREVIOUS ASSESSMENT

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date

Parcel ID: 120 00 0 035.00

PRINT: Date 12/18/02 | Time 13:07:45

LAST REV: Date 02/28/01 | Time 09:15:19

PAT ACCT.: 137214

USER DEFINED

Prior Id # 1:	3
Prior Id # 2:	
Prior Id # 3:	AS99NFP0
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	0
ASR Map:	
Fact Dist:	7218
Reval Dist:	
Year:	
LandReason:	
BldReason:	

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Assoc PCL Value	Notes

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	V1.Date	V2.Date	V3.Date	Comment

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: VERIFICATION OF VISIT NOT DATA ___/___/___

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth / PriceUnits	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
I72	IND		0	0	R PRIME A	3011 V	1.0	0	0.	0.000	3011																

Total AC/HA:	0	Total SF/SM:		Parcel LUC:	I72	IND	Prime NB Desc	COM	Total:		Spl Credit		Total:

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

EXTERIOR INFORMATION

Type:	IM - MANF PLANT
Sty Ht:	31
(Liv) Units:	1
Foundation:	00 - TYPICAL
Frame:	15 - COM METAL
Prime Wall:	08 - METAL
Sec Wall:	%
Roof Struct:	
Roof Cover:	00 - TYPICAL
Color:	
View / Desir:	134N - 3011 N

GENERAL INFORMATION

Grade:	IMC - GRADE		
Year Blt:	1962	Eff Yr.Blt:	1962
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:			
Lump Sum Adj:			

INTERIOR INFORMATION

Avg Ht/FL:	16
Prim Int Wal	A - AVERAGE
Sec Int Wall:	%
Partition:	
Prim Floors:	T - TYPICAL
Sec Floors:	%
Bsmnt Flr:	
Bsmnt Gar:	
Electric:	T - TYPICAL
Insulation:	T - TYPICAL
Int vs Ext:	
Heat Fuel:	T - TYPICAL
Heat Type:	16 - SPACE HEATER
# Heat Sys:	1
% Heated:	% AC:
Solar HW:	NO Central Vac: NO
% Com Wal	% Sprinkled

BATH FEATURES

Full Bath	0	Rating:	
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth		Rating:	
1/2 Bath:	0	Rating:	
A HBth:		Rating:	
OthrFix:	0	Rating:	

OTHER FEATURES

Kits:	0	Rating:	
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

CONDO INFORMATION

Location:	
Unit #:	
Floor:	
% Own:	
Name:	

DEPRECIATION

Phys Cond:	AV - Average	67.	%
Functional:	L - LAYOUT	40	%
Economic:			%
Special:			%
Override:			%
Total:		80.30	%

CALC SUMMARY

Basic $ / SQ:	23.80
Size Adj.:	1
Const Adj.:	0.913598
Adj $ / SQ:	21.744
Grade Factor:	1.00
Other Features:	0
Neighborhood Inf:	1
LUC Factor:	1.00
Adj Total:	426827
Depreciation:	342572
Depreciated Total:	84256

COMMENTS

TEXTRON BLDG 29.

RESIDENTIAL GRID

1st Res Grid	Desc:		# Units	1

Level	FY	LR	DR	K	D	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												

Totals	RMs:	0	BRs:	0	Baths:	0	HB	0

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
1		0	
Totals			
1		0	

SKETCH

Undisplayed Areas:
BAS: 19630,P 734

8

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAv$/SQ:		AvRate:		Ind.Val	

Juris. Factor:		Val/Su Fin:	4.76
Special Features:	9100	Val/Su Net:	4.76
Final Total:	93400	Val/Su SzAd	4.76

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
BAS	BASE AREA	19,630	21.740	426,827

Net Sketched Area:	19,630		Total:	426,827	
Size Ad	19630	Gross Area	19630	FinArea	19630

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten

IMAGE

AssessPro Patriot Properties, Inc

SPEC FEATURES/YARD ITEMS

PARCEL ID 120 00 0 035.00

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value
SPC	SPRINKLER	A	S	1	19630	T	AV	1962	1.29	B	80.3	I72			5,000			5,000
H16	HT/CL SPC	A	S	1	19630	T	AV	1962	1.06	B	80.3	I72			4,100			4,100

More:	N	Total Yard Items:	724,200	Total Special Features:	2,785,500	Total:	3,509,700

Nashville And Davidson County

PROPERTY LOCATION

No	Alt No	Direction/Street/City
1432		VULTEE BV, NASHVILLE

OWNERSHIP

Owner 1:	AEROSTRUCTURES CORP., THE
Owner 2:	
Owner 3:	
Street 1:	13155 NOEL RD FL 12 LB 71 GALLERIA TOWER
Street 2:	
Twn/City:	DALLAS
St/Prov:	TX Cntry: Own Occ:
Postal:	75240 Type:

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	Cntry:
Postal:	

NARRATIVE DESCRIPTION

This Parcel contains . Units of land mainly classified as IND with a(n) MANF PLANT Building Built about 1963, Having Primarily METAL Exterior and TYPICAL Roof Cover, with 1 Units, 0 Baths, 0 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com. Int

PROPERTY FACTORS

Item	Code	Descip	%	Item	Code	Descrip
Z	IR	IND REST	100	U		
o				t		
n				I		
Census:						
Flood Haz:						
D	USD	URBAN		Topo		
s				Street		
t				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
I72	223,000		0.000		223,000
Total Card	223,000		0.000		223,000
Total Parcel	13,118,300	724,200	0.000	4,897,000	18,739,500

Source: Market Adj Cost | Total Value per SQ unit /Card: 6.48 | /Parcel: 9.32

Legal Description
S SIDE VULTEE BLVD. E OF MCGAVOCK PK. 000X000

Entered Lot Size:
Total Land: 96.74
Land Unit Type: A

User Acct 12000003500
GIS Ref
GIS Ref
Insp Date

PREVIOUS ASSESSMENT

Tax Yr.	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date

Parcel ID 120 00 0 035.00

PRINT

Date	Time
12/18/02	13:08:10

LAST REV

Date	Time
02/28/01	09:15:31

PAT ACCT. 137214

USER DEFINED

Prior Id # 1:	3
Prior Id # 2:	
Prior Id # 3:	AS99NFP0
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	0
ASR Map:	
Fact Dist:	7218
Reval Dist:	
Year:	
LandReason:	
BldReason:	

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Assoc PCL Value	Notes

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	V1.Date	V2.Date	V3.Date	Comment

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: VERIFICATION OF VISIT NOT DATA ___/___/___

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth / PriceUnits	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
I72	IND		0	0	R PRIME A	3011 V	1.0	0	0.	0.000	3011																

Total AC/HA: 0 | Total SF/SM: | Parcel LUC: I72 IND | Prime NB Desc: COM | Total: | Spl Credit | Total:

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

EXTERIOR INFORMATION

Type:	IM - MANF PLANT
Sty Ht:	31
(Liv) Units:	1
Foundation:	00 - TYPICAL
Frame:	15 - COM METAL
Prime Wall:	08 - METAL
Sec Wall:	%
Roof Struct:	
Roof Cover:	00 - TYPICAL
Color:	
View / Desir:	134N - 3011 N

GENERAL INFORMATION

Grade:	IMC - GRADE		
Year Blt:	1963	Eff Yr Blt:	1963
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:			
Lump Sum Adj:			

INTERIOR INFORMATION

Avg Ht/FL:	30
Prim Int Wal	A - AVERAGE
Sec Int Wall:	%
Partition:	
Prim Floors:	T - TYPICAL
Sec Floors:	%
Bsmnt Flr:	
Bsmnt Gar:	
Electric:	T - TYPICAL
Insulation:	T - TYPICAL
Int vs Ext:	
Heat Fuel:	T - TYPICAL
Heat Type:	15 - STEAM
# Heat Sys:	1
% Heated:	% AC:
Solar HW:	NO Central Vac: NO
% Com Wal	% Sprinkled

BATH FEATURES

Full Bath	0	Rating:	
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth		Rating:	
1/2 Bath:	0	Rating:	
A HBth:		Rating:	
OthrFix:	0	Rating:	

OTHER FEATURES

Kits:	0	Rating:	
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

CONDO INFORMATION

Location:	
Unit #:	
Floor:	
% Own:	
Name:	

DEPRECIATION

Phys Cond:	AV - Average	64.	%
Functional:	L - LAYOUT	40	%
Economic:			%
Special:			%
Override:			%
	Total:	78.70	%

CALC SUMMARY

Basic $ / SQ:	23.80
Size Adj.:	1
Const Adj.:	1.07913
Adj $ / SQ:	25.683
Grade Factor:	1.00
Other Features:	0
Neighborhood Inf:	1
LUC Factor:	1.00
Adj Total:	884535
Depreciation:	696129
Depreciated Total:	188406

COMMENTS

TEXTRON BLDGS 3030A& 30C.

RESIDENTIAL GRID

1st Res.Grid	Desc:	# Units	1

Level	FY	LR	DR	K	D	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												

Totals	RMs:	0	BRs:	0	Baths:	0	HB	0

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
1		0	
Totals			
1		0	

SKETCH

Undisplayed Areas:
BAS: 34440,P 974

8

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAv$/SQ:		AvRate:		Ind.Val	

Juris. Factor:		Val/Su Fin:	6.48
Special Features:	34600	Val/Su Net:	6.48
Final Total:	223000	Val/Su SzAd	6.48

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
BAS	BASE AREA	34,440	25.680	884,535

Net Sketched Area:	34,440		Total:	884,535	
Size Ad	34440	Gross Area	34440	FinArea	34440

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten

IMAGE

AssessPro Patriot Properties, Inc

SPEC FEATURES/YARD ITEMS

PARCEL ID 120 00 0 035.00

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value
SPC	SPRINKLER	A	S	1	34440	T	AV	1963	1.22	B	78.7	I72			8,900			8,900
H15	HT/CL STM	A	S	1	20240	T	AV	1963	5.22	B	78.7	I72			22,500			22,500
H16	HT/CL SPC	A	S	1	14200	T	AV	1963	1.06	B	78.7	I72			3,200			3,200

More:	N	Total Yard Items:	724,200	Total Special Features:	2,785,500	Total:	3,509,700

Nashville And Davidson County

PROPERTY LOCATION

No	Alt No	Direction/Street/City
1432		VULTEE BV, NASHVILLE

OWNERSHIP

Owner 1:	AEROSTRUCTURES CORP., THE
Owner 2:	
Owner 3:	
Street 1:	13155 NOEL RD FL 12 LB 71 GALLERIA TOWER
Street 2:	
Twn/City:	DALLAS
St/Prov:	TX Cntry Own Occ:
Postal:	75240 Type:

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	Cntry
Postal:	

NARRATIVE DESCRIPTION

This Parcel contains . Units of land mainly classified as IND with a(n) WAREHOUSE Building Built about 1961, Having Primarily METAL Exterior and TYPICAL Roof Cover, with 1 Units, 0 Baths, 0 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com Int

PROPERTY FACTORS

Item	Code	Descrip	%	Item	Code	Descrip
Z	IR	IND REST	100	U		
o				t		
n				l		
Census:						
Flood Haz:						
D	USD	URBAN		Topo		
s				Street		
t				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
I72	40,800		0.000		40,800
Total Card	40,800		0.000		40,800
Total Parcel	13,118,300	724,200	0.000	4,897,000	18,739,500

Source: Market Adj Cost | Total Value per SQ unit/Card: 5.10 | /Parcel: 9.32

Legal Description: S SIDE VULTEE BLVD. E OF MCGAVOCK PK. 000X000

Entered Lot Size | Total Land: 96.74 | Land Unit Type: A

User Acct: 12000003500

GIS Ref

GIS Ref

Insp Date

PREVIOUS ASSESSMENT

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date

Parcel ID: 120 00 0 035.00

PRINT

Date	Time
12/18/02	13:08:35

LAST REV

Date	Time
02/28/01	09:15:50

PAT ACCT.: 137214

USER DEFINED

Prior Id # 1:	3
Prior Id # 2:	
Prior Id # 3:	AS99NFP0
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	0
ASR Map:	
Fact Dist:	7218
Reval Dist:	
Year:	
LandReason:	
BldReason:	

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Assoc PCL Value	Notes

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	V1.Date	V2.Date	V3.Date	Comment

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: VERIFICATION OF VISIT NOT DATA ___/___/___

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth / PriceUnits	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
I72	IND		0	0	R PRIME A	3011 V	1.0	0	0.	0.000	3011																

Total AC/HA: 0 | Total SF/SM: | Parcel LUC: I72 IND | Prime NB Desc: COM | Total: | Spl Credit | Total:

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

EXTERIOR INFORMATION

Type:	ID - WAREHOUSE
Sty Ht:	31
(Liv) Units:	1
Foundation:	00 - TYPICAL
Frame:	15 - COM METAL
Prime Wall:	08 - METAL
Sec Wall:	%
Roof Struct:	
Roof Cover:	00 - TYPICAL
Color:	
View / Desir:	134N - 3011 N

GENERAL INFORMATION

Grade:	IDC - GRADE		
Year Blt:	1961	Eff Yr Blt:	1961
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:			
Lump Sum Adj:			

INTERIOR INFORMATION

Avg Ht/FL:	12
Prim Int Wal	A - AVERAGE
Sec Int Wall:	%
Partition:	
Prim Floors:	T - TYPICAL
Sec Floors:	%
Bsmnt Flr:	
Bsmnt Gar:	
Electric:	T - TYPICAL
Insulation:	T - TYPICAL
Int vs Ext:	
Heat Fuel:	T - TYPICAL
Heat Type:	16 - SPACE HEATER
# Heat Sys:	1
% Heated:	% AC:
Solar HW:	NO Central Vac: NO
% Com Wal	% Sprinkled

BATH FEATURES

Full Bath	0	Rating:	
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth		Rating:	
1/2 Bath:	0	Rating:	
A HBth:		Rating:	
OthrFix:	0	Rating:	

OTHER FEATURES

Kits:	0	Rating:	
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

CONDO INFORMATION

Location:	
Unit #:	
Floor:	
% Own:	
Name:	

DEPRECIATION

Phys Cond:	AV - Average	69.	%
Functional:	L - LAYOUT	40	%
Economic:			%
Special:			%
Override:			%
Total:		81.80	%

CALC SUMMARY

Basic $ / SQ:	27.87
Size Adj.:	1
Const Adj.:	0.893783
Adj $ / SQ:	24.910
Grade Factor:	1.00
Other Features:	0
Neighborhood Inf:	1
LUC Factor:	1.00
Adj Total:	199278
Depreciation:	163049
Depreciated Total:	36229

COMMENTS

TEXTRON BLDG 32 HAZERDOUS MAT- ERIAL STORAGE.

RESIDENTIAL GRID

1st Res Grid	Desc:	# Units	1

Level	FY	LR	DR	K	D	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												
Totals	RMs: 0	BRs: 0	Baths: 0	HB 0								

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
1		0	
Totals			
1		0	

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAv$/SQ:		AvRate:		Ind.Val	
Juris. Factor:		Val/Su Fin:	5.10		
Special Features:	4600	Val/Su Net:	5.10		
Final Total:	40800	Val/Su SzAd	5.10		

SKETCH

Undisplayed Areas:
BAS: 8000,P 420

8

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
BAS	BASE AREA	8,000	24.910	199,278
Net Sketched Area:		8,000	Total:	199,278
Size Ad	8000	Gross Area	8000	FinArea 8000

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten

IMAGE

AssessPro Patriot Properties, Inc

SPEC FEATURES/YARD ITEMS

PARCEL ID 120 00 0 035.00

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value
SPC	SPRINKLER	A	S	1	8000	T	AV	1961	1.65	B	81.8	I72			2,400			2,400
H16	HT/CL SPC	A	S	1	8000	T	AV	1961	1.06	B	81.8	I72			1,500			1,500
MSAC	MTL ADDN	A	S	1	360	U	AV	1961	10.75	B	81.8	I72			700			700

More:	N	Total Yard Items:	724,200	Total Special Features:	2,785,500
Total:	3,509,700				

TOTAL ASSESSED: 18,739,500

Nashville And Davidson County

PROPERTY LOCATION

No	Alt No	Direction/Street/City
1432		VULTEE BV, NASHVILLE

OWNERSHIP

Owner 1:	AEROSTRUCTURES CORP., THE
Owner 2:	
Owner 3:	[redacted]
Street 1:	13155 NOEL RD FL 12 LB 71 GALLERIA TOWER
Street 2:	[redacted]
Twn/City:	DALLAS
St/Prov:	TX Cntry: Own Occ:
Postal:	75240 Type:

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	Cntry:
Postal:	

NARRATIVE DESCRIPTION

This Parcel contains . Units of land mainly classified as IND with a(n) MANF PLANT Building Built about 1967, Having Primarily METAL Exterior and TYPICAL Roof Cover, with 1 Units, 0 Baths, 0 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com. Int

PROPERTY FACTORS

Item	Code	Descip	%	Item	Code	Descrip
Z	IR	IND REST	100	U		
o				t		
n				l		
Census:						
Flood Haz:						
D	USD	URBAN		Topo		
s				Street		
t				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
I72	969,700		0.000		969,700
Total Card	969,700		0.000		969,700
Total Parcel	13,118,300	724,200	0.000	4,897,000	18,739,500

Source: Market Adj Cost | Total Value per SQ unit /Card: 4.49 | /Parcel: 9.32

Legal Description: S SIDE VULTEE BLVD. E OF MCGAVOCK PK. 000X000

Entered Lot Size	
Total Land:	96.74
Land Unit Type:	A

User Acct
12000003500
GIS Ref
GIS Ref
Insp Date

PREVIOUS ASSESSMENT

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date

Parcel ID: 120 00 0 035.00

PRINT

Date	Time
12/18/02	13:09:00

LAST REV

Date	Time
02/28/01	09:16:05

PAT ACCT. 137214

USER DEFINED

Prior Id # 1:	3
Prior Id # 2:	
Prior Id # 3:	AS99NFP0
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	0
ASR Map:	
Fact Dist:	7218
Reval Dist:	
Year:	
LandReason:	
BldReason:	

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Assoc PCL Value	Notes

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	V1:Date	V2:Date	V3.Date	Comment

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: VERIFICATION OF VISIT NOT DATA ___/___/___

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth / PriceUnits	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	U Code	Fact	Use Value	Notes
I72	IND		0	0	R PRIME A	3011 V	1.0	0	0.	0.000	3011																

Total AC/HA:	0	Total SF/SM:		Parcel LUC:	I72	IND	Prime NB Desc	COM	Total:	Spl Credit	Total:

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

EXTERIOR INFORMATION

Type:	IM - MANF PLANT
Sty Ht:	31
(Liv) Units:	1
Foundation:	00 - TYPICAL
Frame:	15 - COM METAL
Prime Wall:	08 - METAL
Sec Wall:	%
Roof Struct:	
Roof Cover:	00 - TYPICAL
Color:	
View / Desir:	134N - 3011 N

GENERAL INFORMATION

Grade:	IMC - GRADE		
Year Blt:	1967	Eff Yr Blt:	1967
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:	0.55		
Lump Sum Adj:			

INTERIOR INFORMATION

Avg Ht/FL:	22
Prim Int Wal	A - AVERAGE
Sec Int Wall:	%
Partition:	
Prim Floors:	T - TYPICAL
Sec Floors:	%
Bsmnt Flr:	
Bsmnt Gar:	
Electric:	T - TYPICAL
Insulation:	T - TYPICAL
Int vs Ext:	
Heat Fuel:	T - TYPICAL
Heat Type:	02 - HTG/CLG
# Heat Sys:	1
% Heated:	% AC:
Solar HW:	NO Central Vac: NO
% Com Wal	% Sprinkled

BATH FEATURES

Full Bath	0	Rating:	
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth		Rating:	
1/2 Bath:	0	Rating:	
A HBth:		Rating:	
OthrFix:	0	Rating:	

OTHER FEATURES

Kits:	0	Rating:	
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

CONDO INFORMATION

Location:	
Unit #:	
Floor:	
% Own:	
Name:	

DEPRECIATION

Phys Cond:	AV - Average	55.	%
Functional:	L - LAYOUT	40	%
Economic:			%
Special:			%
Override:			%
Total:		73.10	%

CALC SUMMARY

Basic $ / SQ:	23.80
Size Adj.:	1
Const Adj.:	0.9027
Adj $ / SQ:	21.484
Grade Factor:	1.00
Other Features:	0
Neighborhood Inf:	1
LUC Factor:	1.00
Adj Total:	2551149
Depreciation:	1865400
Depreciated Total:	685749

COMMENTS

TEXTRON BLDGS 3333A & 33B BLDG HAS A 10500SQ.FT. TRAIN WELL.

RESIDENTIAL GRID

1st Res Grid	Desc:		# Units	1

Level	FY	LR	DR	K	D	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												
Totals	RMs: 0	BRs: 0	Baths: 0	HB 0								

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
1		0	
Totals			
1		0	

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAv$/SQ:		AvRate:		Ind.Val	

Juris. Factor:		Val/Su Fin:	4.49
Special Features:	284000	Val/Su Net:	4.49
Final Total:	969700	Val/Su SzAd	4.49

SKETCH

Undisplayed Areas:
BAS: 215900,P 1970

8

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
BAS	BASE AREA	215,900	21.480	4,638,452

Net Sketched Area:	215,900	Total:	4,638,452
Size Ad 215900	Gross Area 215900	FinArea	215900

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten

IMAGE

AssessPro Patriot Properties, Inc

SPEC FEATURES/YARD ITEMS

PARCEL ID 120 00 0 035.00

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB	Fa	Appr Value	JCod	JFact	Juris. Value
LOD	LOADING DCK	A	S	1	1820	T	AV	1967	9.14	B	73.1	I72				4,500			4,500
SPC	SPRINKLER	A	S	1	216720	T	AV	1967	1.22	B	73.1	I72				71,000			71,000
H18	HT/CL PACK	A	S	1	113220	T	AV	1967	4.83	B	73.1	I72				147,100			147,100
MZ3	MEZZ	A	S	1	240	T	AV	1967	13.12	B	73.1	I72				800			800
CPFC	COM PRT FIN	A	S	1	820	U	AV	1967	14.18	B	73.1	I72				3,100			3,100
H16	HT/CL SPC	A	S	1	103500	T	AV	1967	1.06	B	73.1	I72				29,500			29,500
COFC	OPEN FINISH	A	S	1	820	U	AV	1967	14.18	B	73.1	I72				3,100			3,100
CRN	CRANE RAIL	A	S	1	1760	T	AV	1967	35.30	B	73.1	I72				16,700			16,700
CAC	CANOPY ATT	A	S	1	1820	C	AV	1967	16.67	B	73.1	I72				8,200			8,200

More:	N	Total Yard Items:	724,200	Total Special Features:	2,785,500
				Total:	3,509,700

Nashville And Davidson County

PROPERTY LOCATION

No	Alt No	Direction/Street/City
1432		VULTEE BV, NASHVILLE

OWNERSHIP

Owner 1:	AEROSTRUCTURES CORP., THE
Owner 2:	
Owner 3:	
Street 1:	13155 NOEL RD FL 12 LB 71 GALLERIA TOWER
Street 2:	
Twn/City:	DALLAS
St/Prov:	TX Cntry: Own Occ:
Postal:	75240 Type:

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	Cntry:
Postal:	

NARRATIVE DESCRIPTION

This Parcel contains . Units of land mainly classified as IND with a(n) MANF PLANT Building Built about 1990, Having Primarily METAL Exterior and TYPICAL Roof Cover, with 1 Units, 0 Baths, 0 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com. Int

PROPERTY FACTORS

Item	Code	Descip	%	Item	Code	Descrip
Z	IR	IND REST	100	U		
o				t		
n				I		
Census:						
Flood Haz:						
D	USD	URBAN		Topo		
S				Street		
t.				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
I72	741,600		0.000		741,600
Total Card	741,600		0.000		741,600
Total Parcel	13,118,300	724,200	0.000	4,897,000	18,739,500

Source: Market Adj Cost | Total Value per SQ unit /Card: 17.98 | /Parcel: 9.32

Legal Description: S SIDE VULTEE BLVD. E OF MCGAVOCK PK. 000X000

Entered Lot Size | Total Land: 96.74 | Land Unit Type: A

User Acct
12000003500
GIS Ref
GIS Ref
Insp Date

PREVIOUS ASSESSMENT

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date

Parcel ID: 120 00 0 035.00

PRINT: Date 12/18/02 | Time 13:09:26

LAST REV: Date 02/28/01 | Time 09:16:17

PAT ACCT.: 137214

USER DEFINED

Prior Id # 1:	3
Prior Id # 2:	
Prior Id # 3:	AS99NFP0
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	0
ASR Map:	
Fact Dist:	7218
Reval Dist:	
Year:	
LandReason:	
BldReason:	

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Assoc PCL Value	Notes

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	V1.Date	V2.Date	V3.Date	Comment

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: VERIFICATION OF VISIT NOT DATA ___/___/___

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth / PriceUnits	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
I72	IND		0	0	R PRIME A	3011 V	1.0	0	0.	0.000	3011																

Total AC/HA:	0	Total SF/SM:		Parcel LUC:	I72	IND	Prime NB Desc	COM	Total:		Spl Credit		Total:	

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

EXTERIOR INFORMATION

Type:	IM - MANF PLANT
Sty Ht:	31
(Liv) Units:	1
Foundation:	00 - TYPICAL
Frame:	15 - COM METAL
Prime Wall:	08 - METAL
Sec Wall:	%
Roof Struct:	
Roof Cover:	00 - TYPICAL
Color:	
View / Desir:	134N - 3011 N

GENERAL INFORMATION

Grade:	IMC - GRADE		
Year Blt:	1990	Eff Yr Blt:	1990
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:			
Lump Sum Adj:			

INTERIOR INFORMATION

Avg Ht/FL:	29
Prim Int Wal	A - AVERAGE
Sec Int Wall:	%
Partition:	
Prim Floors:	T - TYPICAL
Sec Floors:	%
Bsmnt Flr:	
Bsmnt Gar:	
Electric:	T - TYPICAL
Insulation:	T - TYPICAL
Int vs Ext:	
Heat Fuel:	T - TYPICAL
Heat Type:	16 - SPACE HEATER
# Heat Sys:	1
% Heated:	% AC:
Solar HW:	NO Central Vac: NO
% Com Wal	% Sprinkled

BATH FEATURES

Full Bath	0	Rating:	
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth		Rating:	
1/2 Bath:	0	Rating:	
A HBth:		Rating:	
OthrFix:	0	Rating:	

OTHER FEATURES

Kits:	0	Rating:	
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

CONDO INFORMATION

Location:	
Unit #:	
Floor:	
% Own:	
Name:	

DEPRECIATION

Phys Cond:	AV - Average	14.	%
Functional:	L - LAYOUT	40	%
Economic:			%
Special:			%
Override:			%
Total:		48.60	%

CALC SUMMARY

Basic $ / SQ:	23.80
Size Adj.:	1
Const Adj.:	1.02319
Adj $ / SQ:	24.352
Grade Factor:	1.00
Other Features:	0
Neighborhood Inf:	1
LUC Factor:	1.00
Adj Total:	1004514
Depreciation:	487993
Depreciated Total:	516521

COMMENTS

TEXTRON BLDG 34 BLDG IS A FUNCTIONAL STANDARD FOR THE INDUSTRYPER STAFF ENGIN-EER.

RESIDENTIAL GRID

1st Res Grid	Desc:	# Units	1

Level	FY	LR	DR	K	D	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												

Totals	RMs:	0	BRs:	0	Baths:	0	HB	0

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
1		0	
Totals			
1		0	

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAv$/SQ:		AvRate:		Ind.Val	

Juris. Factor:		Val/Su Fin:	17.98
Special Features:	225100	Val/Su Net:	17.98
Final Total:	741600	Val/Su SzAd	17.98

SKETCH

Undisplayed Areas:
BAS: 41250,P 910

8

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
BAS	BASE AREA	41,250	24.350	1,004,514

Net Sketched Area:	41,250			Total:	1,004,514
Size Ad	41250	Gross Area	41250	FinArea	41250

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten

IMAGE

AssessPro Patriot Properties, Inc

SPEC FEATURES/YARD ITEMS

PARCEL ID 120 00 0 035.00

Code	Description	A.	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value
SPC	SPRINKLER	A	S	1	55713	T	AV	1990	1.22	B	48.6	I72			34,900			34,900
H16	HT/CL SPC	A	S	1	42750	T	AV	1990	1.06	B	48.6	I72			23,300			23,300
MSAC	MTL ADDN	A	S	1	1500	Z	AV	1990	12.41	B	48.6	I72			9,600			9,600
COFC	OPEN FINISH	A	S	1	14463	V	AV	1990	14.72	B	48.6	I72			109,400			109,400
H18	HT/CL PACK	A	S	1	14463	T	AV	1990	4.83	B	48.6	I72			35,900			35,900
CRN	CRANE RAIL	A	S	1	660	T	AV	1990	35.30	B	48.6	I72			12,000			12,000

More:	N	Total Yard Items:	724,200	Total Special Features:	2,785,500
				Total:	3,509,700

Nashville And Davidson County

PROPERTY LOCATION

No	Alt No	Direction/Street/City
1432		VULTEE BV, NASHVILLE

OWNERSHIP

Owner 1:	AEROSTRUCTURES CORP., THE
Owner 2:	
Owner 3:	
Street 1:	13155 NOEL RD FL 12 LB 71 GALLERIA TOWER
Street 2:	
Twn/City:	DALLAS
St/Prov:	TX Cntry: Own Occ:
Postal:	75240 Type:

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	Cntry
Postal:	

NARRATIVE DESCRIPTION

This Parcel contains . Units of land mainly classified as IND with a(n) WAREHOUSE Building Built about 1966, Having Primarily BRICK Exterior and TYPICAL Roof Cover, with 1 Units, 0 Baths, 0 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com. Inf

PROPERTY FACTORS

Item	Code	Descip	%	Item	Code	Descrip
Zo	IR	IND REST	100	Ut		
Zn				Il		
Census:						
Flood Haz:						
D	USD	URBAN		Topo		
S				Street		
T				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
I72	27,900		0.000		27,900
Total Card	27,900		0.000		27,900
Total Parcel	13,118,300	724,200	0.000	4,897,000	18,739,500

Source: Market Adj Cost | Total Value per SQ unit /Card: 9.49 | /Parcel: 9.32

Legal Description: S SIDE VULTEE BLVD. E OF MCGAVOCK PK. 000X000

Entered Lot Size | Total Land: 96.74 | Land Unit Type: A

User Acct
12000003500
GIS Ref
GIS Ref
Insp Date

PREVIOUS ASSESSMENT

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date

Parcel ID: 120 00 0 035.00

PRINT: Date 12/18/02 | Time 13:09:50

LAST REV: Date 02/28/01 | Time 09:16:32

PAT ACCT.: 137214

USER DEFINED

Prior Id # 1:	3
Prior Id # 2:	
Prior Id # 3:	AS99NFP0
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	0
ASR Map:	
Fact Dist:	7218
Reval Dist:	
Year:	
LandReason:	
BldReason:	

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Assoc PCL Value	Notes

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	V1.Date	V2.Date	V3.Date	Comment

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: VERIFICATION OF VISIT NOT DATA ___/___/___

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth / PriceUnits	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
I72	IND		0	0	R PRIME A	3011 V	1.0	0	0.	0.000	3011																

Total AC/HA: 0 | Total SF/SM: | Parcel LUC: I72 IND | Prime NB Desc: COM | Total: | Spl Credit | Total:

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

EXTERIOR INFORMATION

Type:	ID - WAREHOUSE
Sty Ht:	31
(Liv) Units:	1
Foundation:	00 - TYPICAL
Frame:	15 - COM METAL
Prime Wall:	01 - BRICK
Sec Wall:	%
Roof Struct:	
Roof Cover:	00 - TYPICAL
Color:	
View / Desir:	134N - 3011 N

BATH FEATURES

Full Bath	0	Rating:	
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth		Rating:	
1/2 Bath:	0	Rating:	
A HBth:		Rating:	
OthrFix:	0	Rating:	

OTHER FEATURES

Kits:	0	Rating:	
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

COMMENTS

TEXTRON BLDG 35 AIR COMPRESSOR ROOM.

SKETCH

Undisplayed Areas:
BAS: 2940,P 256

8

RESIDENTIAL GRID

1st Res Grid	Desc:	# Units	1

Level	FY	LR	DR	K	D	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												
Totals	RMs: 0	BRs: 0	Baths: 0	HB 0								

GENERAL INFORMATION

Grade:	IDC - GRADE		
Year Blt:	1966	Eff Yr Blt:	1966
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:			
Lump Sum Adj:			

CONDO INFORMATION

Location:	
Unit #:	
Floor:	
% Own:	
Name:	

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
1		0	
Totals			
1		0	

INTERIOR INFORMATION

Avg Ht/FL:	16
Prim Int Wal	A - AVERAGE
Sec Int Wall:	%
Partition:	
Prim Floors:	T - TYPICAL
Sec Floors:	%
Bsmnt Flr:	
Bsmnt Gar:	
Electric:	T - TYPICAL
Insulation:	T - TYPICAL
Int vs Ext:	
Heat Fuel:	T - TYPICAL
Heat Type:	15 - STEAM
# Heat Sys:	1
% Heated:	% AC:
Solar HW:	NO Central Vac: NO
% Com Wal	% Sprinkled

DEPRECIATION

Phys Cond:	AV - Average	57. %
Functional:	L - LAYOUT	40 %
Economic:		%
Special:		%
Override:		%
Total:		74.50 %

CALC SUMMARY

Basic $ / SQ:	27.87
Size Adj.:	1
Const Adj.:	1.05129
Adj $ / SQ:	29.300
Grade Factor:	1.00
Other Features:	0
Neighborhood Inf:	1
LUC Factor:	1.00
Adj Total:	86141
Depreciation:	64175
Depreciated Total:	21966

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAv$/SQ:		AvRate:	Ind.Val

Juris. Factor:		Val/Su Fin:	9.49
Special Features:	5900	Val/Su Net:	9.49
Final Total:	27900	Val/Su SzAd	9.49

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
BAS	BASE AREA	2,940	29.300	86,141

Net Sketched Area:	2,940	Total:	86,141		
Size Ad	2940	Gross Area	2940	FinArea	2940

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten

IMAGE

AssessPro Patriot Properties, Inc

PARCEL ID 120 00 0 035.00

SPEC FEATURES/YARD ITEMS

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value
SPC	SPRINKLER	A	S	1	2940	T	AV	1966	2.70	B	74.5	I72			2,000			2,000
H15	HT/CL STM	A	S	1	2940	T	AV	1966	5.22	B	74.5	I72			3,900			3,900

More:	N	Total Yard Items:	724,200	Total Special Features:	2,785,500
Total:	3,509,700				

Nashville And Davidson County

PROPERTY LOCATION

No	Alt No	Direction/Street/City
1432		VULTEE BV, NASHVILLE

OWNERSHIP

Owner 1:	AEROSTRUCTURES CORP., THE
Owner 2:	
Owner 3:	
Street 1:	13155 NOEL RD FL 12 LB 71 GALLERIA TOWER
Street 2:	
Twn/City:	DALLAS
St/Prov:	TX Cntry: Own Occ:
Postal:	75240 Type:

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	Cntry:
Postal:	

NARRATIVE DESCRIPTION

This Parcel contains . Units of land mainly classified as IND with a(n) MANF PLANT Building Built about 1954, Having Primarily METAL Exterior and TYPICAL Roof Cover, with 1 Units, 0 Baths, 0 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com. Int

PROPERTY FACTORS

Item	Code	Descip	%	Item	Code	Descrip
Z	IR	IND REST	100	U		
o				t		
n				l		
Census:						
Flood Haz:						
D	USD	URBAN		Topo		
s				Street		
t				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
I72	356,700		0.000		356,700
Total Card	356,700		0.000		356,700
Total Parcel	13,118,300	724,200	0.000	4,897,000	18,739,500

Source: Market Adj Cost | Total Value per SQ unit /Card: 13.25 | /Parcel: 9.32

Legal Description: S SIDE VULTEE BLVD. E OF MCGAVOCK PK. 000X000

Entered Lot Size	
Total Land:	96.74
Land Unit Type:	A

User Acct
12000003500
GIS Ref
GIS Ref
Insp Date

PREVIOUS ASSESSMENT

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date

Parcel ID: 120 00 0 035.00

PRINT: Date 12/18/02 | Time 13:10:22

LAST REV: Date 02/28/01 | Time 09:16:45

PAT ACCT.: 137214

USER DEFINED

Prior Id # 1:	3
Prior Id # 2:	
Prior Id # 3:	AS99NFP0
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	0
ASR Map:	
Fact Dist:	7218
Reval Dist:	
Year:	
LandReason:	
BldReason:	

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Assoc PCL Value	Notes

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	V1.Date	V2.Date	V3.Date	Comment

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: VERIFICATION OF VISIT NOT DATA ___/___/___

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth / PriceUnits	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
I72	IND		0	0	R PRIME A	3011 V	1.0	0	0.	0.000	3011																

Total AC/HA:	0	Total SF/SM:		Parcel LUC:	I72	IND	Prime NB Desc	COM	Total:		Spl Credit		Total:	

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

EXTERIOR INFORMATION

Type:	IM - MANF PLANT
Sty Ht:	31
(Liv) Units:	1
Foundation:	00 - TYPICAL
Frame:	15 - COM METAL
Prime Wall:	08 - METAL
Sec Wall:	%
Roof Struct:	
Roof Cover:	00 - TYPICAL
Color:	
View / Desir:	134N - 3011 N

GENERAL INFORMATION

Grade:	IMB - GRADE		
Year Blt:	1954	Eff Yr Blt:	1972
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:			
Lump Sum Adj:			

INTERIOR INFORMATION

Avg Ht/FL:	20
Prim Int Wal	A - AVERAGE
Sec Int Wall:	%
Partition:	
Prim Floors:	T - TYPICAL
Sec Floors:	%
Bsmnt Flr:	
Bsmnt Gar:	
Electric:	T - TYPICAL
Insulation:	T - TYPICAL
Int vs Ext:	
Heat Fuel:	T - TYPICAL
Heat Type:	16 - SPACE HEATER
# Heat Sys:	1
% Heated:	% AC:
Solar HW:	NO Central Vac: NO
% Com Wal	% Sprinkled

BATH FEATURES

Full Bath	0	Rating:	
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth		Rating:	
1/2 Bath:	0	Rating:	
A HBth:		Rating:	
OthrFix:	0	Rating:	

OTHER FEATURES

Kits:	0	Rating:	
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

CONDO INFORMATION

Location:	
Unit #:	
Floor:	
% Own:	
Name:	

DEPRECIATION

Phys Cond:	AV - Average	44	%
Functional:	L - LAYOUT	40	%
Economic:			%
Special:			%
Override:			%
Total:		66.60	%

CALC SUMMARY

Basic $ / SQ:	23.80
Size Adj.:	1
Const Adj.:	0.938983
Adj $ / SQ:	22.348
Grade Factor:	1.39
Other Features:	0
Neighborhood Inf:	1
LUC Factor:	1.00
Adj Total:	836414
Depreciation:	556884
Depreciated Total:	279530

COMMENTS

TEXTRON BLDG 20,20A & 20B 3912 SQ.FT. OFFICE & LAB AREINCLUDED IN BASECOST & EFF AGE. BLDG HOUSES THE WORLDS 2ND LARGEST AUTOCLAVE.

RESIDENTIAL GRID

1st Res Grid	Desc:	# Units	1

Level	FY	LR	DR	K	D	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												

Totals	RMs:	0	BRs:	0	Baths:	0	HB	0

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
1		0	
Totals			
1		0	

SKETCH

Undisplayed Areas:
BAS: 26926,P 848

8

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
BAS	BASE AREA	26,926	22.350	601,737

Net Sketched Area:	26,926	Total:	601,737
Size Ad 26926	Gross Area 26926	FinArea	26926

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAv$/SQ:		AvRate:		Ind.Val	

Juris. Factor:		Val/Su Fin:	13.25
Special Features:	77200	Val/Su Net:	13.25
Final Total:	356700	Val/Su SzAd	13.25

IMAGE

AssessPro Patriot Properties, Inc

PARCEL ID 120 00 0 035.00

SPEC FEATURES/YARD ITEMS

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value
SPB	SPRINKLER	A	S	1	30838	T	AV	1972	1.39	B	66.6	I72			14,300			14,300
H16	HT/CL SPC	A	S	1	26926	T	AV	1972	1.06	B	66.6	I72			9,500			9,500
MSAB	MTL ADDN	A	S	1	450	V	AV	1972	12.28	B	66.6	I72			1,800			1,800
MSAB	MTL ADDN	A	S	1	96	V	AV	1972	12.28	B	66.6	I72			400			400
H18	HT/CL PACK	A	S	1	3912	T	AV	1972	4.83	B	66.6	I72			6,300			6,300
H11	HT/CL WALL	A	S	1	96	T	AV	1972	2.50	B	66.6	I72			100			100
CPFB	COM PRT FIN	A	S	1	3912	U	AV	1972	16.26	B	66.6	I72			21,200			21,200
COFB	OPEN FINISH	A	S	1	3912	U	AV	1972	16.26	B	66.6	I72			21,200			21,200
CRN	CRANE RAIL	A	S	1	200	T	AV	1972	35.30	B	66.6	I72			2,400			2,400

More:	N	Total Yard Items:	724,200	Total Special Features:	2,785,500	Total:	3,509,700

Nashville And Davidson County

PROPERTY LOCATION

No	Alt No	Direction/Street/City
1432		VULTEE BV, NASHVILLE

OWNERSHIP

Owner 1:	AEROSTRUCTURES CORP., THE
Owner 2:	
Owner 3:	
Street 1:	13155 NOEL RD FL 12 LB 71 GALLERIA TOWER
Street 2:	
Twn/City:	DALLAS
St/Prov:	TX Cntry: Own Occ:
Postal:	75240 Type:

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	Cntry
Postal:	

NARRATIVE DESCRIPTION

This Parcel contains . Units of land mainly classified as IND with a(n) WAREHOUSE Building Built about 1957, Having Primarily CONC BLK Exterior and TYPICAL Roof Cover, with 1 Units, 0 Baths, 0 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com. Int

PROPERTY FACTORS

Item	Code	Descrip	%	Item	Code	Descrip
Zo	IR	IND REST	100	Ut		
Census:						
Flood Haz:						
D,L	USD	URBAN		Topo		
s				Street		
t				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
I72	50,800		0.000		50,800
Total Card	50,800		0.000		50,800
Total Parcel	13,118,300	724,200	0.000	4,897,000	18,739,500

Source: Market Adj Cost | Total Value per SQ unit /Card: 6.35 | /Parcel: 9.32

Legal Description: S SIDE VULTEE BLVD. E OF MCGAVOCK PK. 000X000

Entered Lot Size | Total Land: 96.74 | Land Unit Type: A

User Acct
12000003500
GIS Ref
GIS Ref
Insp Date

PREVIOUS ASSESSMENT

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date

Parcel ID: 120 00 0 035.00

PRINT: Date 12/18/02 | Time 13:11:06

LAST REV: Date 02/28/01 | Time 09:17:12

PAT ACCT.: 137214

USER DEFINED

Prior Id # 1:	3
Prior Id # 2:	
Prior Id # 3:	AS99NFP0
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	0
ASR Map:	
Fact Dist:	7218
Reval Dist:	
Year:	
LandReason:	
BldReason:	

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Assoc PCL	Value	Notes

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	V1.Date	V2.Date	V3.Date	Comment

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: VERIFICATION OF VISIT NOT DATA ___/___/___

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth / PriceUnits	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
I72	IND		0	0	R PRIME A	3011 V	1.0	0	0.	0.000	3011																

Total AC/HA: 0 | Total SF/SM: | Parcel LUC: I72 IND | Prime NB Desc COM | Total: | Spl Credit | Total:

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

EXTERIOR INFORMATION

Type:	ID - WAREHOUSE
Sty Ht:	31
(Liv) Units:	1
Foundation:	00 - TYPICAL
Frame:	12 - COM MASONRY
Prime Wall:	04 - CONC BLK
Sec Wall:	%
Roof Struct:	
Roof Cover:	00 - TYPICAL
Color:	
View / Desir:	134N - 3011 N

GENERAL INFORMATION

Grade:	IDC - GRADE		
Year Blt:	1957	Eff Yr Blt:	1957
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:			
Lump Sum Adj:			

INTERIOR INFORMATION

Avg Ht/FL:	41
Prim Int Wal	A - AVERAGE
Sec Int Wall:	%
Partition:	
Prim Floors:	T - TYPICAL
Sec Floors:	%
Bsmnt Flr:	
Bsmnt Gar:	
Electric:	T - TYPICAL
Insulation:	T - TYPICAL
Int vs Ext:	
Heat Fuel:	T - TYPICAL
Heat Type:	16 - SPACE HEATER
# Heat Sys:	1
% Heated:	% AC:
Solar HW:	NO Central Vac: NO
% Com Wal	% Sprinkled

BATH FEATURES

Full Bath	0	Rating:	
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth		Rating:	
1/2 Bath:	0	Rating:	
A HBth:		Rating:	
OthrFix:	0	Rating:	

OTHER FEATURES

Kits:	0	Rating:	
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

CONDO INFORMATION

Location:	
Unit #:	
Floor:	
% Own:	
Name:	

DEPRECIATION

Phys Cond:	AV - Average	78.	%
Functional:	L - LAYOUT	40	%
Economic:			%
Special:			%
Override:			%
Total:		86.90	%

CALC SUMMARY

Basic $ / SQ:	27.87
Size Adj.:	1
Const Adj.:	1.63724
Adj $ / SQ:	45.630
Grade Factor:	1.00
Other Features:	0
Neighborhood Inf:	1
LUC Factor:	1.00
Adj Total:	365039
Depreciation:	317073
Depreciated Total:	47966

COMMENTS

TEXTRON BLDG 25.

RESIDENTIAL GRID

1st Res Grid	Desc:	# Units	1

Level	FY	LR	DR	K	D	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												

Totals	RMs:	0	BRs:	0	Baths:	0	HB	0

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
1		0	
Totals			
1		0	

SKETCH

Undisplayed Areas:
BAS: 8000,P 360

8

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAv$/SQ:		AvRate:		Ind.Val	

Juris. Factor:		Val/Su Fin:	6.35
Special Features:	2800	Val/Su Net:	6.35
Final Total:	50800	Val/Su SzAd	6.35

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
BAS	BASE AREA	8,000	45.630	365,039

Net Sketched Area:	8,000			Total:	365,039
Size Ad	8000	Gross Area	8000	FinArea	8000

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten

IMAGE

AssessPro Patriot Properties, Inc

SPEC FEATURES/YARD ITEMS

PARCEL ID 120 00 0 035.00

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep.	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value
SPC	SPRINKLER	A	S	1	8000	T	AV	1957	1.65	B	86.9	I72			1,700			1,700
H16	HT/CL SPC	A	S	1	8000	T	AV	1957	1.06	B	86.9	I72			1,100			1,100

More: N	Total Yard Items:	724,200	Total Special Features:	2,785,500	Total: 3,509,700

Nashville And Davidson County

PROPERTY LOCATION

No	Alt No	Direction/Street/City
1432		VULTEE BV, NASHVILLE

OWNERSHIP

Owner 1:	AEROSTRUCTURES CORP., THE
Owner 2:	
Owner 3:	
Street 1:	13155 NOEL RD FL 12 LB 71 GALLERIA TOWER
Street 2:	
Twn/City:	DALLAS
St/Prov:	TX Cntry: Own Occ:
Postal:	75240 Type:

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	Cntry:
Postal:	

NARRATIVE DESCRIPTION

This Parcel contains . Units of land mainly classified as IND with a(n) MANF PLANT Building Built about 1969, Having Primarily BRICK Exterior and TYPICAL Roof Cover, with 1 Units, 0 Baths, 0 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com. Int

PROPERTY FACTORS

Item	Code	Descip	%	Item	Code	Descrip
Z	IR	IND REST	100	U		
o				t		
n				l		
Census:						
Flood Haz:						
D	USD	URBAN		Topo		
s				Street		
t				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
I72	3,902,300		0.000		3,902,300
Total Card	3,902,300		0.000		3,902,300
Total Parcel	13,118,300	724,200	0.000	4,897,000	18,739,500

Source: Market Adj Cost | Total Value per SQ unit /Card: 10.54 | /Parcel: 9.32

Legal Description: S SIDE VULTEE BLVD. E OF MCGAVOCK PK. 000X000

Entered Lot Size | Total Land: 96.74 | Land Unit Type: A

User Acct: 12000003500

GIS Ref

GIS Ref

Insp Date

PREVIOUS ASSESSMENT

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date

Parcel ID: 120 00 0 035.00

PRINT: Date 12/18/02 | Time 13:11:38

LAST REV: Date 02/28/01 | Time 09:17:24

PAT ACCT.: 137214

USER DEFINED

Prior Id #1:	3
Prior Id #2:	
Prior Id #3:	AS99NFP0
Prior Id #1:	
Prior Id #2:	
Prior Id #3:	
Prior Id #1:	
Prior Id #2:	
Prior Id #3:	0
ASR Map:	
Fact Dist:	7218
Reval Dist:	
Year:	
LandReason:	
BldReason:	

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Assoc PCL Value	Notes

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	V1.Date	V2.Date	V3.Date	Comment

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: VERIFICATION OF VISIT NOT DATA ___/___/___

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth/ Price	Units	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
I72	IND		0		0	R PRIME A	3011 V	1.0	0	0.	0.000	3011																

Total AC/HA: 0 | Total SF/SM: | Parcel LUC: I72 IND | Prime NB Desc: COM | Total: | Spl Credit | Total:

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

EXTERIOR INFORMATION

Type:	IM - MANF PLANT
Sty Ht:	31
(Liv) Units:	1
Foundation:	00 - TYPICAL
Frame:	15 - COM METAL
Prime Wall:	01 - BRICK
Sec Wall:	%
Roof Struct:	
Roof Cover:	00 - TYPICAL
Color:	
View / Desir:	134N - 3011 N

GENERAL INFORMATION

Grade:	IMC - GRADE		
Year Blt:	1969	Eff Yr Blt:	1969
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:			
Lump Sum Adj:			

INTERIOR INFORMATION

Avg Ht/FL:	40
Prim Int Wal	A - AVERAGE
Sec Int Wall:	%
Partition:	
Prim Floors:	T - TYPICAL
Sec Floors:	%
Bsmnt Flr:	
Bsmnt Gar:	
Electric:	T - TYPICAL
Insulation:	T - TYPICAL
Int vs Ext:	
Heat Fuel:	T - TYPICAL
Heat Type:	02 - HTG/CLG
# Heat Sys:	1
% Heated:	% AC:
Solar HW:	NO Central Vac: NO
% Com Wal	% Sprinkled

BATH FEATURES

Full Bath	0	Rating:	
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth		Rating:	
1/2 Bath:	0	Rating:	
A HBth:		Rating:	
OthrFix:	0	Rating:	

OTHER FEATURES

Kits:	0	Rating:	
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

CONDO INFORMATION

Location:	
Unit #:	
Floor:	
% Own:	
Name:	

DEPRECIATION

Phys Cond:	AV - Average	50.	%
Functional:	L - LAYOUT	40	%
Economic:			%
Special:			%
Override:			%
Total:		70.40	%

CALC SUMMARY

Basic $ / SQ:	23.80
Size Adj.:	1
Const Adj.:	1.21253
Adj $ / SQ:	28.858
Grade Factor:	1.00
Other Features:	0
Neighborhood Inf:	1
LUC Factor:	1.00
Adj Total:	10680092
Depreciation:	7514513
Depreciated Total:	3165580

COMMENTS

TEXTRON BLDG 38 BLDG HAS 2200 SQFT
TRAIN WELL.

RESIDENTIAL GRID

1st Res Grid	Desc:	# Units	1

Level	FY	LR	DR	K	D	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower-												
Totals	RMs: 0	BRs: 0	Baths: 0	HB 0								

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
1		0	
Totals			
1		0	

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAv$/SQ:		AvRate:		Ind.Val	

Juris. Factor:		Val/Su Fin:	10.54
Special Features:	736700	Val/Su Net:	10.54
Final Total:	3902300	Val/Su SzAd	10.54

SKETCH

Undisplayed Areas:
BAS: 317600,P 2966
PFB: 52490,P 1

8

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
PFB	COM FIN BMT	52,490	28.860	1,514,761
BAS	BASE AREA	317,600	28.860	9,165,331
Net Sketched Area:		370,090	Total:	10,680,092
Size Ad	370090	Gross Area	370090	FinArea 370090

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten

IMAGE

AssessPro Patriot Properties, Inc

SPEC FEATURES/YARD ITEMS

PARCEL ID 120 00 0 035.00

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value
SPC	SPRINKLER	A	S	1	374090	T	AV	1969	1.22	B	70.4	I72			134,900			134,900
H18	HT/CL PACK	A	S	1	374090	T	AV	1969	4.83	B	70.4	I72			534,800			534,800
PFB	FIN BSMT PRT	A	S	1	52490	T	AV	1969	0.00	B	70.4	I72						
MZ3	MEZZ	A	S	1	4000	T	AV	1969	13.12	B	70.4	I72			15,500			15,500
CPFC	COM PRT FIN	A	S	1	4000	V	AV	1969	14.72	B	70.4	I72			17,400			17,400
COFC	OPEN FINISH	A	S	1	4000	V	AV	1969	14.72	B	70.4	I72			17,400			17,400
CRN	CRANE RAIL	A	S	1	1600	T	AV	1969	35.30	B	70.4	I72			16,700			16,700

More:	N	Total Yard Items:	724,200	Total Special Features:	2,785,500
Total:	3,509,700				

TOTAL ASSESSED: 18,739,500

Nashville And Davidson County

PROPERTY LOCATION

No	Alt No	Direction/Street/City
1432		VULTEE BV, NASHVILLE

OWNERSHIP

Owner 1:	AEROSTRUCTURES CORP., THE
Owner 2:	
Owner 3:	
Street 1:	13155 NOEL RD FL 12 LB 71 GALLERIA TOWER
Street 2:	
Twn/City:	DALLAS
St/Prov:	TX Cntry: Own Occ:
Postal:	75240 Type:

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	Cntry:
Postal:	

NARRATIVE DESCRIPTION

This Parcel contains . Units of land mainly classified as IND with a(n) MANF PLANT Building Built about 1970, Having Primarily METAL Exterior and TYPICAL Roof Cover, with 1 Units, 0 Baths, 0 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com. Int

PROPERTY FACTORS

Item	Code	Descip	%	Item	Code	Descrip
Z	IR	IND REST	100	U		
o				t		
n				P		
Census:				Y		
Flood Haz:						
D	USD	URBAN		Topo		
s				Street		
				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
I72	718,800		0.000		718,800
Total Card	718,800		0.000		718,800
Total Parcel	13,118,300	724,200	0.000	4,897,000	18,739,500

Source: Market Adj Cost | Total Value per SQ unit /Card: 12.17 | /Parcel: 9.32

Legal Description: S SIDE VULTEE BLVD. E OF MCGAVOCK PK. 000X000

Entered Lot Size

Total Land: 96.74

Land Unit Type: A

User Acct
12000003500
GIS Ref
GIS Ref
Insp Date

PREVIOUS ASSESSMENT

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date

Parcel ID: 120 00 0 035.00

PRINT

Date	Time
12/18/02	13:12:05

LAST REV

Date	Time
02/28/01	09:17:35

PAT ACCT. 137214

USER DEFINED

Prior Id # 1:	3
Prior Id # 2:	
Prior Id # 3:	AS99NFP0
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	0
ASR Map:	
Fact Dist:	7218
Reval Dist:	
Year:	
LandReason:	
BldReason:	

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Assoc PCL Value	Notes

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	V1.Date	V2.Date	V3.Date	Comment

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: VERIFICATION OF VISIT NOT DATA ___/___/___

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth / PriceUnits	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
I72	IND		0	0	R	PRIME A	3011	V	1.0	0	0.	0.000	3011														

Total AC/HA: 0 | Total SF/SM: | Parcel LUC: I72 IND | Prime NB Desc COM | Total: | Spl Credit | Total:

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

EXTERIOR INFORMATION

Type:	IM - MANF PLANT
Sty Ht:	31
(Liv) Units:	1
Foundation:	00 - TYPICAL
Frame:	15 - COM METAL
Prime Wall:	08 - METAL
Sec Wall:	%
Roof Struct:	
Roof Cover:	00 - TYPICAL
Color:	
View / Desir:	134N - 3011 N

GENERAL INFORMATION

Grade:	IMC - GRADE		
Year Blt:	1970	Eff Yr Blt:	1970
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:			
Lump Sum Adj:			

INTERIOR INFORMATION

Avg Ht/FL:	24
Prim Int Wal	A - AVERAGE
Sec Int Wall:	%
Partition:	
Prim Floors:	T - TYPICAL
Sec Floors:	%
Bsmnt Flr:	
Bsmnt Gar:	
Electric:	T - TYPICAL
Insulation:	T - TYPICAL
Int vs Ext:	
Heat Fuel:	T - TYPICAL
Heat Type:	13 - FORCED AIR
# Heat Sys:	1
% Heated:	% AC:
Solar HW:	NO Central Vac: NO
% Com Wal	% Sprinkled

BATH FEATURES

Full Bath	0	Rating:	
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth		Rating:	
1/2 Bath:	0	Rating:	
A HBth:		Rating:	
OthrFix:	0	Rating:	

OTHER FEATURES

Kits:	0	Rating:	
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

CONDO INFORMATION

Location:	
Unit #:	
Floor:	
% Own:	
Name:	

DEPRECIATION

Phys Cond:	AV - Average	48.	%
Functional:	L - LAYOUT	40	%
Economic:			%
Special:			%
Override:			%
Total:		69.00	%

CALC SUMMARY

Basic $ / SQ:	23.80
Size Adj.:	1
Const Adj.:	0.937125
Adj $ / SQ:	22.304
Grade Factor:	1.00
Other Features:	0
Neighborhood Inf:	1
LUC Factor:	1.00
Adj Total:	1316803
Depreciation:	908331
Depreciated Total:	408472

COMMENTS

TEXTRON BLDG 39.

RESIDENTIAL GRID

1st Res Grid	Desc:	# Units	1

Level	FY	LR	DR	K	D	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												

Totals	RMs:	0	BRs:	0	Baths:	0	HB	0

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
1		0	
Totals			
1		0	

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAv$/SQ:		AvRate:		Ind.Val	

Juris. Factor:		Val/Su Fin:	12.17
Special Features:	310300	Val/Su Net:	12.17
Final Total:	718800	Val/Su SzAd	12.17

SKETCH

Undisplayed Areas:
BAS: 59040,P 1224

8

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
BAS	BASE AREA	59,040	22.300	1,316,803

Net Sketched Area:	59,040		Total:	1,316,803	
Size Ad	59040	Gross Area	59040	FinArea	59040

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten

IMAGE

AssessPro Patriot Properties, Inc

SPEC FEATURES/YARD ITEMS

PARCEL ID 120 00 0 035.00

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value
SPC	SPRINKLER	A	S	1	78880	T	AV	1970	1.22	B	69	I72			29,800			29,800
H13	HT/CL FHA	A	S	1	59040	T	AV	1970	2.85	B	69	I72			52,200			52,200
OFB	OP FIN BSMT	A	S	1	19840	T	AV	1970	30.24	B	69	I72			186,000			186,000
H18	HT/CL PACK	A	S	1	19840	T	AV	1970	4.83	B	69	I72			29,700			29,700
CRN	CRANE RAIL	A	S	1	1150	T	AV	1970	35.30	B	69	I72			12,600			12,600

More:	N	Total Yard Items:	724,200	Total Special Features:	2,785,500
				Total:	3,509,700

Nashville And Davidson County

PROPERTY LOCATION

No	Alt No	Direction/Street/City
1432		VULTEE BV, NASHVILLE

OWNERSHIP

Owner 1:	AEROSTRUCTURES CORP., THE
Owner 2:	
Owner 3:	
Street 1:	13155 NOEL RD FL 12 LB 71 GALLERIA TOWER
Street 2:	
Twn/City:	DALLAS
St/Prov:	TX Cntry Own Occ:
Postal:	75240 Type:

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	Cntry
Postal:	

NARRATIVE DESCRIPTION

This Parcel contains . Units of land mainly classified as IND with a(n) WAREHOUSE Building Built about 1959, Having Primarily METAL Exterior and TYPICAL Roof Cover, with 1 Units, 0 Baths, 0 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com Int

PROPERTY FACTORS

Item	Code	Descip	%	Item	Code	Descrip
Z	IR	IND REST	100	U		
o				t		
n				l		
Census:						
Flood Haz:						
D	USD	URBAN		Topo		
s				Street		
t				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
I72	14,100		0.000		14,100
Total Card	14,100		0.000		14,100
Total Parcel	13,118,300	724,200	0.000	4,897,000	18,739,500

Source: Market Adj Cost | Total Value per SQ unit /Card: 5.88 | /Parcel: 9.32

Legal Description
S SIDE VULTEE BLVD. E OF MCGAVOCK PK. 000X000

User Acct	12000003500
GIS Ref	
GIS Ref	
Insp Date	
Entered Lot Size	
Total Land	96.74
Land Unit Type	A

PREVIOUS ASSESSMENT

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date

Parcel ID: 120 00 0 035.00

PRINT

Date	Time
12/18/02	13:12:34

LAST REV

Date	Time
02/28/01	09:17:44

PAT ACCT. 137214

USER DEFINED

Prior Id #1:	3
Prior Id # 2:	
Prior Id # 3:	AS99NFP0
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	0
ASR Map:	
Fact Dist:	7218
Reval Dist:	
Year:	
LandReason:	
BldReason:	

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Assoc PCL Value	Notes

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	V1.Date	V2.Date	V3.Date	Comment

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: VERIFICATION OF VISIT NOT DATA ___/___/___

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth / PriceUnits	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
I72	IND		0	0	R PRIME A	3011 V	1.0	0	0.	0.000	3011																

Total AC/HA:	0	Total SF/SM:		Parcel LUC:	I72	IND	Prime NB Desc	COM	Total:		Spl Credit		Total:

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

EXTERIOR INFORMATION

Type:	ID - WAREHOUSE
Sty Ht:	31
(Liv) Units:	1
Foundation:	00 - TYPICAL
Frame:	15 - COM METAL
Prime Wall:	08 - METAL
Sec Wall:	%
Roof Struct:	
Roof Cover:	00 - TYPICAL
Color:	
View / Desir:	134N - 3011 N

BATH FEATURES

Full Bath	0	Rating:	
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth		Rating:	
1/2 Bath:	0	Rating:	
A HBth:		Rating:	
OthrFix:	0	Rating:	

OTHER FEATURES

Kits:	0	Rating:	
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

COMMENTS

TEXTRON BLDG 40 BOILER ROOM.

SKETCH

Undisplayed Areas:
BAS: 2400,P 200

8

RESIDENTIAL GRID

1st Res Grid	Desc:	# Units	1

Level	FY	LR	DR	K	D	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												

Totals	RMs:	0	BRs:	0	Baths:	0	HB	0

GENERAL INFORMATION

Grade:	IDC - GRADE		
Year Blt:	1959	Eff Yr Blt:	1959
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:			
Lump Sum Adj:			

CONDO INFORMATION

Location:	
Unit #:	
Floor:	
% Own:	
Name:	

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
1		0	
Totals			
1		0	

INTERIOR INFORMATION

Avg Ht/FL:	24
Prim Int Wal	A - AVERAGE
Sec Int Wall:	%
Partition:	
Prim Floors:	T - TYPICAL
Sec Floors:	%
Bsmnt Flr:	
Bsmnt Gar:	
Electric:	T - TYPICAL
Insulation:	T - TYPICAL
Int vs Ext:	
Heat Fuel:	T - TYPICAL
Heat Type:	16 - SPACE HEATER
# Heat Sys:	1
% Heated:	% AC:
Solar HW:	NO Central Vac: NO
% Com Wal	% Sprinkled

DEPRECIATION

Phys Cond:	AV - Average	74. %
Functional:	L - LAYOUT	40 %
Economic:		%
Special:		%
Override:		%
Total:		84.60 %

CALC SUMMARY

Basic $ / SQ:	27.87
Size Adj.:	1
Const Adj.:	1.22652
Adj $ / SQ:	34.183
Grade Factor:	1.00
Other Features:	0
Neighborhood Inf:	1
LUC Factor:	1.00
Adj Total:	82039
Depreciation:	69389
Depreciated Total:	12650

COMPARABLE SALES

Rate	Parcel ID	Typ.	Date	Sale Price

WtAv$/SQ:		AvRate:		Ind.Val	

Juris. Factor:		Val/Su Fin:	5.88
Special Features:	1400	Val/Su Net:	5.88
Final Total:	14100	Val/Su SzAd	5.88

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
BAS	BASE AREA	2,400	34.180	82,039
Net Sketched Area:		2,400	Total:	82,039

Size Ad	2400	Gross Area	2400	FinArea	2400

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu.	# Ten

IMAGE

AssessPro Patriot Properties, Inc

SPEC FEATURES/YARD ITEMS

PARCEL ID 120 00 0 035.00

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris Value
SPC	SPRINKLER	A	S	1	2400	T	AV	1959	2.78	B	84.6	I72			1,000			1,000
H16	HT/CL SPC	A	S	1	2400	T	AV	1959	1.06	B	84.6	I72			400			400

More:	N	Total Yard Items:	724,200	Total Special Features:	2,785,500	Total:	3,509,700

Nashville And Davidson County

PROPERTY LOCATION

Im No	Alt No	Direction/Street/City
1432		VULTEE BV, NASHVILLE

OWNERSHIP

Owner 1:	AEROSTRUCTURES CORP., THE
Owner 2:	
Owner 3:	
Street 1:	13155 NOEL RD FL 12 LB 71 GALLERIA TOWER
Street 2:	
Twn/City:	DALLAS
St/Prov:	TX Cntry Own Occ:
Postal:	75240 Type:

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	Cntry
Postal:	

NARRATIVE DESCRIPTION

This Parcel contains . Units of land mainly classified as IND with a(n) WAREHOUSE Building Built about 1970, Having Primarily METAL Exterior and TYPICAL Roof Cover, with 1 Units, 0 Baths, 0 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com. Int

PROPERTY FACTORS

Item	Code	Descip	%	Item	Code	Descrip
Z	IR	IND REST	100	U		
o				t		
n				l		
	Census:					
	Flood Haz:					
D	USD	URBAN		Topo		
s				Street		
t				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
I72	143,400		0.000		143,400
Total Card	143,400		0.000		143,400
Total Parcel	13,118,300	724,200	0.000	4,897,000	18,739,500

Source: Market Adj Cost | Total Value per SQ unit /Card: 14.43 | /Parcel: 9.32

Legal Description
S SIDE VULTEE BLVD. E OF MCGAVOCK PK. 000X000

Entered Lot Size
Total Land: 96.74
Land Unit Type: A

User Acct
12000003500
GIS Ref
GIS Ref
Insp Date

PREVIOUS ASSESSMENT

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date

Parcel ID: 120 00 0 035.00

PRINT

Date	Time
12/18/02	13:13:01

LAST REV

Date	Time
02/28/01	09:18:00

PAT ACCT. 137214

USER DEFINED

Prior Id # 1:	3
Prior Id # 2:	
Prior Id # 3:	AS99NFP0
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	0
ASR Map:	
Fact Dist:	7218
Reval Dist:	
Year:	
LandReason:	
BldReason:	

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Assoc PCL Value	Notes

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	V1.Date	V2.Date	V3.Date	Comment

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: VERIFICATION OF VISIT NOT DATA ___/___/___

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth/ PriceUnits	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
I72	IND		0	0	R PRIME A	3011 V	1.0	0	0.	0.000	3011																

Total AC/HA:	0	Total SF/SM:		Parcel LUC:	I72	IND	Prime NB Desc	COM	Total:		Spl Credit		Total:	

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

EXTERIOR INFORMATION

Type:	ID - WAREHOUSE
Sty Ht:	31
(Liv) Units:	1
Foundation:	00 - TYPICAL
Frame:	15 - COM METAL
Prime Wall:	08 - METAL
Sec Wall:	%
Roof Struct:	
Roof Cover:	00 - TYPICAL
Color:	
View / Desir:	134N - 3011 N

BATH FEATURES

Full Bath	0	Rating:	
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth		Rating:	
1/2 Bath:	0	Rating:	
A HBth:		Rating:	
OthrFix:	0	Rating:	

OTHER FEATURES

Kits:	0	Rating:	
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

COMMENTS

TEXTRON BLDG 44 RAIL RUNS THRU BLDG.

RESIDENTIAL GRID

1st Res Grid	Desc:	# Units	1

Level	FY	LR	DR	K	D	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												

Totals	RMs:	0	BRs:	0	Baths:	0	HB	0

SKETCH

Undisplayed Areas:
BAS: 9940,P 424

8

GENERAL INFORMATION

Grade:	IDC - GRADE		
Year Blt:	1970	Eff Yr Blt:	1970
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:			
Lump Sum Adj:			

CONDO INFORMATION

Location:	
Unit #:	
Floor:	
% Own:	
Name:	

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
1		0	
Totals			
1		0	

INTERIOR INFORMATION

Avg Ht/FL:	46		
Prim Int Wal	A - AVERAGE		
Sec Int Wall:	%		
Partition:			
Prim Floors:	T - TYPICAL		
Sec Floors:	%		
Bsmnt Flr:			
Bsmnt Gar:			
Electric:	T - TYPICAL		
Insulation:	T - TYPICAL		
Int vs Ext:			
Heat Fuel:	T - TYPICAL		
Heat Type:	16 - SPACE HEATER		
# Heat Sys:	1		
% Heated:		% AC:	
Solar HW:	NO	Central Vac:	NO
% Com Wal		% Sprinkled	

DEPRECIATION

Phys Cond:	AV - Average	48.	%
Functional:	L - LAYOUT	40	%
Economic:			%
Special:			%
Override:			%
Total:		69.00	%

CALC SUMMARY

Basic $ / SQ:	27.87
Size Adj.:	1
Const Adj.:	1.53965
Adj $ / SQ:	42.910
Grade Factor:	1.00
Other Features:	0
Neighborhood Inf:	1
LUC Factor:	1.00
Adj Total:	426525
Depreciation:	294217
Depreciated Total:	132308

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAv$/SQ:		AvRate:		Ind.Val	

Juris. Factor:		Val/Su Fin:	14.43
Special Features:	11100	Val/Su Net:	14.43
Final Total:	143400	Val/Su SzAd	14.43

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
BAS	BASE AREA	9,940	42.910	426,525

Net Sketched Area:	9,940			Total:	426,525
Size Ad	9940	Gross Area	9940	FinArea	9940

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten

IMAGE

AssessPro Patriot Properties, Inc

PARCEL ID 120 00 0 035.00

SPEC FEATURES/YARD ITEMS

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value
SPC	SPRINKLER	A	S	1	9940	T	AV	1970	1.53	B	69	I72			4,700			4,700
H16	HT/CL SPC	A	S	1	9940	T	AV	1970	1.06	B	69	I72			3,300			3,300
CRN	CRANE RAIL	A	S	1	284	T	AV	1970	35.30	B	69	I72			3,100			3,100

More:	N	Total Yard Items:	724,200	Total Special Features:	2,785,500
				Total:	3,509,700

TOTAL ASSESSED: 18,739,500

Nashville And Davidson County

PROPERTY LOCATION

No	Alt No	Direction/Street/City
1432		VULTEE BV, NASHVILLE

OWNERSHIP

Owner 1:	AEROSTRUCTURES CORP., THE
Owner 2:	
Owner 3:	
Street 1:	13155 NOEL RD FL 12 LB 71 GALLERIA TOWER
Street 2:	
Twn/City:	DALLAS
St/Prov:	TX Cntry: Own Occ:
Postal:	75240 Type:

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	Cntry:
Postal:	

NARRATIVE DESCRIPTION

This Parcel contains . Units of land mainly classified as IND with a(n) HEALTH CLUB Building Built about 1955, Having Primarily BRICK Exterior and TYPICAL Roof Cover, with 1 Units, 0 Baths, 0 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com Int

PROPERTY FACTORS

Item	Code	Descrip	%	Item	Code	Descrip
Zo	IR	IND REST	100	U		
Ho				I		
Un				F		
	Census:					
	Flood Haz:					
D	USD	URBAN		Topo:		
S				Street:		
T				Traffic:		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
I72	51,100		0.000		51,100
Total Card	51,100		0.000		51,100
Total Parcel	13,118,300	724,200	0.000	4,897,000	18,739,500

Source: Market Adj Cost | Total Value per SQ unit/Card: 7.02 | /Parcel: 9.32

Legal Description: S SIDE VULTEE BLVD. E OF MCGAVOCK PK. 000X000

Entered Lot Size	
Total Land	96.74
Land Unit Type	A

User Acct	
12000003500	
GIS Ref	
GIS Ref	
Insp Date	

PREVIOUS ASSESSMENT

Tax Yr	Use	Cal	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Assess'd Value	Notes	Date

Parcel ID
120 00 0 035.00

PRINT

Date	Time
12/18/02	13:13:26

LAST REV

Date	Time
02/28/01	09:18:12

PAT ACCT. 137214

USER DEFINED

Prior Id #1:	3
Prior Id #2:	
Prior Id #3:	AS99NFP0
Prior Id #1:	
Prior Id #2:	
Prior Id #3:	
Prior Id #1:	
Prior Id #2:	
Prior Id #3:	0
ASR Map:	
Fact Dist:	7218
Reval Dist:	
Year:	
Land Reason:	
Bld Reason:	

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Assoc PCL	Value	Notes

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	V1 Date	V2 Date	V3 Date	Comment

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: VERIFICATION OF VISIT NOT DATA ___/___/___

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth/ Price Units	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
I72	IND		0	0	R PRIME A	3011 V	1.0	0	0.	0.000	3011																

Total AC/HA: 0 | Total SF/SM: | Parcel LUC: I72 IND | Prime NB Desc: COM | Total: | Spl Credit | Total:

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

EXTERIOR INFORMATION

Type:	AC - HEALTH CLUB
Sty Ht:	31
(Liv) Units:	1
Foundation:	00 - TYPICAL
Frame:	12 - COM MASONRY
Prime Wall:	01 - BRICK
Sec Wall:	%
Roof Struct:	
Roof Cover:	00 - TYPICAL
Color:	
View / Desir:	134N - 3011 N

BATH FEATURES

Full Bath	0	Rating:	
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth		Rating:	
1/2 Bath:	0	Rating:	
A HBth:		Rating:	
OthrFix:	0	Rating:	

OTHER FEATURES

Kits:	0	Rating:	
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

COMMENTS

FITNESS CENTER- TEXTRON BLDG 23.

SKETCH

Undisplayed Areas:
BAS: 7280,P 354

8

GENERAL INFORMATION

Grade:	ACC - GRADE		
Year Blt:	1955	Eff Yr Blt:	1955
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:			
Lump Sum Adj:			

CONDO INFORMATION

Location:	
Unit #:	
Floor:	
% Own:	
Name:	

RESIDENTIAL GRID

1st Res Grid	Desc:	# Units	1

Level	FY	LR	DR	K	D	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												

Totals	RMs:	0	BRs:	0	Baths:	0	HB	0

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
1		0	
Totals			
1		0	

INTERIOR INFORMATION

Avg Ht/FL:	14
Prim Int Wal	A - AVERAGE
Sec Int Wall:	%
Partition:	
Prim Floors:	T - TYPICAL
Sec Floors:	%
Bsmnt Flr:	
Bsmnt Gar:	
Electric:	T - TYPICAL
Insulation:	T - TYPICAL
Int vs Ext:	
Heat Fuel:	T - TYPICAL
Heat Type:	02 - HTG/CLG
# Heat Sys:	1
% Heated:	% AC:
Solar HW:	NO Central Vac: NO
% Com Wal	% Sprinkled

DEPRECIATION

Phys Cond:	AV - Average	81	%
Functional:	L - LAYOUT	40	%
Economic:			%
Special:			%
Override:			%
Total:		88.60	%

CALC SUMMARY

Basic $ / SQ:	53.72
Size Adj.:	1
Const Adj.:	1.02561
Adj $ / SQ:	55.096
Grade Factor:	1.00
Other Features:	0
Neighborhood Inf:	1
LUC Factor:	1.00
Adj Total:	401095
Depreciation:	355370
Depreciated Total:	45725

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAv$/SQ:		AvRate:		Ind.Val	

Juris. Factor:		Val/Su Fin:	7.02
Special Features:	5400	Val/Su Net:	7.02
Final Total:	51100	Val/Su SzAd	7.02

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
BAS	BASE AREA	7,280	55.100	401,095

Net Sketched Area:	7,280		Total:	401,095	
Size Ad	7280	Gross Area	7280	FinArea	7280

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten

IMAGE

AssessPro Patriot Properties, Inc

SPEC FEATURES/YARD ITEMS

PARCEL ID 120 00 0 035.00

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value
SPC	SPRINKLER	A	S	1	7280	T	AV	1955	1.71	B	88.6	I72			1,400			1,400
H18	HT/CL PACK	A	S	1	7280	T	AV	1955	4.83	B	88.6	I72			4,000			4,000

More:	N	Total Yard Items:	724,200	Total Special Features:	2,785,500	Total:	3,509,700

Nashville And Davidson County

PROPERTY LOCATION

No	Alt No	Direction/Street/City
1432		VULTEE BV, NASHVILLE

OWNERSHIP

Owner 1:	AEROSTRUCTURES CORP., THE
Owner 2:	
Owner 3:	
Street 1:	13155 NOEL RD FL 12 LB 71 GALLERIA TOWER
Street 2:	
Twn/City:	DALLAS
St/Prov:	TX Cntry: Own Occ:
Postal:	75240 Type:

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	Cntry:
Postal:	

NARRATIVE DESCRIPTION

This Parcel contains . Units of land mainly classified as IND with a(n) EQUIP SHED Building Built about 1950, Having Primarily METAL Exterior and TYPICAL Roof Cover, with 1 Units, 0 Baths, 0 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com. Int

PROPERTY FACTORS

Item	Code	Descrip	%	Item	Code	Descrip
Z	IR	IND REST	100	U		
o				t		
n				l		
	Census:					
	Flood Haz:					
D	USD	URBAN		Topo		
s				Street		
t				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
I72	4,500		0.000		4,500
Total Card	4,500		0.000		4,500
Total Parcel	13,118,300	724,200	0.000	4,897,000	18,739,500

Source: Market Adj Cost | Total Value per SQ unit /Card: 1.59 | /Parcel: 9.32

Legal Description: S SIDE VULTEE BLVD. E OF MCGAVOCK PK. 000X000

Entered Lot Size | Total Land: 96.74 | Land Unit Type: A

User Acct: 12000003500

GIS Ref:

GIS Ref:

Insp Date:

PREVIOUS ASSESSMENT

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date

Parcel ID: 120 00 0 035.00

PRINT: Date 12/18/02 | Time 13:13:51

LAST REV: Date 02/28/01 | Time 09:18:24

PAT ACCT.: 137214

USER DEFINED

Prior Id # 1:	3
Prior Id # 2:	
Prior Id # 3:	AS99NFP0
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	0
ASR Map:	
Fact Dist:	7218
Reval Dist:	
Year:	
LandReason:	
BldReason:	

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Assoc PCL Value	Notes

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	V1.Date	V2.Date	V3.Date	Comment

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: VERIFICATION OF VISIT NOT DATA ___/___/___

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth / PriceUnits	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ.	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
I72	IND		0	0	R PRIME A	3011 V	1.0	0	0.	0.000	3011																

Total AC/HA: 0 | Total SF/SM: | Parcel LUC: I72 IND | Prime NB Desc: COM | Total: | Spl Credit | Total:

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

EXTERIOR INFORMATION

Type:	IF - EQUIP SHED
Sty Ht:	31
(Liv) Units:	1
Foundation:	00 - TYPICAL
Frame:	15 - COM METAL
Prime Wall:	08 - METAL
Sec Wall:	%
Roof Struct:	
Roof Cover:	00 - TYPICAL
Color:	
View / Desir:	134N - 3011 N

GENERAL INFORMATION

Grade:	IFC - GRADE		
Year Blt:	1950	Eff Yr Blt:	1963
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:			
Lump Sum Adj:			

INTERIOR INFORMATION

Avg Ht/FL:	20
Prim Int Wal	A - AVERAGE
Sec Int Wall:	%
Partition:	
Prim Floors:	T - TYPICAL
Sec Floors:	%
Bsmnt Flr:	
Bsmnt Gar:	
Electric:	T - TYPICAL
Insulation:	T - TYPICAL
Int vs Ext:	
Heat Fuel:	T - TYPICAL
Heat Type:	02 - HTG/CLG
# Heat Sys:	1
% Heated:	% AC:
Solar HW:	NO Central Vac: NO
% Com Wal	% Sprinkled

BATH FEATURES

Full Bath	0	Rating:	
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth		Rating:	
1/2 Bath:	0	Rating:	
A HBth:		Rating:	
OthrFix:	0	Rating:	

OTHER FEATURES

Kits:	0	Rating:	
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

CONDO INFORMATION

Location:	
Unit #:	
Floor:	
% Own:	
Name:	

DEPRECIATION

Phys Cond:	AV - Average	87.	%
Functional:	L - LAYOUT	40	%
Economic:			%
Special:			%
Override:			%
	Total:	92.40	%

CALC SUMMARY

Basic $ / SQ:	9.91
Size Adj.:	1
Const Adj.:	1.38884
Adj $ / SQ:	13.763
Grade Factor:	1.00
Other Features:	0
Neighborhood Inf:	1
LUC Factor:	1.00
Adj Total:	38951
Depreciation:	36006
Depreciated Total:	2945

COMMENTS

TEXTRON BLDG 16 STORAGE ONLY IN '98.

RESIDENTIAL GRID

1st Res Grid	Desc:		# Units	1

Level	FY	LR	DR	K	D	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												
Totals	RMs: 0	BRs: 0	Baths: 0	HB 0								

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
1		0	
Totals			
1		0	

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAv$/SQ:		AvRate:		Ind.Val	
Juris. Factor:		Val/Su Fin:	1.59		
Special Features:	1600	Val/Su Net:	1.59		
Final Total:	4500	Val/Su SzAd	1.59		

SKETCH

Undisplayed Areas:
BAS: 2830,P 252

8

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
BAS	BASE AREA	2,830	13.760	38,951

Net Sketched Area:	2,830			Total:	38,951
Size Ad	2830	Gross Area	2830	FinArea	2830

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten

IMAGE

AssessPro Patriot Properties, Inc

PARCEL ID 120 00 0 035.00

SPEC FEATURES/YARD ITEMS

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value
SPC	SPRINKLER	A	S	1	2830	T	AV	1963	2.77	B	92.4	I72			600			600
H18	HT/CL PACK	A	S	1	2830	T	AV	1963	4.83	B	92.4	I72			1,000			1,000

More:	N	Total Yard Items:	724,200	Total Special Features:	2,785,500	Total:	3,509,700

Nashville And Davidson County

PROPERTY LOCATION

No	Alt No	Direction/Street/City
1432		VULTEE BV, NASHVILLE

OWNERSHIP

Owner 1:	AEROSTRUCTURES CORP., THE
Owner 2:	
Owner 3:	
Street 1:	13155 NOEL RD FL 12 LB 71 GALLERIA TOWER
Street 2:	
Twn/City:	DALLAS
St/Prov:	TX Cntry: Own Occ:
Postal:	75240 Type:

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	Cntry:
Postal:	

NARRATIVE DESCRIPTION

This Parcel contains . Units of land mainly classified as IND with a(n) MAINT HANGER Building Built about 1982, Having Primarily METAL Exterior and TYPICAL Roof Cover, with 1 Units, 0 Baths, 0 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com. Int

PROPERTY FACTORS

Item	Code	Descrip	%	Item	Code	Descrip
Z	IR	IND REST	100	U		
o				t		
n				l		
Census:						
Flood Haz:						
D	USD	URBAN		Topo		
s				Street		
t				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
I72	521,500		0.000		521,500
Total Card	521,500		0.000		521,500
Total Parcel	13,118,300	724,200	0.000	4,897,000	18,739,500

Source: Market Adj Cost | Total Value per SQ unit /Card: 13.37 | /Parcel: 9.32

Legal Description: S SIDE VULTEE BLVD. E OF MCGAVOCK PK. 000X000

User Acct	12000003500
GIS Ref	
GIS Ref	
Insp Date	
Entered Lot Size	
Total Land:	96.74
Land Unit Type:	A

PREVIOUS ASSESSMENT

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date

Parcel ID: 120 00 0 035.00

PRINT: Date 12/18/02 Time 13:14:16

LAST REV: Date 02/28/01 Time 09:18:42

PAT ACCT.: 137214

USER DEFINED

Prior Id # 1:	3
Prior Id # 2:	
Prior Id # 3:	AS99NFP0
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	0
ASR Map:	
Fact Dist:	7218
Reval Dist:	
Year:	
LandReason:	
BldReason:	

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Assoc PCL Value	Notes

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	V1.Date	V2.Date	V3.Date	Comment

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: VERIFICATION OF VISIT NOT DATA ___/___/___

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth / PriceUnits	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
I72	IND		0	0	R PRIME A	3011 V	1.0	0	0.	0.000	3011																

Total AC/HA:	0	Total SF/SM:		Parcel LUC:	I72	IND	Prime NB Desc	COM	Total:		Spl Credit		Total:

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

EXTERIOR INFORMATION

Type:	IH - MAINT HANGER
Sty Ht:	31
(Liv) Units:	1
Foundation:	00 - TYPICAL
Frame:	15 - COM METAL
Prime Wall:	08 - METAL
Sec Wall:	%
Roof Struct:	
Roof Cover:	00 - TYPICAL
Color:	
View / Desir:	134N - 3011 N

GENERAL INFORMATION

Grade:	IHC - GRADE		
Year Blt:	1982	Eff Yr Blt:	1982
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:			
Lump Sum Adj:			

INTERIOR INFORMATION

Avg Ht/FL:	40
Prim Int Wal	A - AVERAGE
Sec Int Wall:	%
Partition:	
Prim Floors:	T - TYPICAL
Sec Floors:	%
Bsmnt Flr:	
Bsmnt Gar:	
Electric:	T - TYPICAL
Insulation:	T - TYPICAL
Int vs Ext:	
Heat Fuel:	T - TYPICAL
Heat Type:	15 - STEAM
# Heat Sys:	1
% Heated:	% AC:
Solar HW:	NO Central Vac: NO
% Com Wal	% Sprinkled

BATH FEATURES

Full Bath	0	Rating:	
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth		Rating:	
1/2 Bath:	0	Rating:	
A HBth:		Rating:	
OthrFix:	0	Rating:	

OTHER FEATURES

Kits:	0	Rating:	
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

CONDO INFORMATION

Location:	
Unit #:	
Floor:	
% Own:	
Name:	

DEPRECIATION

Phys Cond:	AV - Average	37.	%
Functional:	L - LAYOUT	40	%
Economic:			%
Special:			%
Override:			%
Total:		62.60	%

CALC SUMMARY

Basic $ / SQ:	21.50
Size Adj.:	1
Const Adj.:	1.34725
Adj $ / SQ:	28.966
Grade Factor:	1.00
Other Features:	0
Neighborhood Inf:	1
LUC Factor:	1.00
Adj Total:	1129669
Depreciation:	707399
Depreciated Total:	422270

COMMENTS

TEXTRON BLDG 49 B-1 BOMBER WING BLDG-
IS NOT TO SCALE ON TEXTRON5/89
BUILDINGS MAP-SEE BLUE- PRINT IN FILE.

RESIDENTIAL GRID

1st Res Grid	Desc:		# Units	1

Level	FY	LR	DR	K	D	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												
Totals	RMs:	0	BRs:	0	Baths:	0	HB	0				

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
1		0	
Totals			
1		0	

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAv$/SQ:		AvRate:	Ind.Val

Juris. Factor:		Val/Su Fin:	13.37
Special Features:	99200	Val/Su Net:	13.37
Final Total:	521500	Val/Su SzAd	13.37

SKETCH

Undisplayed Areas:
BAS: 39000,P 820

8

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
BAS	BASE AREA	39,000	28.970	1,129,669
Net Sketched Area:		39,000	Total:	1,129,669
Size Ad	39000	Gross Area	39000	FinArea 39000

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten

IMAGE

AssessPro Patriot Properties, Inc

SPEC FEATURES/YARD ITEMS

PARCEL ID 120 00 0 035.00

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value
SPC	SPRINKLER	A	S	1	39000	T	AV	1982	1.22	B	62.6	I72			17,800			17,800
H15	HT/CL STM	A	S	1	39000	T	AV	1982	5.22	B	62.6	I72			76,100			76,100
CRN	CRANE RAIL	A	S	1	400	T	AV	1982	35.30	B	62.6	I72			5,300			5,300

Mere:	N	Total Yard Items:	724,200	Total Special Features:	2,785,500
Total:	3,509,700				

120	00	0	035.00	23 of 29	Manufac	TOTAL ASSESSED: 18,739,500
MAP	SUB	SUB	PARCEL	CARD		

Nashville And Davidson County

PROPERTY LOCATION

No	Alt No	Direction/Street/City
1432		VULTEE BV, NASHVILLE

OWNERSHIP

Owner 1:	AEROSTRUCTURES CORP., THE
Owner 2:	
Owner 3:	
Street 1:	13155 NOEL RD FL 12 LB 71 GALLERIA TOWER
Street 2:	
Twn/City:	DALLAS
St/Prov:	TX Cntry: Own Occ:
Postal:	75240 Type:

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	Cntry:
Postal:	

NARRATIVE DESCRIPTION

This Parcel contains . Units of land mainly classified as IND with a(n) MANF PLANT Building Built about 1982, Having Primarily METAL Exterior and TYPICAL Roof Cover, with 1 Units, 0 Baths, 0 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com. Int

PROPERTY FACTORS

Item	Code	Descrip	%	Item	Code	Descrip
Z	IR	IND REST	100	U		
o				t		
n				1		
Census:						
Flood Haz:						
D	USD	URBAN		Topo		
s				Street		
t				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
I72	265,100		0.000		265,100
Total Card	265,100		0.000		265,100
Total Parcel	13,118,300	724,200	0.000	4,897,000	18,739,500

Source: Market Adj Cost | Total Value per SQ unit /Card: 14.08 | /Parcel: 9.32

Legal Description: S SIDE VULTEE BLVD. E OF MCGAVOCK PK. 000X000

Entered Lot Size | Total Land: 96.74 | Land Unit Type: A

User Acct
12000003500
GIS Ref
GIS Ref
Insp Date

PREVIOUS ASSESSMENT

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date

Parcel ID: 120 00 0 035.00

PRINT: Date 12/18/02 | Time 13:14:46

LAST REV: Date 02/28/01 | Time 09:18:56

PAT ACCT.: 137214

USER DEFINED

Prior Id #.1:	3
Prior Id # 2:	
Prior Id # 3:	AS99NFP0
Prior Id #.1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id #.1:	
Prior Id # 2:	
Prior Id # 3:	0
ASR Map:	
Fact Dist:	7218
Reval Dist:	
Year:	
LandReason:	
BldReason:	

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Assoc PCL Value	Notes

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	V1.Date	V2.Date	V3.Date	Comment

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: VERIFICATION OF VISIT NOT DATA ___/___/___

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth / PriceUnits	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes 1
I72	IND		0	0	R PRIME A	3011 V	1.0	0	0.	0.000	3011																

Total AC/HA:	0	Total SF/SM:		Parcel LUC:	I72	IND	Prime NB Desc	COM	Total:		Spl Credit		Total:	

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

EXTERIOR INFORMATION

Type:	IM - MANF PLANT
Sty Ht:	31
(Liv) Units:	1
Foundation:	00 - TYPICAL
Frame:	15 - COM METAL
Prime Wall:	08 - METAL
Sec Wall:	%
Roof Struct:	
Roof Cover:	00 - TYPICAL
Color:	
View / Desir:	134N - 3011 N

GENERAL INFORMATION

Grade:	IMC - GRADE		
Year Blt:	1982	Eff Yr Blt:	1982
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:			
Lump Sum Adj:			

INTERIOR INFORMATION

Avg Ht/FL:	22
Prim Int Wal	A - AVERAGE
Sec Int Wall:	%
Partition:	
Prim Floors:	T - TYPICAL
Sec Floors:	%
Bsmnt Flr:	
Bsmnt Gar:	
Electric:	T - TYPICAL
Insulation:	T - TYPICAL
Int vs Ext:	
Heat Fuel:	T - TYPICAL
Heat Type:	15 - STEAM
# Heat Sys:	1
% Heated:	% AC:
Solar HW:	NO Central Vac: NO
% Com Wal	% Sprinkled

BATH FEATURES

Full Bath	0	Rating:	
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth		Rating:	
1/2 Bath:	0	Rating:	
A HBth:		Rating:	
OthrFix:	0	Rating:	

OTHER FEATURES

Kits:	0	Rating:	
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

CONDO INFORMATION

Location:	
Unit #:	
Floor:	
% Own:	
Name:	

DEPRECIATION

Phys Cond:	AV - Average	26.	%
Functional:	L - LAYOUT	40	%
Economic:			%
Special:			%
Override:			%
	Total:	55.70	%

CALC SUMMARY

Basic $ / SQ:	23.80
Size Adj.:	1
Const Adj.:	1.06049
Adj $ / SQ:	25.240
Grade Factor:	1.00
Other Features:	0
Neighborhood Inf:	1
LUC Factor:	1.00
Adj Total:	475136
Depreciation:	264461
Depreciated Total:	210675

COMMENTS

TEXTRON BLDG 30B.

RESIDENTIAL GRID

1st Res Grid	Desc:	# Units	1

Level	FY	LR	DR	K	D	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												

Totals	RMs:	0	BRs:	0	Baths:	0	HB	0

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
1		0	
Totals			
1		0	

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAv$/SQ:		AvRate:		Ind.Val	

Juris. Factor:		Val/Su Fin:	14.08
Special Features:	54400	Val/Su Net:	14.08
Final Total:	265100	Val/Su SzAd	14.08

SKETCH

Undisplayed Areas:
BAS: 18825,P 780

8

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
BAS	BASE AREA	18,825	25.240	475,136

Net Sketched Area:	18,825			Total:	475,136
Size Ad	18825	Gross Area	18825	FinArea	18825

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten.

IMAGE

AssessPro Patriot Properties, Inc

SPEC FEATURES/YARD ITEMS

PARCEL ID 120 00 0 035.00

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value
SPC	SPRINKLER	A	S	1	18825	T	AV	1982	1.30	B	55.7	I72			10,900			10,900
H15	HT/CL STM	A	S	1	18825	T	AV	1982	5.22	B	55.7	I72			43,500			43,500

More:	N	Total Yard Items:	724,200	Total Special Features:	2,785,500	Total:	3,509,700

Nashville And Davidson County

PROPERTY LOCATION

No	Alt No	Direction/Street/City
1432		VULTEE BV, NASHVILLE

OWNERSHIP

Owner 1:	AEROSTRUCTURES CORP., THE
Owner 2:	
Owner 3:	
Street 1:	13155 NOEL RD FL 12 LB 71 GALLERIA TOWER
Street 2:	
Twn/City:	DALLAS
St/Prov:	TX
Cntry	
Own Occ:	
Postal:	75240
Type:	

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	
Cntry	
Postal:	

NARRATIVE DESCRIPTION

This Parcel contains . Units of land mainly classified as IND with a(n) WAREHOUSE Building Built about 1986, Having Primarily METAL Exterior and TYPICAL Roof Cover, with 1 Units, 0 Baths, 0 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com. Int

PROPERTY FACTORS

Item	Code	Descrip	%	Item	Code	Descrip
Z	IR	IND REST	100	U		
o				t		
n				l		
	Census:					
	Flood Haz:					
D	USD	URBAN		Topo		
s				Street		
t				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
I72	78,100		0.000		78,100
Total Card	78,100		0.000		78,100
Total Parcel	13,118,300	724,200	0.000	4,897,000	18,739,500

Source: Market Adj Cost | Total Value per SQ unit /Card: 15.94 | /Parcel: 9.32

Legal Description: S SIDE VULTEE BLVD. E OF MCGAVOCK PK. 000X000

Entered Lot Size | Total Land: 96.74 | Land Unit Type: A

User Acct
12000003500
GIS Ref
GIS Ref
Insp Date

PREVIOUS ASSESSMENT

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date

Parcel ID: 120 00 0 035.00

PRINT

Date	Time
12/18/02	13:15:17

LAST REV

Date	Time
02/28/01	09:19:08

PAT ACCT. 137214

USER DEFINED

Prior Id #.1:	3
Prior Id # 2:	
Prior Id # 3:	AS99NFP0
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id #.1:	
Prior Id # 2:	
Prior Id # 3:	0
ASR Map:	
Fact Dist:	7218
Reval Dist:	
Year:	
LandReason:	
BldReason:	

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Assoc PCL Value	Notes

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	V1.Date	V2.Date	V3.Date	Comment

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: VERIFICATION OF VISIT NOT DATA ___/___/___

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth / PriceUnits	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
I72	IND		0	0	R	PRIME A	3011 V	1.0	0	0.	0.000	3011															

Total AC/HA: 0 | Total SF/SM: | Parcel LUC: I72 IND | Prime NB Desc COM | Total: | Spl Credit | Total:

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

EXTERIOR INFORMATION

Type:	ID - WAREHOUSE
Sty Ht:	31
(Liv) Units:	1
Foundation:	00 - TYPICAL
Frame:	15 - COM METAL
Prime Wall:	08 - METAL
Sec Wall:	%
Roof Struct:	
Roof Cover:	00 - TYPICAL
Color:	
View / Desir:	134N - 3011 N

BATH FEATURES

Full Bath	0	Rating:	
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth		Rating:	
1/2 Bath:	0	Rating:	
A HBth:		Rating:	
OthrFix:	0	Rating:	

OTHER FEATURES

Kits:	0	Rating:	
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

COMMENTS

TEXTRON BLDG 52 USED FOR HAZARD-OUS WASTE STORAGE.

RESIDENTIAL GRID

1st Res Grid	Desc:		# Units	1

Level	FY	LR	DR	K	D	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												
Totals	RMs: 0	BRs: 0	Baths: 0	HB 0								

SKETCH

Undisplayed Areas:
BAS: 4900,P 280

8

GENERAL INFORMATION

Grade:	IDC - GRADE		
Year Blt:	1986	Eff Yr Blt:	1986
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:			
Lump Sum Adj:			

CONDO INFORMATION

Location:	
Unit #:	
Floor:	
% Own:	
Name:	

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
1		0	
Totals			
1		0	

INTERIOR INFORMATION

Avg Ht/FL:	20
Prim Int Wal	A - AVERAGE
Sec Int Wall:	%
Partition:	
Prim Floors:	T - TYPICAL
Sec Floors:	%
Bsmnt Flr:	
Bsmnt Gar:	
Electric:	T - TYPICAL
Insulation:	T - TYPICAL
Int vs Ext:	
Heat Fuel:	T - TYPICAL
Heat Type:	16 - SPACE HEATER
# Heat Sys:	1
% Heated:	% AC:
Solar HW:	NO Central Vac: NO
% Com Wal	% Sprinkled

DEPRECIATION

Phys Cond:	AV - Average	19. %
Functional:	L - LAYOUT	40 %
Economic:		%
Special:		%
Override:		%
Total:		51.90 %

CALC SUMMARY

Basic $ / SQ:	27.87
Size Adj.:	1
Const Adj.:	1.07853
Adj $ / SQ:	30.059
Grade Factor:	1.00
Other Features:	0
Neighborhood Inf:	1
LUC Factor:	1.00
Adj Total:	147287
Depreciation:	76501
Depreciated Total:	70786

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAv$/SQ:		AvRate:		Ind.Val	

Juris. Factor:		Val/Su Fin:	15.94
Special Features:	7300	Val/Su Net:	15.94
Final Total:	78100	Val/Su SzAd	15.94

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
BAS	BASE AREA	4,900	30.060	147,287
Net Sketched Area:		4,900	Total:	147,287
Size Ad	4900	Gross Area	4900	FinArea 4900

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten

IMAGE

AssessPro Patriot Properties, Inc

SPEC FEATURES/YARD ITEMS

PARCEL ID 120 00 0 035.00

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value
SPC	SPRINKLER	A	S	1	4900	T	AV	1986	2.04	B	51.9	I72			4,800			4,800
H16	HT/CL SPC	A	S	1	4900	T	AV	1986	1.06	B	51.9	I72			2,500			2,500

More:	N	Total Yard Items:	724,200	Total Special Features:	2,785,500

Total: 3,509,700

Nashville And Davidson County

PROPERTY LOCATION

No	Alt No	Direction/Street/City
1432		VULTEE BV, NASHVILLE

OWNERSHIP

Owner 1:	AEROSTRUCTURES CORP., THE
Owner 2:	
Owner 3:	
Street 1:	13155 NOEL RD FL 12 LB 71 GALLERIA TOWER
Street 2:	
Twn/City:	DALLAS
St/Prov:	TX Cntry: Own Occ:
Postal:	75240 Type:

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	Cntry
Postal:	

NARRATIVE DESCRIPTION

This Parcel contains . Units of land mainly classified as IND with a(n) WAREHOUSE Building Built about 1986, Having Primarily METAL Exterior and TYPICAL Roof Cover, with 1 Units, 0 Baths, 0 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com. Int

PROPERTY FACTORS

Item	Code	Descrip	%	Item	Code	Descrip
Z	IR	IND REST	100	U		
Zo				Lt		
Zn				Ut		
	Census:					
	Flood Haz:					
D	USD	URBAN		Topo		
S				Street		
Ut				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
I72	78,100		0.000		78,100
Total Card	78,100		0.000		78,100
Total Parcel	13,118,300	724,200	0.000	4,897,000	18,739,500

Source: Market Adj Cost | Total Value per SQ unit /Card: 15.94 | /Parcel: 9.32

Legal Description: S SIDE VULTEE BLVD. E OF MCGAVOCK PK. 000X000

Entered Lot Size | Total Land: 96.74 | Land Unit Type: A

User Acct
12000003500
GIS Ref
GIS Ref
Insp Date

PREVIOUS ASSESSMENT

Tax Yr	Use	Cat	Bldg.Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date

Parcel ID: 120 00 0 035.00

PRINT: Date 12/18/02 | Time 13:15:48

LAST REV: Date 02/28/01 | Time 09:19:21

PAT ACCT.: 137214

USER DEFINED

Prior Id # 1:	3
Prior Id # 2:	
Prior Id # 3:	AS99NFP0
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	0
ASR Map:	
Fact Dist:	7218
Reval Dist:	
Year:	
LandReason:	
BldReason:	

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V.	Tst	Verif	Assoc PCL Value	Notes

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	V1.Date	V2.Date	V3.Date	Comment

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: VERIFICATION OF VISIT NOT DATA ___/___/___

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth / PriceUnits	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
I72	IND		0	0	R PRIME A	3011 V	1.0	0	0.	0.000	3011																

Total AC/HA: 0 | Total SF/SM: | Parcel LUC: I72 IND | Prime NB Desc: COM | Total: | Spl Credit | Total:

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

EXTERIOR INFORMATION

Type:	ID - WAREHOUSE
Sty Ht:	31
(Liv) Units:	1
Foundation:	00 - TYPICAL
Frame:	15 - COM METAL
Prime Wall:	08 - METAL
Sec Wall:	%
Roof Struct:	
Roof Cover:	00 - TYPICAL
Color:	
View / Desir:	134N - 3011 N

GENERAL INFORMATION

Grade:	IDC - GRADE		
Year Blt:	1986	Eff Yr Blt:	1986
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:			
Lump Sum Adj:			

INTERIOR INFORMATION

Avg Ht/FL:	20
Prim Int Wal	A - AVERAGE
Sec Int Wall:	%
Partition:	
Prim Floors:	T - TYPICAL
Sec Floors:	%
Bsmnt Flr:	
Bsmnt Gar:	
Electric:	T - TYPICAL
Insulation:	T - TYPICAL
Int vs Ext:	
Heat Fuel:	T - TYPICAL
Heat Type:	16 - SPACE HEATER
# Heat Sys:	1
% Heated:	% AC:
Solar HW:	NO Central Vac: NO
% Com Wal	% Sprinkled

BATH FEATURES

Full Bath	0	Rating:	
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth		Rating:	
1/2 Bath:	0	Rating:	
A HBth:		Rating:	
OthrFix:	0	Rating:	

OTHER FEATURES

Kits:	0	Rating:	
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

CONDO INFORMATION

Location:	
Unit #:	
Floor:	
% Own:	
Name:	

DEPRECIATION

Phys Cond:	AV - Average	19.	%
Functional:	L - LAYOUT	40	%
Economic:			%
Special:			%
Override:			%
Total:		51.90	%

CALC SUMMARY

Basic $ / SQ:	27.87
Size Adj.:	1
Const Adj.:	1.07853
Adj $ / SQ:	30.059
Grade Factor:	1.00
Other Features:	0
Neighborhood Inf:	1
LUC Factor:	1.00
Adj Total:	147287
Depreciation:	76501
Depreciated Total:	70786

COMMENTS

TEXTRON BLDG 53 USED FOR HAZARD-OUS WASTE STORAGE.

RESIDENTIAL GRID

1st Res Grid	Desc:		# Units	1

Level	FY	LR	DR	K	D	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												
Totals	RMs: 0		BRs: 0		Baths: 0					HB 0		

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
1		0	
Totals			
1		0	

SKETCH

Undisplayed Areas:
BAS: 4900,P 280

8

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAv$/SQ:	AvRate:	Ind.Val	

Juris. Factor:		Val/Su Fin:	15.94
Special Features:	7300	Val/Su Net:	15.94
Final Total:	78100	Val/Su.SzAd	15.94

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
BAS	BASE AREA	4,900	30.060	147,287

Net Sketched Area:	4,900		Total:	147,287	
Size Ad	4900	Gross Area	4900	FinArea	4900

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten

IMAGE

AssessPro Patriot Properties, Inc

PARCEL ID 120 00 0 035.00

SPEC FEATURES/YARD ITEMS

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value
SPC	SPRINKLER	A	S	1	4900	T	AV	1986	2.04	B	51.9	I72			4,800			4,800
H16	HT/CL SPC	A	S	1	4900	T	AV	1986	1.06	B	51.9	I72			2,500			2,500

More:	N	Total Yard Items:	724,200	Total Special Features:	2,785,500
				Total:	3,509,700

120	00	0	035.00	26 of 29	Manufac	TOTAL ASSESSED: 18,739,500
MAP	SUB	SUB	PARCEL	CARD		

Nashville And Davidson County

PROPERTY LOCATION

No	Alt No	Direction/Street/City
1432		VULTEE BV, NASHVILLE

OWNERSHIP

Owner 1:	AEROSTRUCTURES CORP., THE
Owner 2:	
Owner 3:	
Street 1:	13155 NOEL RD FL 12 LB 71 GALLERIA TOWER
Street 2:	
Twn/City:	DALLAS
St/Prov:	TX Cntry: Own Occ:
Postal:	75240 Type:

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	Cntry
Postal:	

NARRATIVE DESCRIPTION

This Parcel contains . Units of land mainly classified as IND with a(n) MANF PLANT Building Built about 1985, Having Primarily METAL Exterior and TYPICAL Roof Cover, with 1 Units, 0 Baths, 0 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com. Int

PROPERTY FACTORS

Item	Code	Descrip	%	Item	Code	Descrip
Z	IR	IND REST	100	U		
o				t		
n				l		
Census:						
Flood Haz:						
D	USD	URBAN		Topo		
S				Street		
t				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
I72	346,000		0.000		346,000
Total Card	346,000		0.000		346,000
Total Parcel	13,118,300	724,200	0.000	4,897,000	18,739,500

Source: Market Adj Cost | Total Value per SQ unit /Card: 15.73 | /Parcel: 9.32

Legal Description
S SIDE VULTEE BLVD. E OF MCGAVOCK PK. 000X000

User Acct	12000003500
GIS Ref	
GIS Ref	
Insp Date	
Entered Lot Size	
Total Land:	96.74
Land Unit Type:	A

PREVIOUS ASSESSMENT

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date

Parcel ID: 120 00 0 035.00

PRINT

Date	Time
12/18/02	13:16:15

LAST REV

Date	Time
02/28/01	09:19:38

PAT ACCT. 137214

USER DEFINED

Prior Id # 1:	3
Prior Id # 2:	
Prior Id # 3:	AS99NFP0
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	0
ASR Map:	
Fact Dist:	7218
Reval Dist:	
Year:	
LandReason:	
BldReason:	

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Assoc PCL Value	Notes

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	V1.Date	V2.Date	V3.Date	Comment

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: VERIFICATION OF VISIT NOT DATA ___/___/___

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth/ PriceUnits	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
I72	IND		0	0	R PRIME A	3011 V	1.0	0	0.	0.000	3011																

Total AC/HA:	0	Total SF/SM:		Parcel LUC:	I72	IND	Prime NB Desc	COM	Total:	Spl Credit	Total:

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

EXTERIOR INFORMATION

Type:	IM - MANF PLANT
Sty Ht:	31
(Liv) Units:	1
Foundation:	00 - TYPICAL
Frame:	15 - COM METAL
Prime Wall:	08 - METAL
Sec Wall:	%
Roof Struct:	
Roof Cover:	00 - TYPICAL
Color:	
View / Desir:	134N - 3011 N

GENERAL INFORMATION

Grade:	IMC - GRADE		
Year Blt:	1985	Eff Yr Blt:	1985
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:			
Lump Sum Adj:			

INTERIOR INFORMATION

Avg Ht/FL:	40
Prim Int Wal	A - AVERAGE
Sec Int Wall:	%
Partition:	
Prim Floors:	T - TYPICAL
Sec Floors:	%
Bsmnt Flr:	
Bsmnt Gar:	
Electric:	T - TYPICAL
Insulation:	T - TYPICAL
Int vs Ext:	
Heat Fuel:	T - TYPICAL
Heat Type:	16 - SPACE HEATER
# Heat Sys:	1
% Heated:	% AC:
Solar HW:	NO Central Vac: NO
% Com Wal	% Sprinkled

BATH FEATURES

Full Bath	0	Rating:	
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth		Rating:	
1/2 Bath:	0	Rating:	
A HBth:		Rating:	
OthrFix:	0	Rating:	

OTHER FEATURES

Kits:	0	Rating:	
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

CONDO INFORMATION

Location:	
Unit #:	
Floor:	
% Own:	
Name:	

DEPRECIATION

Phys Cond:	AV - Average	21.	%
Functional:	L - LAYOUT	40	%
Economic:			%
Special:			%
Override:			%
Total:		52.80	%

CALC SUMMARY

Basic $ / SQ:	23.80
Size Adj.:	1
Const Adj.:	1.27229
Adj $ / SQ:	30.281
Grade Factor:	1.00
Other Features:	0
Neighborhood Inf:	1
LUC Factor:	1.00
Adj Total:	666173
Depreciation:	351606
Depreciated Total:	314567

COMMENTS

TEXTRON BLDG 47 & 47A- RAIL RUNSTHRU BLDG FIRST LISTED IN 92-AGE ESTIMATED.

RESIDENTIAL GRID

1st Res Grid	Desc:		#.Units	1

Level	FY	LR	DR	K	D	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												

Totals	RMs:	0	BRs:	0	Baths:	0	HB	0

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
1		0	
Totals			
1		0	

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAv$/SQ:		AvRate:	Ind.Val

Juris. Factor:		Val/Su Fin:	15.73
Special Features:	31400	Val/Su Net:	15.73
Final Total:	346000	Val/Su SzAd	15.73

SKETCH

Undisplayed Areas:
BAS: 22000,P 640

8

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
BAS	BASE AREA	22,000	30.280	666,173
Net Sketched Area:		22,000	Total:	666,173

Size Ad	22000	Gross Area	22000	FinArea	22000

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten

IMAGE

AssessPro Patriot Properties, Inc

SPEC FEATURES/YARD ITEMS

PARCEL ID 120 00 0 035.00

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value
SPC	SPRINKLER	A	S	1	22000	T	AV	1985	1.27	B	52.8	I72			13,100			13,100
H16	HT/CL SPC	A	S	1	22000	T	AV	1985	1.06	B	52.8	I72			11,000			11,000
CRN	CRANE RAIL	A	S	1	440	T	AV	1985	35.30	B	52.8	I72			7,300			7,300

Misc.	N	Total Yard Items:	724,200	Total Special Features:	2,785,500	Total:	3,509,700

TOTAL ASSESSED: 18,739,500

Nashville And Davidson County

PROPERTY LOCATION

Bldg No	Alt No	Direction/Street/City
1432		VULTEE BV, NASHVILLE

OWNERSHIP

Owner 1:	AEROSTRUCTURES CORP., THE
Owner 2:	
Owner 3:	
Street 1:	13155 NOEL RD FL 12 LB 71 GALLERIA TOWER
Street 2:	
Twn/City:	DALLAS
St/Prov:	TX Cntry Own Occ:
Postal:	75240 Type:

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	Cntry
Postal:	

NARRATIVE DESCRIPTION

This Parcel contains . Units of land mainly classified as IND with a(n) MANF PLANT Building Built about 1988, Having Primarily METAL Exterior and TYPICAL Roof Cover, with 1 Units, 0 Baths, 0 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com. Int

PROPERTY FACTORS

Item	Code	Descrip	%	Item	Code	Descrip
Z	IR	IND REST	100	U		
o				t		
n				l		
Census:						
Flood Haz:						
D	USD	URBAN		Topo		
s				Street		
t				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
I72	225,200		0.000		225,200
Total Card	225,200		0.000		225,200
Total Parcel	13,118,300	724,200	0.000	4,897,000	18,739,500

Source: Market Adj Cost | Total Value per SQ unit /Card: 16.09 | /Parcel: 9.32

Legal Description: S SIDE VULTEE BLVD. E OF MCGAVOCK PK. 000X000

Entered Lot Size | Total Land: 96.74 | Land Unit Type: A

User Acct: 12000003500

GIS Ref

GIS Ref

Insp Date

PREVIOUS ASSESSMENT

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date

Parcel ID: 120 00 0 035.00

PRINT

Date	Time
12/18/02	13:16:41

LAST REV

Date	Time
02/28/01	09:19:48

PAT ACCT.: 137214

USER DEFINED

Prior Id #1:	3
Prior Id #2:	
Prior Id #3:	AS99NFP0
Prior Id #1:	
Prior Id #2:	
Prior Id #3:	
Prior Id #1:	
Prior Id #2:	
Prior Id #3:	0
ASR Map:	
Fact Dist:	7218
Reval Dist:	
Year:	
LandReason:	
BldReason:	

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Assoc PCL Value	Notes

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	V1:Date	V2:Date	V3:Date	Comment

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: VERIFICATION OF VISIT NOT DATA __/__/__

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth / PriceUnits	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
I72	IND		0	0	R PRIME A	3011 V	1.0	0	0.	0.000	3011																

Total AC/HA: 0 | Total SF/SM: | Parcel LUC: I72 IND | Prime NB Desc COM | Total: | Spl Credit | Total:

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

EXTERIOR INFORMATION

Type:	IM - MANF PLANT
Sty Ht:	31
(Liv) Units:	1
Foundation:	00 - TYPICAL
Frame:	15 - COM METAL
Prime Wall:	08 - METAL
Sec Wall:	%
Roof Struct:	
Roof Cover:	00 - TYPICAL
Color:	
View / Desir:	134N - 3011 N

GENERAL INFORMATION

Grade:	IMC - GRADE		
Year Blt:	1988	Eff Yr Blt:	1988
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:			
Lump Sum Adj:			

INTERIOR INFORMATION

Avg Ht/FL:	30
Prim Int Wal	A - AVERAGE
Sec Int Wall:	%
Partition:	
Prim Floors:	T - TYPICAL
Sec Floors:	%
Bsmnt Flr:	
Bsmnt Gar:	
Electric:	T - TYPICAL
Insulation:	T - TYPICAL
Int vs Ext:	
Heat Fuel:	T - TYPICAL
Heat Type:	16 - SPACE HEATER
# Heat Sys:	1
% Heated:	% AC:
Solar HW:	NO Central Vac: NO
% Com Wal	% Sprinkled

BATH FEATURES

Full Bath	0	Rating:	
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth		Rating:	
1/2 Bath:	0	Rating:	
A HBth:		Rating:	
OthrFix:	0	Rating:	

OTHER FEATURES

Kits:	0	Rating:	
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

CONDO INFORMATION

Location:	
Unit #:	
Floor:	
% Own:	
Name:	

DEPRECIATION

Phys Cond:	AV - Average	17.	%
Functional:	L - LAYOUT	40	%
Economic:			%
Special:			%
Override:			%
Total:		50.30	%

CALC SUMMARY

Basic $ / SQ:	23.80
Size Adj.:	1
Const Adj.:	1.1581
Adj $ / SQ:	27.563
Grade Factor:	1.00
Other Features:	0
Neighborhood Inf:	1
LUC Factor:	1.00
Adj Total:	385877
Depreciation:	193942
Depreciated Total:	191935

COMMENTS

TEXTRON BLDG 51 FIRST LISTING IN92-AGE ESTIMATED.

RESIDENTIAL GRID

1st Res Grid	Desc:	# Units	1

Level	FY	LR	DR	K	D	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												

Totals	RMs:	0	BRs:	0	Baths:	0	HB	0

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
1		0	
Totals			
1		0	

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAv$/SQ:		AvRate:		Ind.Val	

Juris. Factor:		Val/Su Fin:	16.09
Special Features:	33300	Val/Su Net:	16.09
Final Total:	225200	Val/Su SzAd	16.09

SKETCH

Undisplayed Areas:
BAS: 14000, P 480

8

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
BAS	BASE AREA	14,000	27.560	385,877

Net Sketched Area:	14,000			Total:	385,877
Size Ad	14000	Gross Area	14000	FinArea	14000

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten

IMAGE

AssessPro Patriot Properties, Inc

PARCEL ID 120 00 0 035.00

SPEC FEATURES/YARD ITEMS

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value
SPC	SPRINKLER	A	S	1	16400	T	AV	1988	1.34	B	50.3	I72			10,900			10,900
H16	HT/CL SPC	A	S	1	16400	T	AV	1988	1.06	B	50.3	I72			8,600			8,600
MSAC	MTL ADDN	A	S	1	2400	W	AV	1988	11.58	B	50.3	I72			13,800			13,800

More:	N	Total Yard Items:	724,200	Total Special Features:	2,785,500	Total:	3,509,700

Nashville And Davidson County

PROPERTY LOCATION

No	Alt No	Direction/Street/City
1432		VULTEE BV, NASHVILLE

OWNERSHIP

Owner 1:	AEROSTRUCTURES CORP., THE
Owner 2:	
Owner 3:	
Street 1:	13155 NOEL RD FL 12 LB 71 GALLERIA TOWER
Street 2:	
Twn/City:	DALLAS
St/Prov:	TX Cntry: Own Occ:
Postal:	75240 Type:

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	Cntry:
Postal:	

NARRATIVE DESCRIPTION

This Parcel contains . Units of land mainly classified as IND with a(n) EQUIP SHED Building Built about 1985, Having Primarily METAL Exterior and TYPICAL Roof Cover, with 1 Units, 0 Baths, 0 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com. Int.

PROPERTY FACTORS

Item	Code	Descrip	%	Item	Code	Descrip
Z	IR	IND REST	100	U		
o				t		
n				I		
	Census:					
	Flood Haz:					
D	USD	URBAN		Topo		
s				Street		
t				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
I72	11,300		0.000		11,300
Total Card	11,300		0.000		11,300
Total Parcel	13,118,300	724,200	0.000	4,897,000	18,739,500

Source: Market Adj Cost | Total Value per SQ unit /Card: 2.26 | /Parcel: 9.32

Legal Description: S SIDE VULTEE BLVD. E OF MCGAVOCK PK. 000X000

Entered Lot Size	
Total Land:	96.74
Land Unit Type:	A

User Acct	12000003500
GIS Ref	
GIS Ref	
Insp Date	

PREVIOUS ASSESSMENT

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date

Parcel ID: 120 00 0 035.00

PRINT

Date	Time
12/18/02	13:17:07

LAST REV

Date	Time
02/28/01	09:20:00

PAT ACCT. 137214

USER DEFINED

Prior Id # 1:	3
Prior Id # 2:	
Prior Id # 3:	AS99NFP0
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	0
ASR Map:	
Fact Dist:	7218
Reval Dist:	
Year:	
LandReason:	
BldReason:	

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif.	Assoc PCL Value	Notes

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	V1.Date	V2.Date	V3.Date	Comment

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: VERIFICATION OF VISIT NOT DATA ___/___/___

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth / PriceUnits	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
I72	IND		0	0	R PRIME A	3011 V	1.0	0	0.	0.000	3011																

Total AC/HA:	0	Total SF/SM:		Parcel LUC:	I72	IND	Prime NB Desc	COM	Total:		Spl Credit		Total:

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

EXTERIOR INFORMATION

Type:	IF - EQUIP SHED
Sty Ht:	31
(Liv) Units:	1
Foundation:	00 - TYPICAL
Frame:	15 - COM METAL
Prime Wall:	08 - METAL
Sec Wall:	%
Roof Struct:	
Roof Cover:	00 - TYPICAL
Color:	
View / Desir:	134N - 3011 N

GENERAL INFORMATION

Grade:	IFB - GRADE		
Year Blt:	1985	Eff Yr Blt:	1985
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:			
Lump Sum Adj:			

INTERIOR INFORMATION

Avg Ht/FL:	12
Prim Int Wal	A - AVERAGE
Sec Int Wall:	%
Partition:	
Prim Floors:	T - TYPICAL
Sec Floors:	%
Bsmnt Flr:	
Bsmnt Gar:	
Electric:	T - TYPICAL
Insulation:	T - TYPICAL
Int vs Ext:	
Heat Fuel:	T - TYPICAL
Heat Type:	01 - NO HEATING
# Heat Sys:	1
% Heated:	% AC:
Solar HW:	NO Central Vac: NO
% Com Wal	% Sprinkled

BATH FEATURES

Full Bath	0	Rating:	
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth		Rating:	
1/2 Bath:	0	Rating:	
A HBth:		Rating:	
OthrFix:	0	Rating:	

OTHER FEATURES

Kits:	0	Rating:	
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

CONDO INFORMATION

Location:	
Unit #:	
Floor:	
% Own:	
Name:	

DEPRECIATION

Phys Cond:	AV - Average	75. %
Functional:	L - LAYOUT	40 %
Economic:		%
Special:		%
Override:		%
Total:		85.40 %

CALC SUMMARY

Basic $ / SQ:	9.91
Size Adj.:	1
Const Adj.:	1.11017
Adj $ / SQ:	11.002
Grade Factor:	1.40
Other Features:	0
Neighborhood Inf:	1
LUC Factor:	1.00
Adj Total:	77013
Depreciation:	65738
Depreciated Total:	11275

COMMENTS

TEXTRON BLDG 45 FIRST LISTED IN 92-AGE ESTIMATED.

RESIDENTIAL GRID

1st Res Grid	Desc:		# Units	1

Level	FY	LR	DR	K	D	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												
Totals	RMs: 0	BRs: 0	Baths: 0	HB 0								

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
1		0	
Totals			
1		0	

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAv$/SQ:		AvRate:		Ind.Val	
Juris. Factor:				Val/Su Fin:	2.26
Special Features:	0			Val/Su Net:	2.26
Final Total:	11300			Val/Su SzAd	2.26

SKETCH

Undisplayed Areas:
BAS: 5000,P 300

8

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
BAS	BASE AREA	5,000	11.000	55,009
Net Sketched Area:		5,000	Total:	55,009
Size Ad	5000	Gross Area	5000	FinArea 5000

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten

IMAGE

AssessPro Patriot Properties, Inc

SPEC FEATURES/YARD ITEMS

PARCEL ID 120 00 0 035.00

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value

More: N | Total Yard Items: | Total Special Features: | Total:

Nashville And Davidson County

PROPERTY LOCATION

No	Alt No	Direction/Street/City
1432		VULTEE BV, NASHVILLE

OWNERSHIP

Owner 1:	AEROSTRUCTURES CORP., THE
Owner 2:	
Owner 3:	
Street 1:	13155 NOEL RD FL 12 LB 71 GALLERIA TOWER
Street 2:	
Twn/City:	DALLAS
St/Prov:	TX Cntry: Own Occ:
Postal:	75240 Type:

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	Cntry:
Postal:	

NARRATIVE DESCRIPTION

This Parcel contains . Units of land mainly classified as IND with a(n) WAREHOUSE Building Built about 1997, Having Primarily METAL Exterior and TYPICAL Roof Cover, with 1 Units, 0 Baths, 0 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com. Int

PROPERTY FACTORS

Item	Code	Descrip	%	Item	Code	Descrip
Z	IR	IND REST	100	U		
o				t		
n				I		
	Census:					
	Flood Haz:					
D	USD	URBAN		Topo		
s				Street		
t				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
I72	85,100		0.000		85,100
Total Card	85,100		0.000		85,100
Total Parcel	13,118,300	724,200	0.000	4,897,000	18,739,500

Source: Market Adj Cost | Total Value per SQ unit /Card: 16.88 | /Parcel: 9.32

Legal Description: S SIDE VULTEE BLVD. E OF MCGAVOCK PK. 000X000

Entered Lot Size | Total Land: 96.74 | Land Unit Type: A

User Acct	GIS Ref	GIS Ref	Insp Date
12000003500			

PREVIOUS ASSESSMENT

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date

Parcel ID: 120 00 0 035.00

PRINT: Date 12/18/02 | Time 13:17:33

LAST REV: Date 02/28/01 | Time 09:20:13

PAT ACCT.: 137214

USER DEFINED

Prior Id # 1:	3
Prior Id # 2:	
Prior Id # 3:	AS99NFP0
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	0
ASR Map:	
Fact Dist:	7218
Reval Dist:	
Year:	
LandReason:	
BldReason:	

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Assoc PCL Value	Notes

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	V1.Date	V2.Date	V3.Date	Comment

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: VERIFICATION OF VISIT NOT DATA ___/___/___

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth / PriceUnits	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
I72	IND		0	0	R PRIME A	3011 V	1.0	0	0.	0.000	3011																

Total AC/HA: 0 | Total SF/SM: | Parcel LUC: I72 IND | Prime NB Desc COM | Total: | Spl.Credit | Total:

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

EXTERIOR INFORMATION

Type:	ID - WAREHOUSE
Sty Ht:	31
(Liv) Units:	1
Foundation:	00 - TYPICAL
Frame:	15 - COM METAL
Prime Wall:	08 - METAL
Sec Wall:	%
Roof Struct:	
Roof Cover:	00 - TYPICAL
Color:	
View / Desir:	134N - 3011 N

GENERAL INFORMATION

Grade:	IDC - GRADE		
Year Blt:	1997	Eff Yr Blt:	1997
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:			
Lump Sum Adj:			

INTERIOR INFORMATION

Avg Ht/FL:	18
Prim Int Wal	A - AVERAGE
Sec Int Wall:	%
Partition:	
Prim Floors:	T - TYPICAL
Sec Floors:	%
Bsmnt Flr:	
Bsmnt Gar:	
Electric:	T - TYPICAL
Insulation:	T - TYPICAL
Int vs Ext:	
Heat Fuel:	T - TYPICAL
Heat Type:	16 - SPACE HEATER
# Heat Sys:	1
% Heated:	% AC:
Solar HW:	NO Central Vac: NO
% Com Wal	% Sprinkled

BATH FEATURES

Full Bath	0	Rating:	
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth		Rating:	
1/2 Bath:	0	Rating:	
A HBth:		Rating:	
OthrFix:	0	Rating:	

OTHER FEATURES

Kits:	0	Rating:	
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

CONDO INFORMATION

Location:	
Unit #:	
Floor:	
% Own:	
Name:	

DEPRECIATION

Phys Cond:	AV - Average	5.8	%
Functional:	L - LAYOUT	40	%
Economic:			%
Special:			%
Override:			%
Total:		43.50	%

CALC SUMMARY

Basic $ / SQ:	27.87
Size Adj.:	1
Const Adj.:	1.03453
Adj $ / SQ:	28.832
Grade Factor:	1.00
Other Features:	0
Neighborhood Inf:	1
LUC Factor:	1.00
Adj Total:	145315
Depreciation:	63183
Depreciated Total:	82132

COMMENTS

ATTACHED TO BLDG3 OF 29.

RESIDENTIAL GRID

1st Res Grid	Desc:		# Units	1

Level	FY	LR	DR	K	D	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												

Totals	RMs:	0	BRs:	0	Baths:	0	HB	0

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
1		0	
Totals			
1		0	

SKETCH

Undisplayed Areas:
BAS: 5040,P 286

8

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAv$/SQ:		AvRate:		Ind.Val	

Juris. Factor:		Val/Su Fin:	16.88
Special Features:	3000	Val/Su Net:	16.88
Final Total:	85100	Val/Su SzAd	16.88

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
BAS	BASE AREA	5,040	28.830	145,316

Net Sketched Area:	5,040			Total:	145,315
Size Ad	5040	Gross Area	5040	FinArea	5040

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten

IMAGE

AssessPro Patriot Properties, Inc

SPEC FEATURES/YARD ITEMS

PARCEL ID 120 00 0 035.00

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value
H16	HT/CL SPC	A	S	1	5040	T	AV	1997	1.06	B	43.5	I72			3,000			3,000

More:	N	Total Yard Items:	724,200	Total Special Features:	2,785,500

Total: 3,509,700

Non Responsive

Non Responsive

Non Responsive

REFERENCE 5

NASHVILLE ENVIRONMENTAL
ASSISTANCE CENTER
RECEIVED

JUL 3 1 2001

TENNESSEE DEPT OF
ENVIRONMENT & CONSERVATION

CONSOLIDATED ENVIRONMENTAL CONTINGENCY PLAN

THE AEROSTRUCTURES CORPORATION
NASHVILLE, TENNESSEE
ENVIRONMENTAL AND PLANT ENGINEERING DEPARTMENT

REVISED MAY 2001

II. Official Spill Notification Procedures

Once the emergency coordinator has taken the necessary steps to determine the type and impact of a spill, he will be responsible for notifying the agencies as required by the nature and magnitude of the spill and federal, state, and local regulations. (See Appendix A and preceding page.) Guidance for the reporting of chemical spills is provided in Appendices B, C, D, E, and F.

When time is of the essence during a major spill, the Tennessee Emergency Management Agency (TEMA) can be notified in lieu of the other state agencies. TEMA will then notify the appropriate state agencies.

The emergency coordinator will be responsible for notifying all parties (in-plant and official agencies) of the status of a spill. He will also direct cleanup operations. An official report will be written by the emergency coordinator within fifteen days of a reportable spill incident and will be sent to the Director, State of Tennessee, Division of Solid Waste Management as required by regulation (designated EPA Regional Administrator).

III. Oil and Hazardous Waste Storage Locations

Oils and hazardous chemicals are stored and used throughout the facility. Provided in this section are the locations of the majority of oils and hazardous chemicals. The information provided is not all inclusive, as practically every area of the facility is involved in the use of a chemical on a daily basis. Examples of this would be the use of oils and cutting fluids in machinery, hand degreasing operations, paint and sealing operations, maintenance operations, etc. Following this section is a facility layout drawing with the subject locations designated and a list representing the chemicals stored or used at each location.

Location A

- One aboveground No. 2 fuel oil storage tank (500,000 gallons)

This tank contains fuel for use in the Building 40 boilers. The tank is diked with a clay liner with gravel and riprap erosion control, and is adequate to retain the full capacity of the tank plus 10%. A six inch diameter pipe is located in the southwest corner of the earthen dike for drainage of rainfall. The pipe is valved and is always kept closed. The

retention pond dike is constructed so that surface runoff cannot infiltrate the dike.

Location B

- One contained, aboveground test fuel storage tank (8,000 gallons)
- Contains Shell Pella Oil A (1985/86) formerly 3 USTs (12,000 gallons each) contain test fuel P-D-680, Type 2 pumped via underground piping to Bays No. 1 & 2 (3 & 4 inactive) & returned to tanks after use (6 test bays in all)

Installed in 1998 as a replacement for an underground tank, the oil stored here is used for testing the wings in Building 39. The tank is contained within a steel basin which has a normally closed valve for use in draining rain water. A leak in the secondary containment would result in the fuel flowing downhill in a northerly direction over vegetative covered earth and quickly entering the non-contact cooling water flow of Outfall 001. Fuel is pumped from the storage tank through an aboveground piping system to Bays 2 and 5 and returned to the tank when testing is complete. (Bays 1, 3, 4, and 6 are inactive.) Pumps and filters are located in the northwest corner of Bay 1. Each of the six test bays in Building 39 has a trench to collect any spills within the bay and return it by gravity to an aboveground holding tank, oil/water separator. The oil/water separator contains an electronic level detection system to identify tank contents. A discharge valve is located at the top of the tank to allow removal of any spillage by tank truck. This valve is always kept closed. The tank is in the basement of Building 39 contained in a concrete basin and is equipped with a spill detection device. The spill detection device at the oil/water separator, as well as the device in the test fuel pump sump, automatically stops fueling operations upon detection of a leak.

trench to collect any spills within the bay & return it by gravity to the holding tank and manifold system

Location C

(1985/86) one AST (20,000 gallons) installed 1977 as a standby source for Bldg #39 have of the fuel used; should a spill occur it would flow directly to outfall 001 drainage pathway

- One contained, aboveground No. 2 fuel oil tank (2,000 gallons)

This tank was installed in 1999 as a standby energy source for one of the boilers (24A) in Building 39. The tank is contained within a steel basin which has a normally closed valve for use in draining rain water. A leak in the secondary containment would result in the fuel flowing downhill in a northerly direction over vegetative covered earth and quickly entering the non-contact cooling water flow of Outfall 001.

Locations D1 through D7

(1985/86) hydraulic, motor, etc. waste oil holding area 5,000 gallons maximum collected in 55-gal drums which are periodically hauled away for disposal

- Used oil holding areas
- 1,000 and 12,000 gallon tanks and 55 gallon drums

Area D1 is a storage yard for waste oils, i.e., hydraulic, motor oils, cutting fluids, etc. These oils are collected from throughout the plant in 55 gallon drums, 500 and 1,000 gallon portable polytanks and 200 to 300 gallon sump suckers and stored here temporarily. The drums are pumped into a contained 12,000 gallon used oil tank. The concrete containment for the tank and drum staging area at the pump have no openings and a spill would be contained for cleanup by pumping or with oil dry. An outside vendor hauls these waste materials away periodically for proper disposal. The remainder of this storage yard is level with a concrete base. A sudden major spill of the contents of this area is unlikely since the contents are in 55 gallon containers. However, should such an accident occur, the spill would run south to an existing catch basin. Should the catch basin be overfilled, the spill would travel west down the side of a hill into the non-contact cooling water flow which runs into Outfall 001.

Locations D2 and D3 contain used oil from the mills and other machinery in Buildings 33 and 38, respectively. The used oil is temporarily stored here in 55 gallon drums prior to transfer to the 12,000 gallon used oil tank. These areas are contained. A storm sewer manhole within 100 feet would discharge the material to the North Outfall.

Used oil/coolant from aluminum chip collection is stored in 1,000 gallon tanks at locations D4 through D7. The chips are collected in tubs at the mills and transferred to compactors. The compactors have approximately 100 gallon sumps for collecting the coolant, which is then pumped to the 1,000 gallon holding tanks. The contents of the tanks are routinely removed for proper disposal by the aluminum recycling contractor. Procedures to prevent a release of used oil (coolant and tramp oil) from the chip handlers include instructing the drivers in the proper methods for evacuating the compactors prior to loading and the location of cleanup materials for minor spills. Steel containment vessels for the 1,000 gallon tanks and containment curbs around the chip handlers should contain most spills. The transfer tubs have been sealed. Spills from the areas would travel over land to storm ditches (D4 and D6) or to nearby storm drains (D5 and D7). Containment mats for the storm sewer manholes, booms, and oil dry would be used to prevent a release to the storm sewer

in the event of a major spill. Approval has been obtained from Metro Water to discharge coolant to the sanitary sewer.

(1985/1986) 20,000 (UST) test fuel tank w/ gulf 896; fuel pumped from tank to test area in Bldg 39 (Bay's 5 and 6); returned to tank afterward

Location E

- One aboveground unleaded gasoline storage tank (2,000 gallons) and one aboveground diesel storage tank (1,130 gallons approximate capacity)

These contained, aboveground tanks are used to store gasoline and diesel fuel for use by facility vehicles. The steel storage tanks are contained within steel basins which have normally closed valves for use in draining rain water. A leak in the secondary containment would result in the fuel flowing over land and eventually emptying into Outfall 001.

(1985/1986) Location F covered shed open sides

Locations F1 and F3

All material in 55 gallon drums
Avg. contents 5,000 gallons
storage for incoming oils, process chems. (TEN
Compressed gases if a spill occurred it would flow over paved surface to catch basin then to outfall 001

- Oils and hazardous chemicals (virgin) storage area
- Two buildings
- Materials in one gallon cans, five gallon cans, 50 pound bags, 55 gallon drums and 200 to 350 gallon totes
- Average contents 10,000 gallons per building

Oil and hazardous chemical containers are stored in Building 53 for issue throughout the plant. Some process chemicals, i.e., acids, sodium hydroxide, etc., and compressed gases are also stored here. The area is well protected and unlikely to incur a major spill. However, should such a contingency occur, the spill would be caught in existing sumped areas within the building.

Building 32 is for the storage of flammable materials. This is an explosion proof building for racked pallet storage of sealants, paint and thinner cartons, 55 gallon drums, and 200 to 350 gallon totes. The facility meets all fire and safety specifications. Should spillage occur, it would be contained within the building by concrete curbs.

Location G

- Hazardous waste storage building (Building 45)
- All materials in drums, cubic yard boxes bagged on pallets, or in the original container

(1985/86) paved (asphalt) and fenced in area, kept locked

All drummed hazardous waste is collected and stored here. This building is roofed with walls on approximately three sides. The building consists of four bays, each bay having a low lying area in the center to contain any spill. The location is secured with fencing and kept locked. The installation is monitored by Maintenance and Security inspections, security camera, and has an internal/external phone immediately to the east. The normal waste streams stored here are:

- Waste paint/solvent mix (flammable, toxic)
- Waste trichloroethylene (toxic)
- Waste acids and acid sludges (toxic, corrosive)
- Waste cyanide compounds (reactive, Poison B) < 1% cyanide
- Waste sodium hydroxide and sludge (corrosive)
- Chromium contaminated debris (toxic) paint booth clean-out sludge
- Asbestos demolition debris Not on '85/'86
- Non-hazardous waste (oil and chips, oil booms, detergents, penetrant, developer, anti-freeze, etc.) Not on '85/'86

All hazardous waste is removed in less than ninety days in accordance with disposal regulations.

probably gone by 1988 as per EPA Check RO file.

(85/86) Haz. waste holding ponds
- 2 fiberglass lined ponds 30,000 gal; 15,000 gal
- waste chemicals from two process systems in Bldg #38, pumped to this location through an underground line

Locations H1, H2, H3, and H4

- Treatment chemical storage and hazardous material holding tanks
- Two 5,000 gallon fiberglass storage tanks, one 40,000 gallon regenerant waste storage tank, and two fiberglass tanks each at 18,000 gallons approximate capacity

(consist of acids or acid mixtures w/chromic, sulfuric or nitric acids; occasionally strong NaOH are held here until pickup by ord contractor; stor normally does n exceed 1 wk

This location, Building 51, consists of the deionization water treatment plant for recycling process rinse waters and a limited amount of treatment by rule. The ion exchange process uses hydrochloric acid and sodium hydroxide as regeneration chemicals. Each tank has a capacity of approximately 5,000 gallons. The normal operating capacity is approximately 3,000 gallons each. The tanks are fiberglass and located within fiberglass lined concrete containment basins. The regenerant waste is stored in a 40,000 gallon fiberglass lined concrete basin above grade.

Also at this location are two tanks for temporary accumulation of chemicals from two process systems in Building 38. Materials are pumped to this location through an aboveground line. Material can be transferred directly into a tanker from this line as well. Waste materials

normally consist of acids or acid mixtures containing chromic, sulfuric or nitric acids. Occasionally, strong sodium hydroxide solutions are held here. Materials are held here until picked up by outside disposal contractors. (Normal storage time does not exceed one week.) The two tanks are located in the south end of Building 51 and enclosed in a lined sump capable of holding approximately 1.5 tank volumes. The tanks are each equipped with an air-operated diaphragm pump for tanker loading. In extreme emergencies, the 40,000 gallon process waste tank is also available for temporary storage.

Locations I1, I2, and I3 (185/86) Flammable materials storage bldg 55-gal or 1-gal. containers

- Solvent dispensing station Nos. 1, 2, and 3
- Materials in 55 gallon drums or 200 to 350 gallon totes and 55 gallon hazardous waste satellite drums

These are explosion-proof storage sheds enclosed on three sides for dispensing solvents and collecting waste used in facility cleaning and painting operations. NFPA fire and OSHA safety specifications are met. Spillage, if it should occur, would be contained within the concrete sumps of the sheds.

Location J

- Paint mix room
- Material in one gallon and five gallon cans, paint cups, and various size smaller containers

Located in Building 30C, paints are mixed in this room for painting operations throughout the plant. The room has been explosion-proofed and meets all fire and safety specifications. Spills, if any, in this room would be minor and contained within the building on the floor.

Location K1 through K9

- Chemical process systems
- Contains chemical process tanks ranging in size from 60 to 35,000 gallons. (See Appendix H for specifics of each tank.)

Currently there are eight chemical process systems located at the facility used for plating, cleaning, anodizing, chemical milling, and inspecting aluminum alloy and composite aerospace components. Any additions or deletions would not change the general characteristics as the same

representative chemicals are used throughout and will most likely continue to be. Representative chemicals in use include chromic acid, hexavalent chromium compounds, sulfuric acid, hydrofluoric acid, nitric acid, sodium hydroxide, potassium nitrate, and trichloroethylene used in vapor degreasers.

Each chemical process system has been built within a containment structure and/or provisions have been made for spills/overflows to drain into a containment basin. Most containment basins are lined with fiberglass or other suitable material. Any overflowed or spilled material, depending on its constituents, is either treated through the deionization facility or disposed of by a hazardous waste treatment contractor. Disposal occurs within as short a period of time as possible in order to have containment space available, and to preclude mixing waste streams. In addition to system-wide containment, some extremely hazardous chemicals, such as cadmium/cyanide compounds, are housed in a tank within another containment tank. All process tanks containing hazardous materials are lined with a material suitable for that chemical. Common liner types are stainless steel, lead, plastic, and fiberglass. Most of the process rinse tanks are also lined with fiberglass to be used as holding tanks for routine chemical transfers for maintenance repairs and during emergencies.

Process tanks may or may not be heated by steam. Steam coils are pressure-tested on a regular basis for leaks as condensate which is not returned to the boilers is discharged to the sanitary sewer. Condensate discharges are monitored on at least a daily basis for pH and chromium. All sanitary discharge points from the process systems are isolated by concrete walls or curbs. The discharge is stopped by either an automatic valve or pump shut off if excessive acidic or caustic conditions are detected by pH controllers. There are no provisions for discharging to the storm sewer system. Appendix H provides profile sheets of the process tanks listed in alphabetical order by process name.

Locations L1, L2, and L3

- Autoclave cooling system
- Contains liquid nitrogen in two 13,000 and one 2,000 gallon pressurized vessels

Liquid nitrogen is used in the autoclave forming process as a coolant and atmosphere inerting agent. The pressurized storage tanks are located outside at the southeast corner of Building 20, southwest corner of

Building 29 and the northwest corner of Building 2C. The material, if spilled, is an asphyxiant and cryogenic requiring special protective gear.

Locations M1 and M2

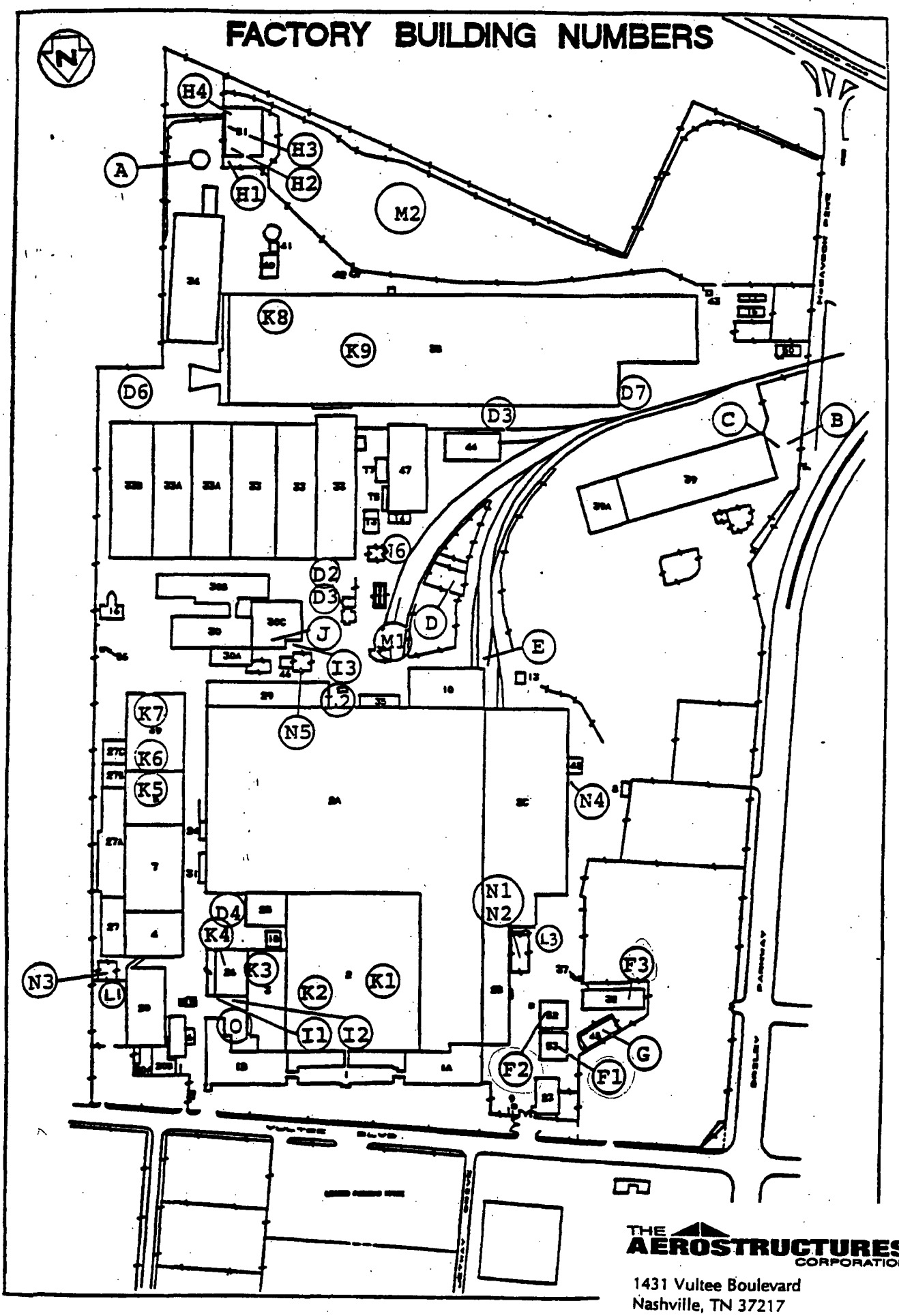
- LP gas (propane)
- Material in 18,000 and 30,000 gallon tanks

Propane gas is used as fuel for facility towmotors. One 18,000 gallon storage tank and dispensing station are located south of Building 35 (M1). A propane backup system for the facilities' natural gas supply, used to fuel the boilers and heating equipment, is located in the south parking lot behind Building 38 (M2). The system consists of two 30,000 gallon supply tanks, vaporizer, blending station, and associated piping. The system meets all fire and safety specifications. Leaks from these tanks would rapidly volatilize and should not create an offsite problem. However, a release would represent an extreme fire and explosion hazard requiring immediate evacuation both on and off-site in the area.

Locations N1 through N6

- Electrical transformer yards
- Twenty-four oil filled transformers from 50 to 467 gallon capacities

Presently, there are six transformer yards at the facility located outside. Oil is used as a dielectric cooling media in the transformers. Two to six transformers are located at each yard. Should a transformer explode, the oil should remain primarily within the yard in the riprap ground cover. If not, the areas can be contained with oil dry, booms, etc. None of the transformer oils contains PCB.



THE AEROSTRUCTURES CORPORATION

1431 Vultee Boulevard
Nashville, TN 37217

REPRESENTATIVE MATERIALS LIST

OIL, HAZARDOUS MATERIAL, AND HAZARDOUS WASTE STORAGE LOCATIONS

Location	Representative Materials
A	No. 2 fuel oil
B	Shell Pella Oil A
C	No. 2 fuel oil
D1 through D7	Waste oil, cutting fluids
E	Gasoline*, Diesel
F1 (Building 53)	Gas cylinders, chromic*, sulfuric, phosphoric, and nitric* acids, sodium sulfide, sodium bicarbonate, sodium dichromate*, aluminum sulfate, sodium hydroxide
F2 (Building 52)	Not presently in use
F3 (Building 32)	Paints*, activators* and thinners*, sealants*, diacetone and ethyl alcohol, maskant*, 140 solvent, xylene*, toluene*, Oxsol solvent, TA-50 solvent, trichloroethylene*, acetone, oils, cutting fluids, penetrant oil
G (Building 45)	Waste: paint* and solvents*, trichloroethylene*, acids* and acid sludges*, sodium hydroxide and alkaline sludges, cyanide/cadmium compounds*, chrome bearing waste*, asbestos debris, non-hazardous waste
H1 (Building 51)	Hydrochloric acid
H2 (Building 51)	Sodium hydroxide
H3 (Building 51)	Waste corrosive liquid* (contains chrome, normally acidic)
H4 (Building 51)	Chromic*, sulfuric, nitric*, hydrofluoric* acid or sodium hydroxide
I1	Solvent blends, diacetone and ethyl alcohol, acetone
I2	Xylene*
I3	Solvent blends, acetone, toluene*, waste paint*/thinners*

*** Contains SARA 313 chemicals.**

Location	Representative Materials
J	Paints*, thinners*, solvents, activators*
K1 (Building 2)	PPP process system: cyanide, cadmium*, chromic*, sulfuric, hydrochloric, hydrofluoric*, and nitric* acids, sodium hydroxide, trichloroethylene*
K2 (Building 2)	Heat treat: sodium nitrate, potassium nitrate, hexavalent chrome compounds*
K3 (Building 3)	GPS process system: chromic acid*, sulfuric acid, hexavalent chromium solutions*, sodium hydroxide, trichloroethylene*
K4 (Building 26)	Chem Mill, ACM process: strong sodium hydroxide, sulfides, sulfuric acid, maskant* and xylene*
K5 (Building 5)	SPS process: sodium hydroxide, chromic* and sulfuric acids, penetrant oil
K6 (Building 49)	CA, CC, and FPL processes: chromic* and sulfuric acids, sodium hydroxide, penetrant oil
K7 (Building 49)	TSC process: chromic*, sulfuric and nitric* acids, sodium hydroxide
K8 (Building 38)	LSA process: chromic*, sulfuric, and nitric* acids, hexavalent chrome solutions*, sodium hydroxide
K9 (Building 38)	LPI process: chromic* and sulfuric acids, sodium hydroxide, penetrant oil
L1, L2, and L3	Liquid nitrogen
M1 and M2	Propane gas (LP)
N1 through N6	Dielectric oil

solder masking process

* **Contains SARA 313 chemicals.**

VIII. Facility Drainage

The attached facility drainage plan shows oil storage locations and hazardous substance locations. The direction of spill flow is indicated at each location.

Most surface drainage for the facility leaves Aerostructures' property at either Outfall 001 or Outfall 002. Two minor discharge points exist which drain parking lots, lawns, and roofs (003 and 004). Each outfall feeds an unnamed tributary to Mill Creek. Mill Creek feeds into the Cumberland River approximately four miles downstream. All major spills originating on Aerostructures' property will follow this direction of flow downstream.

Of particular importance is the constant flow of non-contact cooling water within the NPDES storm sewer system. Outfall 001 flows at an average annual rate of approximately 240 gpm, and Outfall 002 flows at an average of approximately 160 gpm. This high volume of continuous water flow dictates the necessity of keeping even the slightest spill out of the storm sewer system. Once into the storm sewer, spills will spread quickly downstream and off Aerostructures' property within minutes.

A large portion of land near the waste oil storage area is paved which will cause rapid entry of spills into the storm sewer if not contained quickly.

IX. Offsite Spills

Immediately adjacent to Aerostructures' eastern property line are storage tanks and various businss interests. The property is owned by the Metropolitan Nashville Airport Authority. The surface runoff from these areas runs directly onto Aerostructures' property or into storm sewer catch basins which feed Aerostructures' Outfall 002. Any major spills would go to Outfall 002 if not contained. The amount and type of fuel and chemicals stored in these areas is unknown.

At the request of Aerostructures, the Metro Airport Authority has contacted each of its tenants to ensure compliance with spill control regulations.

XVII. Inspection and Maintenance of Leaking Transformers

The federal regulations with respect to PCB transformers require the following:

Transformer Type	Inspection/ Maintenance	Frequency
PCB transformers with PCBs in excess of 60,000 PPM	yes	quarterly
PCB transformers with PCBs of 500 to 60,000 ppm	yes	annually
PCB contaminated transformers with PCBs of 50 to 500 ppm	no	N/A

Aerostructures' environmental or electrical maintenance personnel will inspect all transformers quarterly on a rotating basis for visual signs of leaks. A moderate leak is defined as producing any quantity of PCBs running off or about to run off the external surface of the transformer. A leak incidence or seepage is defined as an incidence which does not form a run or drip, i.e., a sweat or a weep, and does not require repair to prevent further leaking. This requires only proper cleanup. All leaks must be cleaned up within forty-eight hours and the PCB contaminated materials disposed of in a timely fashion. If the dielectric fluid is actually leaking, the leak must be contained to prevent the PCBs from entering the environment and inspected daily to verify that the leak is being contained until the situation is corrected. Plant Engineering and the Environmental Engineer are to be notified immediately of a leak and within twenty-four hours of a seepage in order that appropriate action can be commenced.

Regulations require record keeping of each PCB transformer's inspection and maintenance history. The records must be such that they can be made available (in hard copy) upon request to EPA. These records must be maintained for at least three years after disposing of the transformer. The quarterly inspection form is to be utilized for this. Copies of these daily and quarterly inspections are kept by plant maintenance.

Note: All known transformers containing PCB laden dielectric fluid have been removed from the facility. A small number of PCB capacitors and ballast remain.

CONSOLIDATED ENVIRONMENTAL CONTINGENCY PLAN

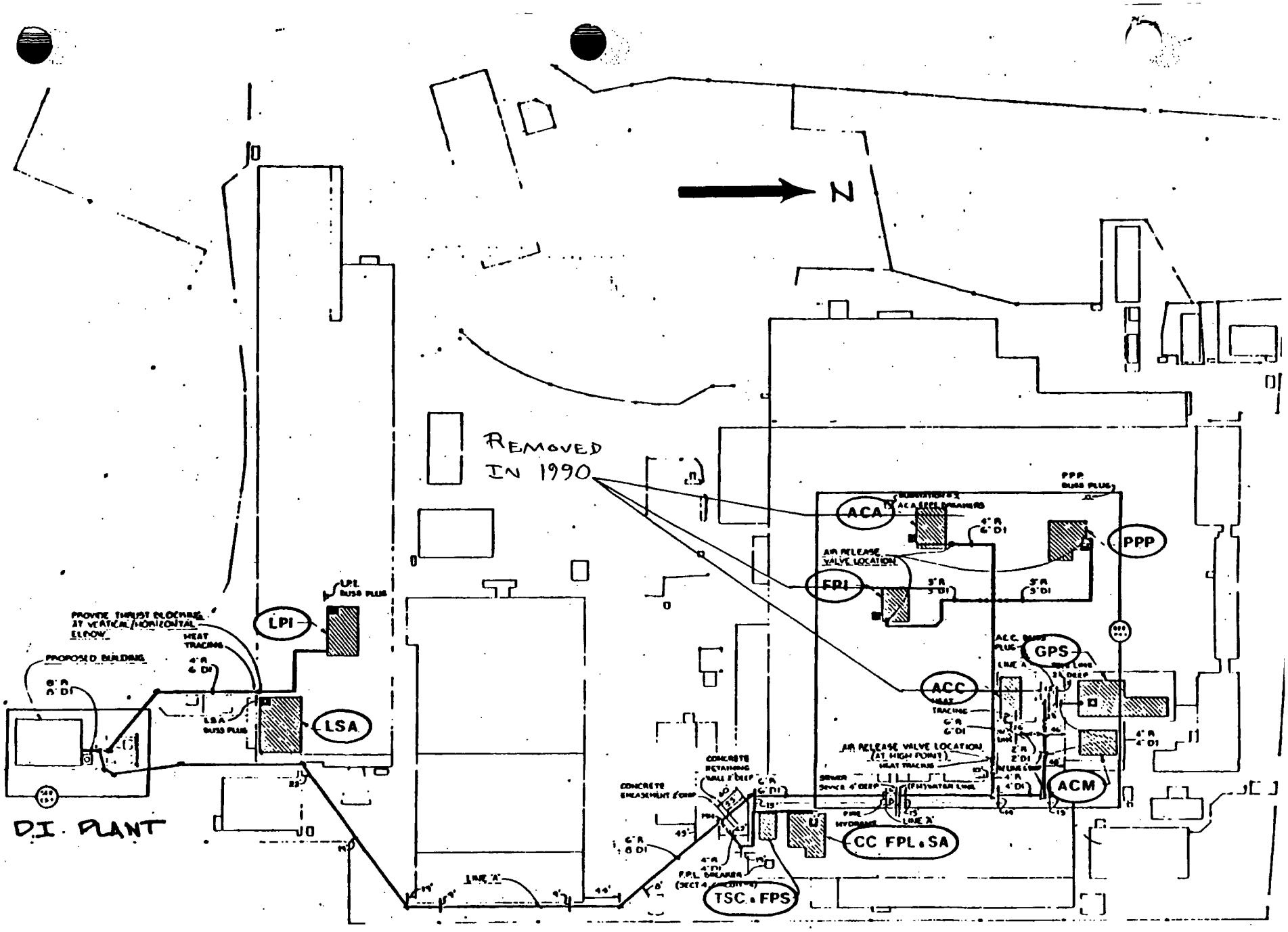
TND-00-404-2057

TEXTRON AEROSTRUCTURES
DBA
AVCO AEROSTRUCTURES DIVISION
NASHVILLE, TENNESSEE

19-022

PLANT ENGINEERING DEPARTMENT

NOVEMBER 1991



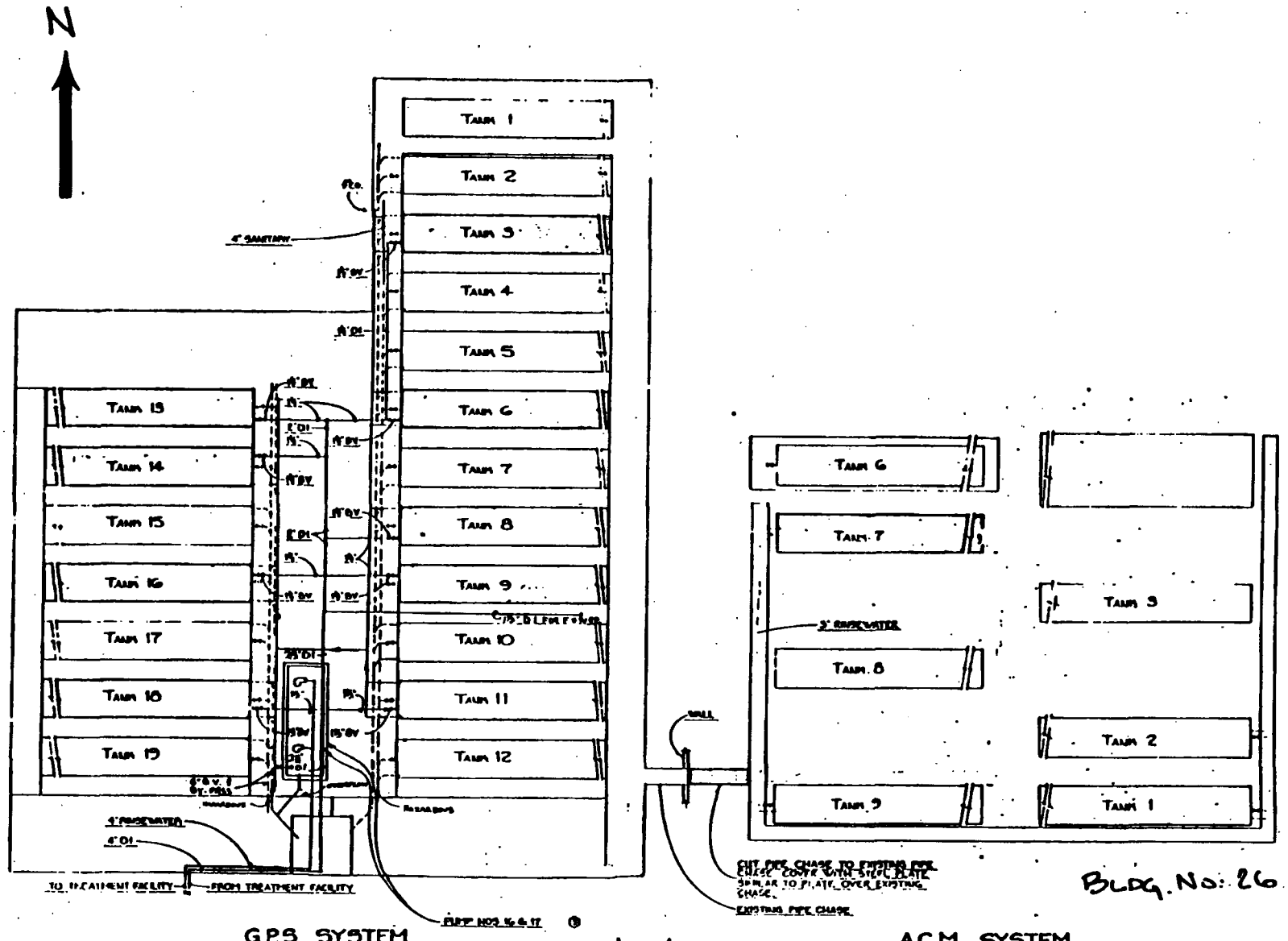
GENERAL TRANSFER PIPING LAYOUT

SCALE 1:100

PROCESS SYSTEMS

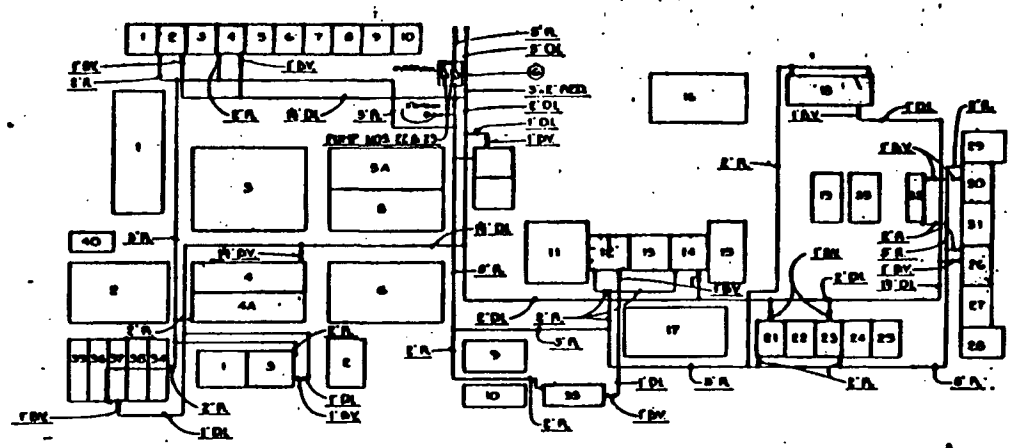
MAIN PLANT

1-12-94


N
TANK 1
TANK 2
TANK 3
TANK 4
TANK 5
TANK 6
TANK 7
TANK 8
TANK 9
TANK 10
TANK 11
TANK 12
TANK 13
TANK 14
TANK 15
TANK 16
TANK 17
TANK 18
TANK 19
4" SANITARY
4" RAINWATER
4" OV
TO TREATMENT FACILITY
FROM TREATMENT FACILITY
PUMP NOS 16 & 17
G.P.S. SYSTEM
BLDG. NO: 3
TANK 6
TANK 7
TANK 8
TANK 9
TANK 3
TANK 2
TANK 1
3" RAINWATER
WALL
CUT PIPE CHASE TO EXISTING PIPE CHASE. COVER WITH STEEL PLATE SIMILAR TO PLATE OVER EXISTING CHASE.
EXISTING PIPE CHASE
BLDG. NO: 26
A.C.M. SYSTEM
CHEMICAL MILLING

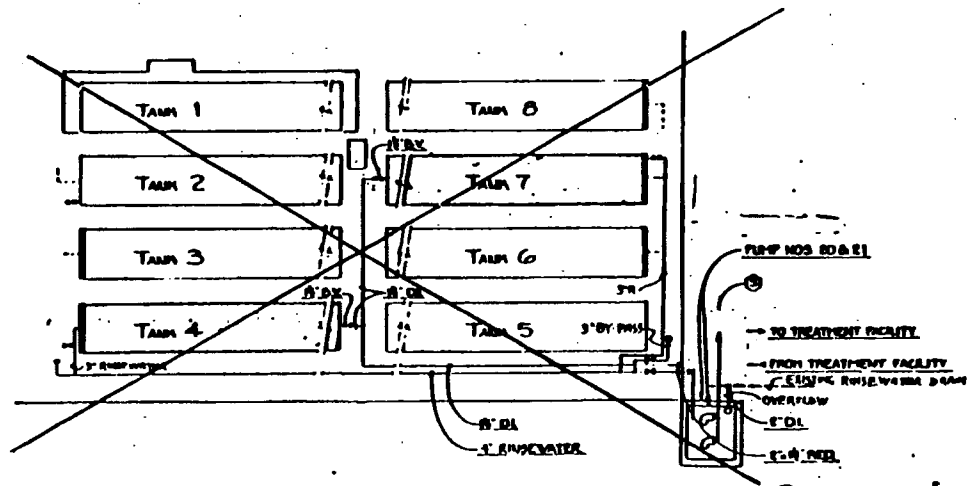
1-18-88

N



P.P.P. SYSTEM

BLDG. No: 2

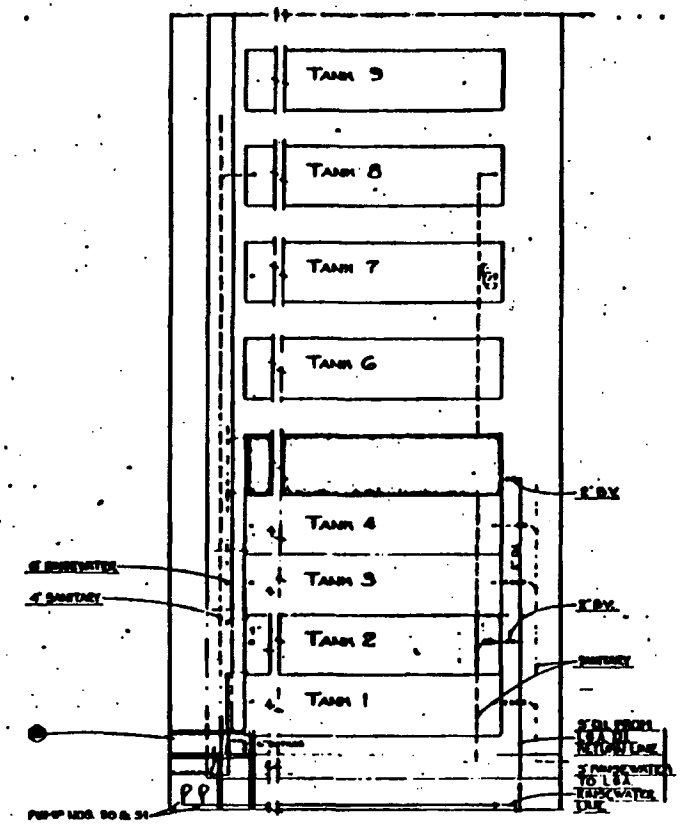


REMOVED IN 1990

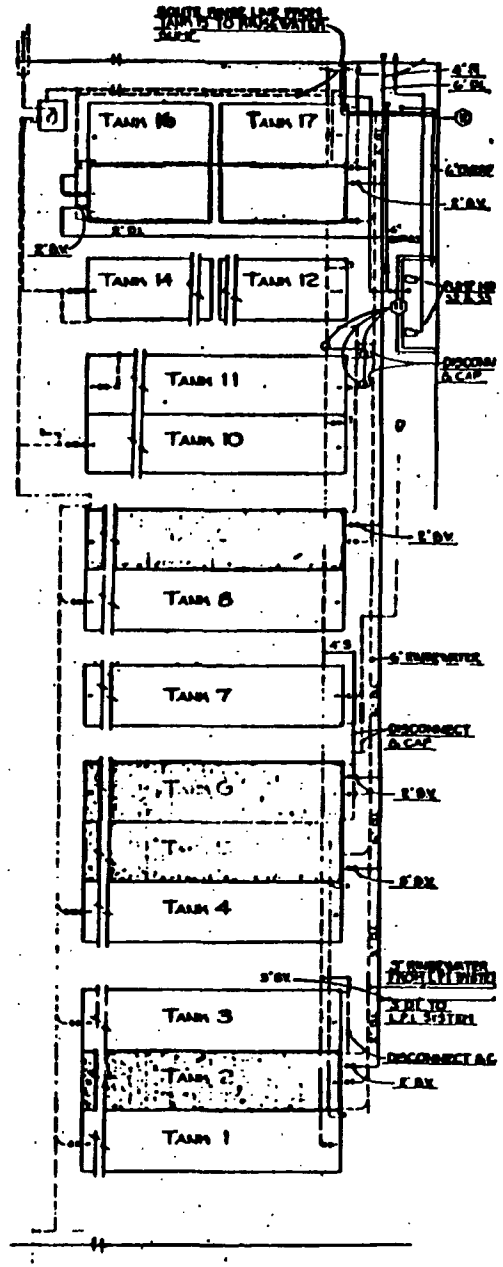
~~A.C.C. SYSTEM~~

~~BLDG. NO: 25~~

N

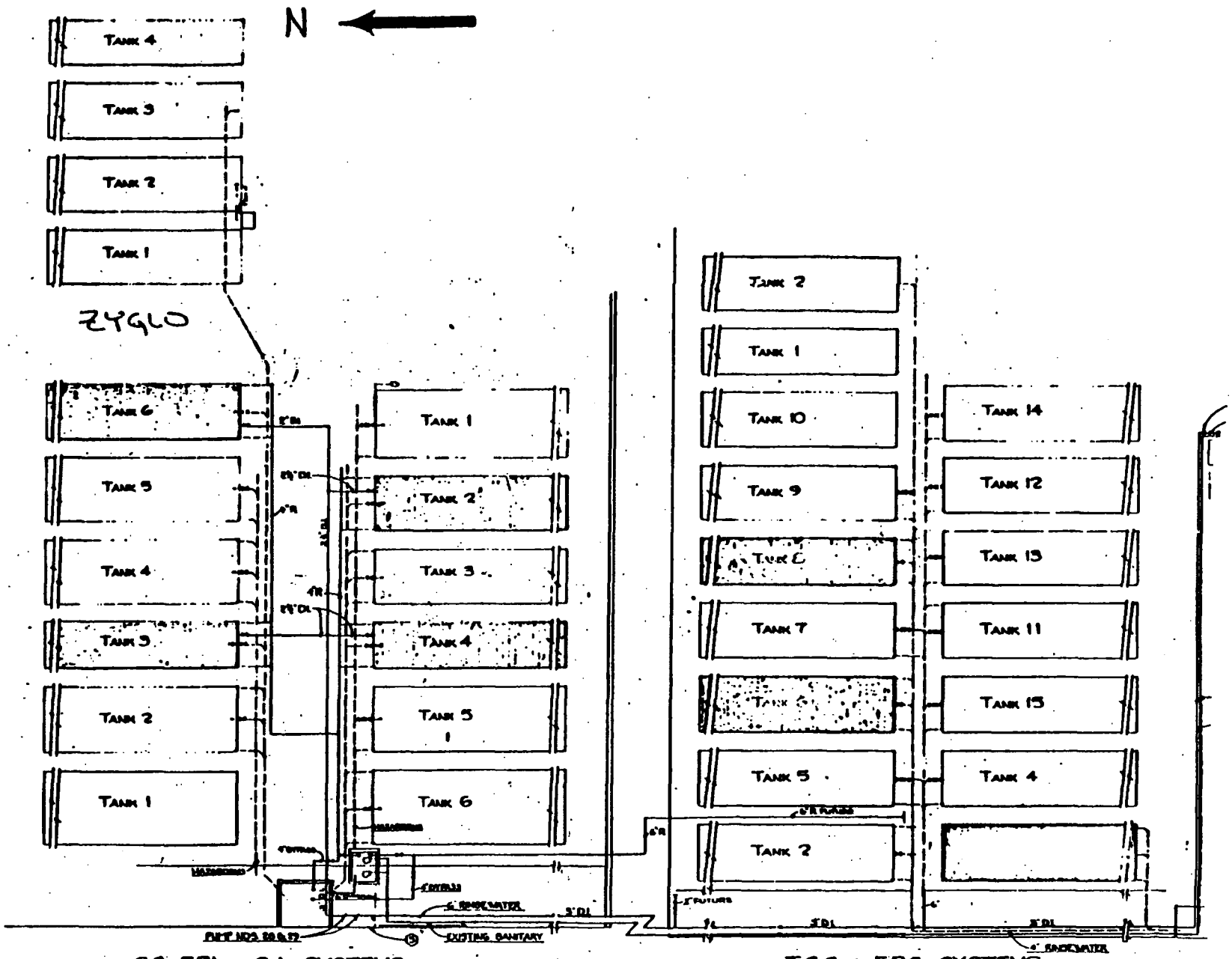


L.P.I. SYSTEM
ZYGLO



L.S.A. SYSTEM

BLDG No: 38
1-18-88


N
TANK 4
TANK 3
TANK 2
TANK 1
ZYGLO
TANK 6
TANK 5
TANK 4
TANK 3
TANK 2
TANK 1
TANK 1
TANK 2
TANK 3
TANK 4
TANK 5
TANK 6
EXISTING SANITARY
C.C., F.P.L. & S.A. SYSTEMS
TANK 2
TANK 1
TANK 10
TANK 9
TANK 7
TANK 5
TANK 2
TANK 14
TANK 12
TANK 13
TANK 11
TANK 13
TANK 4
T.S.C. & F.P.S. SYSTEMS

CONSOLIDATED ENVIRONMENTAL CONTINGENCY PLAN

- SPILL PREVENTION CONTROL & COUNTERMEASURE PLAN
- CONTROL OF HAZARDOUS WASTES
- EMERGENCY EVACUATION PROCEDURES

AVCO AEROSTRUCTURES DIVISION

NASHVILLE, TENNESSEE

PLANT ENGINEERING DEPARTMENT

MARCH 1985

PREPARED BY:

T. CHATMAN - ENVIRONMENTAL ENGINEER
PLANT ENGINEERING

V.W. CHUCK BOYETT, P.E. ENVIRONMENTAL ENGINEER
PLANT ENGINEERING TN LIC. #11958

L. W. LEE, MANAGER
PLANT ENGINEERING

APPROVED BY:

G. W. GORDON, DIRECTOR
PLANT ENGINEERING/MAINTENANCE

III. OIL & HAZARDOUS WASTE STORAGE LOCATIONS (SEE ATTACHED PLANT LAYOUT)

LOCATION A

- O 500,000 GALLON OIL STORAGE TANK (ABOVE GROUND)
- O CONTAINS 400,000 GALLONS NO. 2 FUEL OIL

THIS TANK CONTAINS FUEL OIL AS A STANDBY FUEL SOURCE FOR BLDG. #40 BOILER. THE TANK IS DIKED WITH AN EARTH DIKE LINED WITH GRAVEL, AND IS ADEQUATE TO RETAIN THE FULL CAPACITY CONTENTS OF THE TANK. A SIX (6) INCH DIAMETER PIPE IS LOCATED IN THE SOUTHWEST CORNER OF THE EARTHEN DIKE FOR DRAINAGE OF RAINFALL. THE PIPE IS VALVED, AND IS ALWAYS KEPT CLOSED. THE DIKE IS CONSTRUCTED SO THAT SURFACE RUN-OFF CANNOT INFILTRATE THE DIKE.

LOCATION B

- O THREE (3) UNDERGROUND FUEL TANKS (12,000 GALLONS EACH)
- O CONTAIN TEST FUEL P-D-680, TYPE 2

THE FUEL STORED HERE IS USED FOR TESTING THE L-1011, C5 AND BAE WINGS IN BLDG. #39. FUEL IS PUMPED FROM THE STORAGE TANKS THROUGH AN UNDERGROUND PIPING SYSTEM TO BAYS NO. 1 OR 2 (BAYS NO. 3 AND 4 ARE INACTIVE), AND RETURNED TO THE THREE (3) TANKS WHEN TESTING IS COMPLETE. PUMPS AND FILTERS ARE NEAR THE BURIED TANKS AND ABOVE GROUND. EACH OF THE SIX (6) TEST BAYS IN BLDG. #39 HAVE A TRENCH TO COLLECT ANY SPILLS WITHIN THE BAY, AND RETURN IT BY GRAVITY TO AN ABOVE GROUND HOLDING TANK AND MANIFOLD SYSTEM. THE HOLDING TANK CONTAINS A SIGHT GLASS TO IDENTIFY TANK CONTENTS. A DISCHARGE VALVE IS LOCATED AT THE BASE OF THE TANK TO ALLOW REMOVAL OF ANY SPILLAGE BY TANK TRUCK. THIS VALVE IS ALWAYS KEPT CLOSED.

LOCATION C

- O ONE (1) UNDERGROUND FUEL TANK (20,000 GALLONS)
- O CONTENTS -- 20,000 GALLONS NO. 2 FUEL OIL

THIS TANK WAS INSTALLED IN 1977 AS A STANDBY ENERGY SOURCE FOR THE BOILER IN BLDG. #39. NONE OF THE FUEL HAS BEEN USED SINCE IT WAS PUT IN THE TANKS ORIGINALLY. SHOULD A SPILL OCCUR ABOVE GROUND (I.E., DURING FILLING OF TANKS), IT WOULD RUN DOWNHILL (45°) IN A NORTHERLY DIRECTION OVER VEGETATION COVERED EARTH, AND QUICKLY ENTER THE COOLING WATER FLOW AT OUTFALL #001.

III. OIL & HAZARDOUS WASTE STORAGE LOCATIONS (CONTINUED)

LOCATION D

- O WASTE OIL HOLDING AREA
- O 5,000 GALLONS MAXIMUM

THIS AREA IS A STORAGE YARD FOR WASTE OILS (I.E., HYDRAULIC, MOTOR OILS, ETC.). THESE OILS ARE COLLECTED FROM THROUGHOUT THE PLANT IN 55 GALLON DRUMS AND STORED HERE TEMPORARILY. AN OUTSIDE VENDOR HAULS THESE WASTE MATERIAL AWAY PERIODICALLY FOR PROPER DISPOSAL. THIS STORAGE YARD IS LEVEL WITH A COMPACTED STONE BASE. A MAJOR SUDDEN SPILL OF THE CONTENTS OF THIS AREA IS UNLIKELY SINCE ALL CONTENTS ARE IN 55 GALLON CONTAINERS; HOWEVER, SHOULD SUCH A CONTINGENCY OCCUR, THE SPILL WOULD RUN SOUTH TO AN EXISTING CATCH BASIN, THEN WEST OUT THE SIDE OF A HILL INTO THE COOLING WATER FLOW WHICH RUNS INTO OUTFALL #001.

LOCATION E

- O 20,000 GALLON UNDERGROUND TEST FUEL STORAGE TANK
- O CONTENTS - 10,000 GALLONS "GULF 896"

AN UNDERGROUND TANK IS USED TO STORE TEST FUEL FOR TESTING GULFSTREAM III WINGS. FUEL IS PUMPED FROM THE TANK INTO A TEST AREA IN BLDG. #59 (BAYS 5 & 6) AND RETURNED TO THE TANK AFTER TESTING. THE PUMP IS CURBED TO RETAIN SPILLAGE.

LOCATION F

- O NEW OILS STORAGE AREA - COVERED SHED (OPEN SIDES)
- O ALL MATERIALS IN 55 GALLON DRUMS
- O AVERAGE CONTENTS - 5,000 GALLONS

ALL INCOMING OILS IN 55 GALLON CONTAINERS ARE STORED HERE FOR ISSUE THROUGHOUT THE PLANT. SOME PROCESS CHEMICALS (I.E., TRICHLOROETHYLENE, SODIUM HYDROXIDE, ETC.) AND COMPRESSED GASES ARE ALSO STORED HERE. THIS AREA IS WELL PROTECTED, AND IT IS UNLIKELY TO HAVE A MAJOR SPILL HERE. HOWEVER, SHOULD SUCH A CONTINGENCY OCCUR, THE SPILL WOULD FLOW SOUTH OVER PAVED SURFACES IN ONE OF TWO CATCH BASINS, AND QUICKLY BE CARRIED TO OUTFALL #001 BY A STEADY FLOW OF COOLING WATER IN THE STORM SEWER SYSTEM.

III. OIL & HAZARDOUS WASTE STORAGE LOCATIONS (CONTINUED)

LOCATION G

- HAZARDOUS WASTE STORAGE YARD
- ALL MATERIALS IN DRUMS

ALL DRUMMED HAZARDOUS WASTE IS COLLECTED AND STORED HERE. LOCATION IS PAVED WITH ASPHALT, SECURED WITH FENCING AND KEPT LOCKED. THE NORMAL MAXIMUM ACCUMULATION EXPECTED IS 100 DRUMS. THE NORMAL WASTE STREAMS STORED HERE ARE:

- WASTE PAINT/SOLVENT MIX...(FLAMMABLE)
- WASTE TRICHLOROETHLYENE...(TOXIC)
- WASTE ACIDS & ACID SLUDGES...(TOXIC, CORROSIVE)
- WASTE CYNANIDE COMPOUNDS (LESS THAN 1% CYNANIDE) ...(POISON B)
- WASTE SODIUM HYDROXIDE SLUDGE...(CORROSIVE)
- PAINT BOOTH CLEAN-OUT SLUDGE (CHROME BEARING WASTE) ...(TOXIC)

ALL ACCUMULATED MATERIALS ARE REMOVED EVERY 90 DAYS IN ACCORDANCE WITH HAZARDOUS WASTE REGULATIONS.

LOCATION H

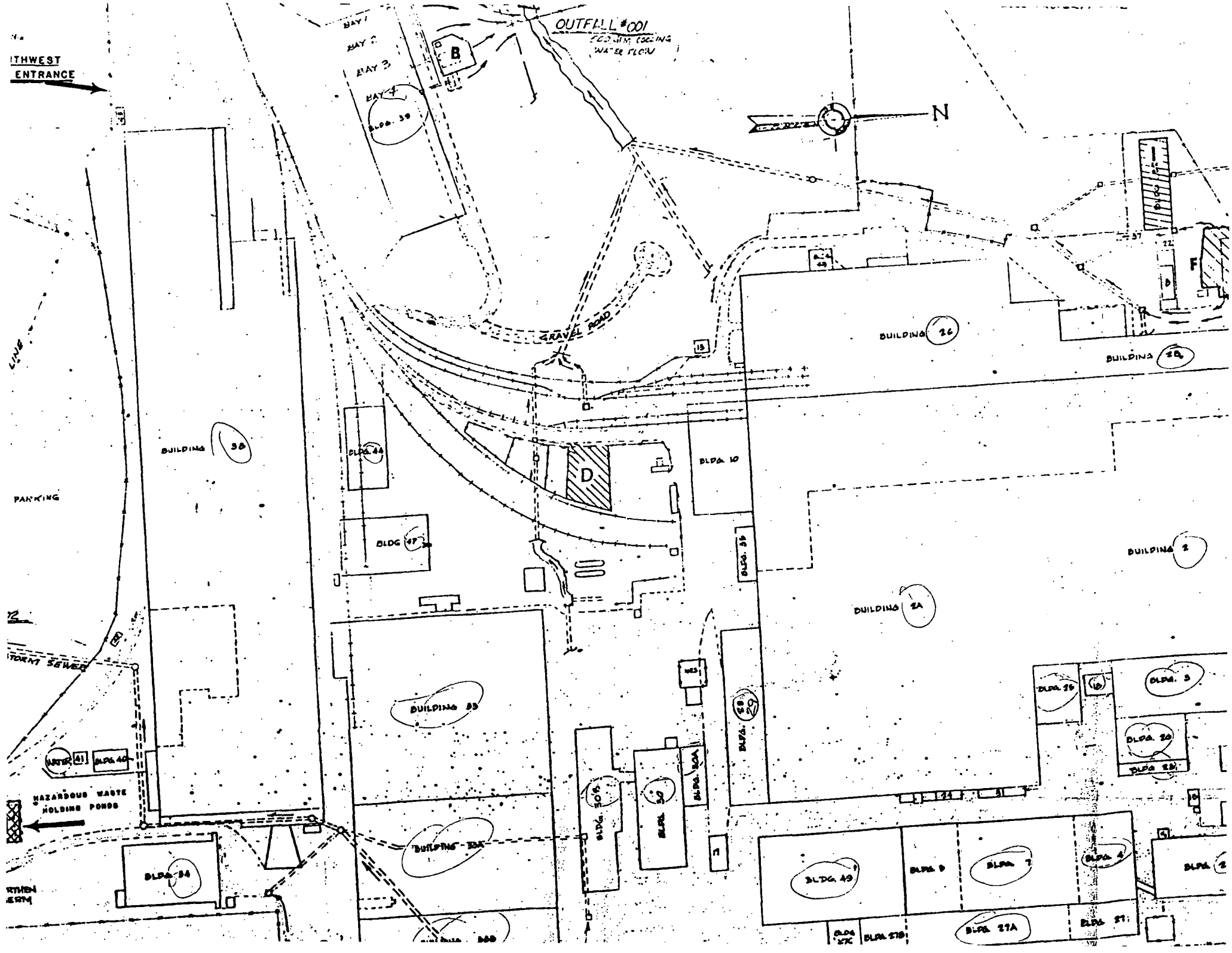
- HAZARDOUS WASTE HOLDING PONDS (BULK LIQUIDS)
- TWO (2) FIBERGLASS LINED PONDS (1 EACH - 30,000 GAL. AND 1 EACH - 15,000 GAL.)

THIS LOCATION CONSISTS OF TWO (2) LINED SURFACE IMPROVEMENTS FOR ACCUMULATION OF WASTE CHEMICALS FROM TWO (2) PROCESS SYSTEMS IN BLDG. #38. MATERIALS ARE PUMPED TO THIS LOCATION THROUGH AN UNDERGROUND LINE. WASTE MATERIALS NORMALLY CONSIST OF ACIDS OR ACID MIXTURES CONTAINING CHROMIC, SULPHURIC OR NITRIC ACIDS. OCCASIONALLY, STRONG SODIUM HYDROXIDE SOLUTIONS ARE HELD HERE. MATERIALS ARE HELD HERE UNTIL PICK UP BY OUTSIDE CONTRACTOR (NORMALLY STORAGE TIME DOES NOT EXCEED ONE (1) WEEK).

LOCATION I

- FLAMMABLE MATERIALS STORAGE BLDG.
- ALL MATERIALS IN 55 GAL. OR 1 GAL. CONTAINERS

THIS IS AN EXPLOSION PROOF BUILDING FOR RACKED PALLET STORAGE OF 55 GAL. DRUMS OF FLAMMABLE MATERIALS. THIS FACILITY MEETS ALL FIRE AND SAFETY SPECIFICATIONS. SHOULD SPILLAGE OCCUR, IT WILL BE CONTAINED WITHIN THE BUILDING BY CONCRETE CURBS.


ITHWEST
ENTRANCE
OUTFALL #001
FOR NON COOLING
WATER FLOW
BAY 1
BAY 2
BAY 3
BAY 4
B
N
GRAVEL ROAD
D
F
BUILDING 26
BUILDING 28
BUILDING 38
BLDG. 44
BLDG. 10
BLDG. 39
BLDG. 47
PARKING
BUILDING 2
BUILDING 2A
STORM SEWER
BUILDING 33
BLDG. 29
BLDG. 25
BLDG. 3
BLDG. 20
BLDG. 28
WATER
BLDG. 40
HAZARDOUS WASTE
HOLDING PONDS
BLDG. 34
BUILDING 33A
BLDG. 50
BLDG. 49
BLDG. 9
BLDG. 7
BLDG. 4
BLDG. 27A
BLDG. 27B
BLDG. 27C

VI. SPILL DETECTION/DIVERSION SYSTEMS

AEROSTRUCTURES NOW HAS A 24-HOUR SPILL DETECTION SYSTEM IN OPERATION FOR COOLING WATER OUTFALLS #001 AND #002. IF A SPILL IS DETECTED, A DIVERSION SYSTEM IS IN PLACE TO DIVERT POLLUTED WATER INTO THE SANITARY SEWER SYSTEM.

A. SPILL DETECTION

EACH OUTFALL IS MONITORED CONTINUOUSLY FOR PH, CHROME (6+), AND TURBIDITY BY THE IBM ENERGY MANAGEMENT COMPUTER. SHOULD A SPILL OCCUR, THE DETECTION SYSTEM WILL SET OFF A VISIBLE/AUDIBLE ALARM IN MAINTENANCE (24-HOUR COVERAGE). THE ENVIRONMENTAL ENGINEER WILL BE IMMEDIATELY NOTIFIED TO CONFIRM THE SPILL AND TAKE APPROPRIATE ACTION.

B. SPILL DIVERSION

VALVES ARE IN PLACE TO SHUT OFF ALL FLOW TO THE MILL CREEK TRIBUTARIES BY OPEN GRAVITY FLOW INTO THE METRO SANITARY SEWER SYSTEM. SHOULD A CHEMICAL SPILL BE DETECTED AND CONFIRMED, THE ENVIRONMENTAL ENGINEER WILL CONTACT THE METRO WATER AND SEWAGE DEPARTMENT FOR PERMISSION TO DISCHARGE INTO THE SANITARY SEWER. IF PERMISSION IS GRANTED, MAINTENANCE PLUMBERS WILL CLOSE THE APPROPRIATE VALVES UNDER DIRECTION OF THE ENVIRONMENTAL ENGINEER. SHOULD DISCHARGE TO THE SANITARY SEWER BE PROHIBITED, OUTFALL #001 CAN BE VALVED TO CREATE A NATURAL TEMPORARY HOLDING POND PERVENTING DISCHARGE TO MILL CREEK. (SEE ATTACHED SURROUNDING AREA MAP) OUTFALL #002 HAS NO HOLDING CAPABILITY.

VII. FACILITY DRAINAGE

THE ATTACHED FACILITY PLANT LAYOUT SHOWS OIL STORAGE LOCATIONS AND THE PLANT DRAINAGE PLAN. THE DIRECTION OF SPILL FLOW IS INDICATED AT EACH STORAGE LOCATION.

ALL SURFACE DRAINAGE FOR THIS FACILITY LEAVES AVCO PROPERTY AT EITHER OUTFALL #001 OR OUTFALL #002 (SEE ATTACHED LAYOUT). EACH OUTFALL FEEDS AN UNNAMED TRIBUTARY TO MILL CREEK, THEN MILL CREEK FEEDS INTO THE CUMBERLAND RIVER APPROXIMATELY FOUR (4) MILES DOWN STREAM. ALL MAJOR SPILLS ORIGINATING ON AVCO PROPERTY WILL FOLLOW THIS DIRECTION OF FLOW DOWNSTREAM.

OF PARTICULAR IMPORTANCE IS THE CONSTANT FLOW OF NON-CONTACT COOLING WATER WITHIN THE STORM SEWER SYSTEM (SEE LAYOUT). OUTFALL #001 FLOWS AT AN AVERAGE RATE OF APPROXIMATELY 500 GPM, AND OUTFALL #002 FLOWS AT AN AVERAGE OF APPROXIMATELY 400 GPM. THIS HIGH VOLUME OF CONTINUOUS WATER FLOW DICTATES THE NECESSITY OF KEEPING EVEN THE SLIGHTEST SPILLAGE OUT OF THE STORM SEWER SYSTEM. ONCE INTO THE STORM SEWER, SPILLS SPREAD DOWNSTREAM AND OFF AVCO PROPERTY WITHIN MINUTES.

A LARGE PORTION OF LAND AREAS NEAR OIL STORAGE/USE IS PAVED WHICH WILL CAUSE RAPID ENTRY OF SPILLS INTO THE STORM SEWER IF NOT CONTAINED QUICKLY (SEE LAYOUT).

VIII. OFF SITE SPILLS

IMMEDIATELY ADJACENT TO AVCO PROPERTY BOUNDARY ON THE EASTERN SIDE LIES FOUR (4) FUEL STORAGE/DISPENSING DEPOTS. THE PROPERTY IS OWNED BY THE METROPOLITAN NASHVILLE AIRPORT AUTHORITY, AND LEASED TO PRIVATE FUEL COMPANIES. THE SURFACE RUN-OFF FROM THESE AREAS RUNS DIRECTLY ONTO AVCO PROPERTY OR INTO STORM SEWER CATCH BASINS WHICH FEED AVCO'S OUTFALL #002. ANY MAJOR SPILLS WOULD GO TO OUTFALL #002 IF NOT CONTAINED. THE AMOUNT OF FUEL STORED IN THESE AREAS IS UNKNOWN, BUT ALL TANKS ARE UNDERGROUND.

AT THE REQUEST OF AVCO, THE METRO AIRPORT AUTHORITY HAS REQUESTED ALL FUEL STORAGE/DISPENSING DEPOTS TO CERTIFY CONFORMANCE WITH ALL APPLICABLE SPILL CONTROL REGULATIONS.

IX. MATERIAL HANDLING

A. OIL DRUMS

ALL OILS WILL BE STORED AND TRANSPORTED IN CLOSED TOP DRUMS. ALL BUNGS WILL BE TIGHTLY SECURED WHEN NOT IN USE. WASTE OILS WILL NOT BE SECURED NOR TRANSPORTED IN OPEN TOP DRUMS.

WHEN DISPENSING FROM DRUMS, DRIP PANS WILL BE USED TO CONTAIN SPILLAGE AND DRIPPING.

THE INITIAL USER OF OILS WILL INSURE DRUMS ARE COMPLETELY EMPTY BEFORE SENDING "RETURNABLE" DRUMS BACK TO THE SHIPPING DEPARTMENT. BUNGS MUST BE IN THE DRUMS SECURELY BEFORE RETURNING TO SHIPPING. ANY REMAINING OIL LEFT IN A DRUM WILL BE POURED INTO A SEPARATE COLLECTION DRUM FOR LATER DISPOSAL. AT NO TIME WILL OILS (ANY QUANTITY) BE DUMPED ONTO THE GROUND OR DOWN A SEWER SYSTEM!

WASTE OILS WILL BE SECURED AND TRANSPORTED AS NOTED ABOVE TO AREA "D" (SEE LAYOUT) FOR ACCUMULATION. CERTIFIED VENDORS COME IN AND PUMP OILS DIRECTLY FROM DRUMS FOR DISPOSAL.

B. OIL TANK CAR/TRUCK LOADING AND UNLOADING

AVCO AEROSTRUCTURES DOES NOT PURCHASE OILS IN TANK TRUCK OR RAILCAR LOADS. ALL BULK FUEL OIL STORAGE TANKS HAVE NOT BEEN ACTIVELY USED SINCE 1977. BULK FUEL TEST AREAS HAVE FIXED PIPING SYSTEMS FOR REUSING FUEL REPEATEDLY, SO REQUIRE NO REFILLING.

ALL BULK STORAGE TANKS WILL BE PRESSURE TESTED AT LEAST ONCE ANNUALLY TO INSURE TANK INTEGRITY.

C. HAZARDOUS WASTE DRUMS

ALL HAZARDOUS WASTES ACCUMULATED IN DRUMS WILL BE LABELED AND DATED. DRUMS WILL BE ACCUMULATED AT LOCATION G (SEE LAYOUT) AND HELD FOR A PERIOD NOT TO EXCEED 90 DAYS. DRUMS WILL HAVE BUNGS AND LIDS SECURED AND BE HANDLED IN SUCH A WAY AS TO PREVENT DENTING AND LEAKAGE OF CONTENTS. ENVIRONMENTAL ENGINEER WILL INSURE DISPOSAL COMPLIES WITH ALL PERTINENT REGULATIONS.

D. BULK WASTE CHEMICALS

DISPOSAL OF WASTE BULK CHEMICALS IS HANDLED BY OUTSIDE CONTRACTORS

X. EMERGENCY RESPONSE

A. GENERAL

THE CHIEF OF SECURITY (361-2000) WILL BE RESPONSIBLE FOR DIRECTING ALL ON-SITE EMERGENCY SITUATIONS INCLUDING FIRE, POLICE, AMBULANCE AND DISASTER CONTROL. THE ENVIRONMENTAL ENGINEER (3612196/316-2697) WILL DIRECT ALL SPILL CONTROL AND CLEAN UP ACTIVITIES AND COORDINATE OTHER EMERGENCY ACTIVITIES AS REQUIRED WITH THE CHEIF OF SECURITY. ADDITIONALLY, COPIES OF THE CONSOLIDATED ENVIRONMENTAL CONTINGENCY PLAN HAVE BEEN SUBMITTED TO APPROPRIATE AGENCIES (SEE DISTRIBUTION LIST). THESE AGENCIES ARE FAMILIAR WITH THE MATERIALS STORED AT THE FACILITY AND WILL COORDINATE THEIR ACTIVITIES ACCORDINGLY. THIS IS ESPECIALLY IMPERATIVE WITH RESPECT TO THE METRO NASHVILLE FIRE DEPARTMENT AND DONELSON HOSPITAL AND SOUTHERN HILLS HOSPITAL. ADDITIONALLY, THE METRO NASHVILLE CIVIL DEFENSE IS FAMILIAR WITH SUBSTANCES UTILIZED AT THE FACILITY AND CAN RESPOND ACCORDINGLY. THE EMERGENCY COORDINATORS WILL FUNCTION IN CONJUNCTION WITH APPROPRIATE GOVERNMENTAL AGENCY PERSONNEL WHO MAY ARRIVE ON SITE. HE WILL SUPPLY INFORMATION AS REQUIRED BY THESE PERSONNEL. THE POLICE WOULD COORDINATE EVACUATION OF AREAS ADJACENT TO THE FACILITY, IF APPROPRIATE. HOUSEKEEPING PERSONNEL ARE PERIODICALLY TRAINED IN EMERGENCY SITUATIONS AND APPROPRIATE RESPONSE PROCEDURES BY THE ENVIRONMENTAL ENGINEER, SAFETY PERSONNEL, AND DEPARTMENTAL SUPERVISORS. THE TRAINING INCLUDES PROPER RESPONSE PROCEDURES FOR MINOR SPILLS AND INITIAL RESPONSE FOR MAJOR SPILLS. MAJOR INCIDENTS WILL NECESSITATE THE INVOLVEMENT OF APPROPRIATE DISPOSAL CONTRACTORS.

B. OILS AND FUELS

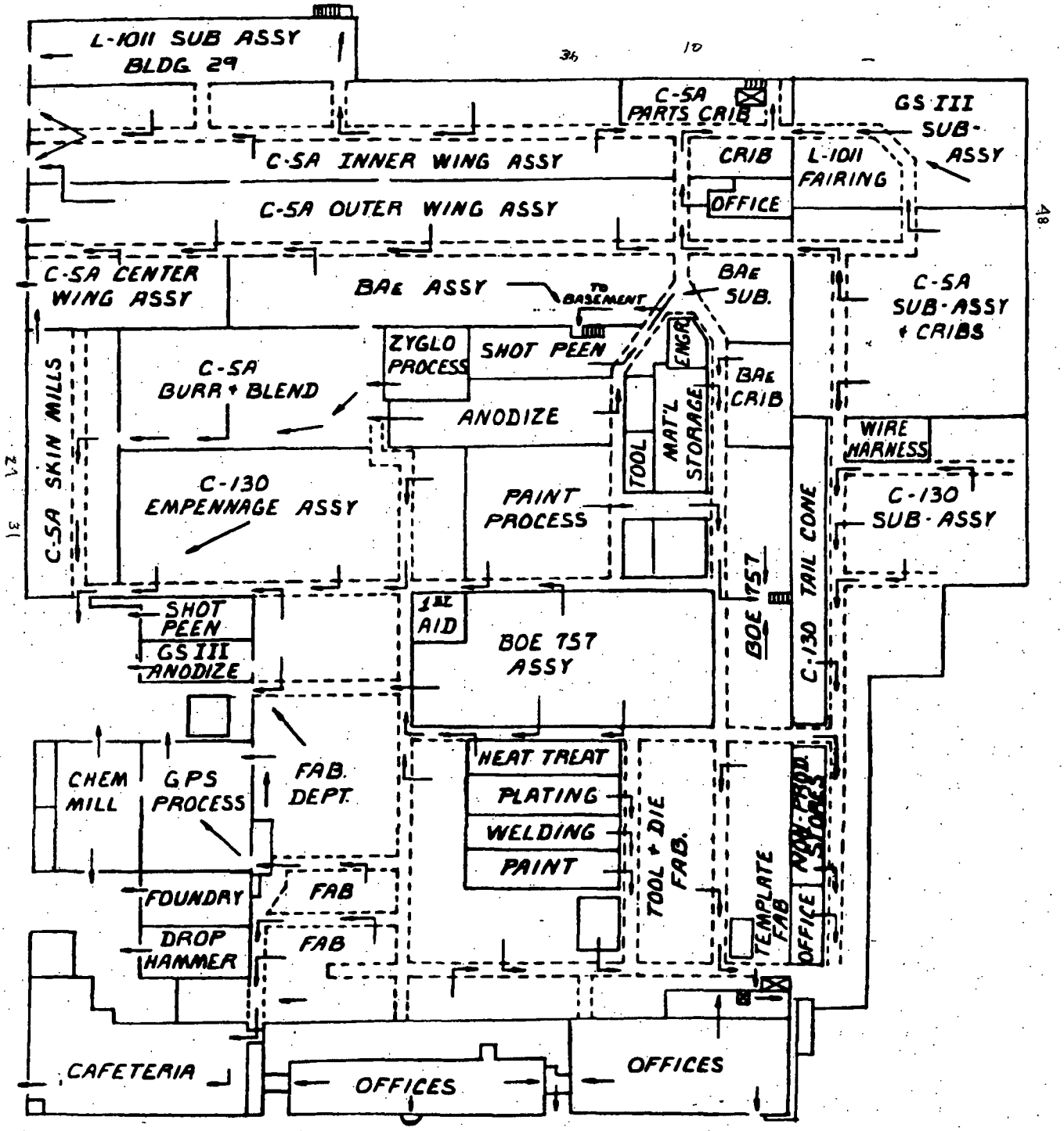
ALL OILS AND FUELS DESIGNATED IN THIS PLAN ARE CONSIDERED NON-TOXIC BUT DO POSE A POTENTIAL FIRE/EXPLOSION HAZARD. OFF-SITE EMERGENCY RESPONSE TEAMS SHOULD BE AWARE OF THE POTENTIAL ON-SITE HAZARD AS WELL AS THE UNLIKELY EVENT OF BURNING LIQUIDS ESCAPING DOWN OUTFALLS #001 AND #002.

C. HAZARDOUS WASTES

THE HANDLING, STORAGE OR ACCIDENTAL DISCHARGE OF HAZARDOUS WASTES COULD REQUIRE RESPONSE TO FIRE, EXPLOSION, CONCENTRATED ACIDS AND ALKALIES, POISONS, VOLATILE ORGANIC SOLVENTS AND CHROME BEARING WASTES (REFERENCE PARA. III, LOCATION G FOR SPECIFIC ITEMS). THE ON-SITE AND OFF-SITE IMPACT OF HAZARDOUS WASTE CONTINGENCIES IS IDENTICAL TO ITEM "B" ABOVE.

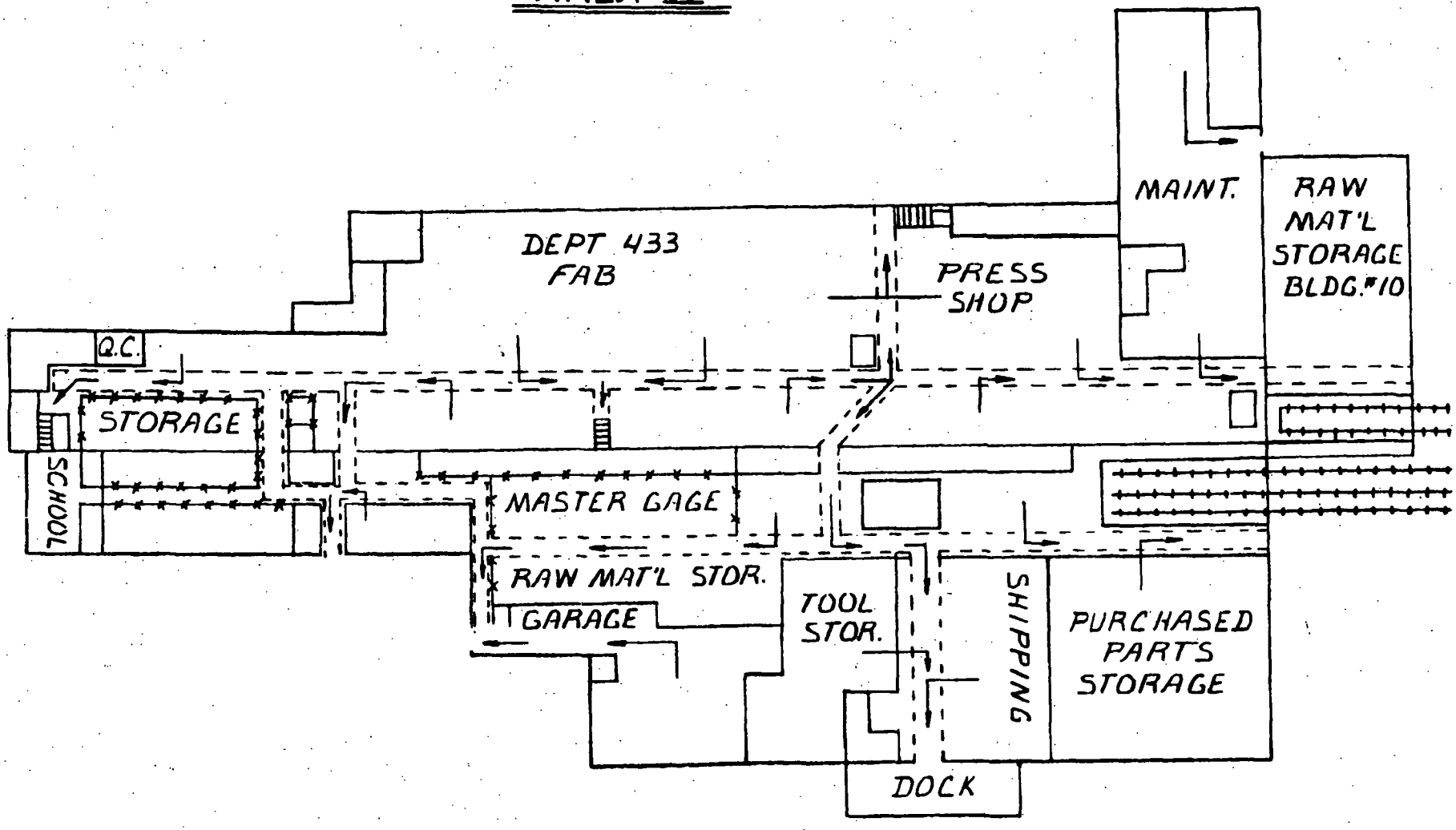
1985 A86

EMERGENCY EVACUATION PLAN
MAIN BLDG.
AREA I



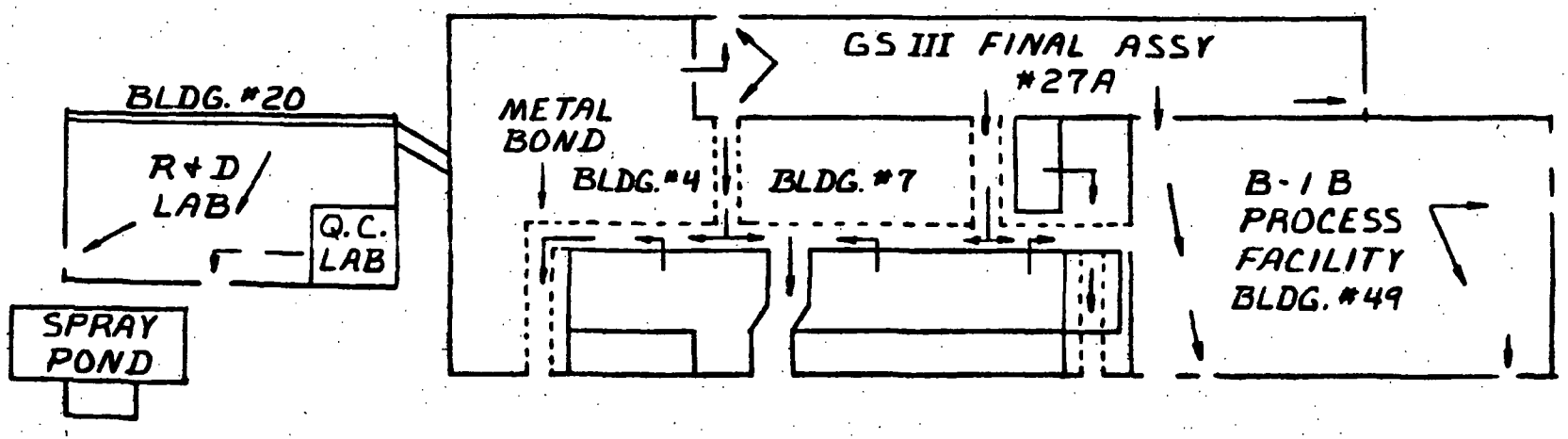
Bldg 2

EMERGENCY EVACUATION PLAN
BASEMENT — MAIN BLDG.
AREA II



Bldg 2

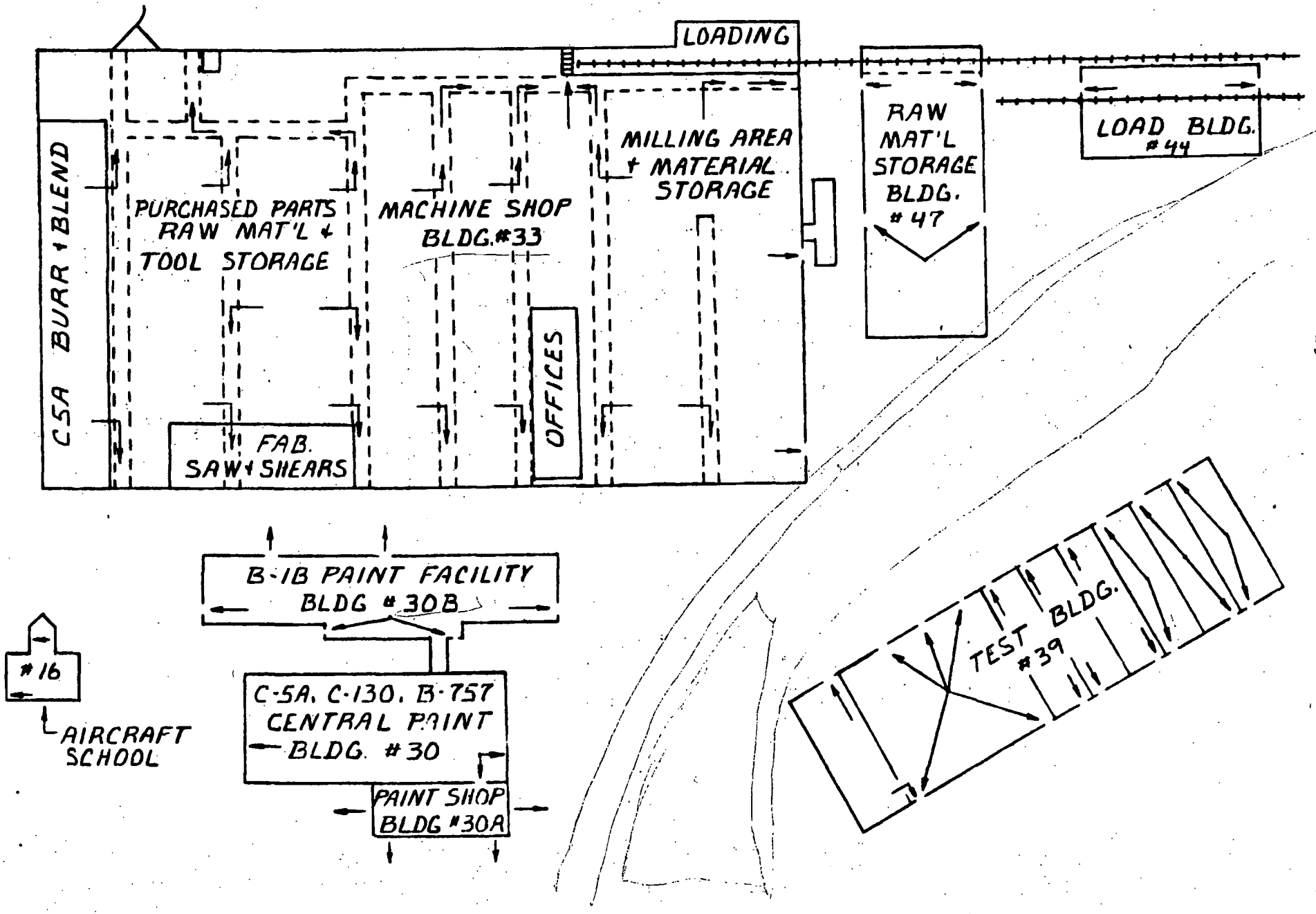
EMERGENCY EVACUATION PLAN
AREA III



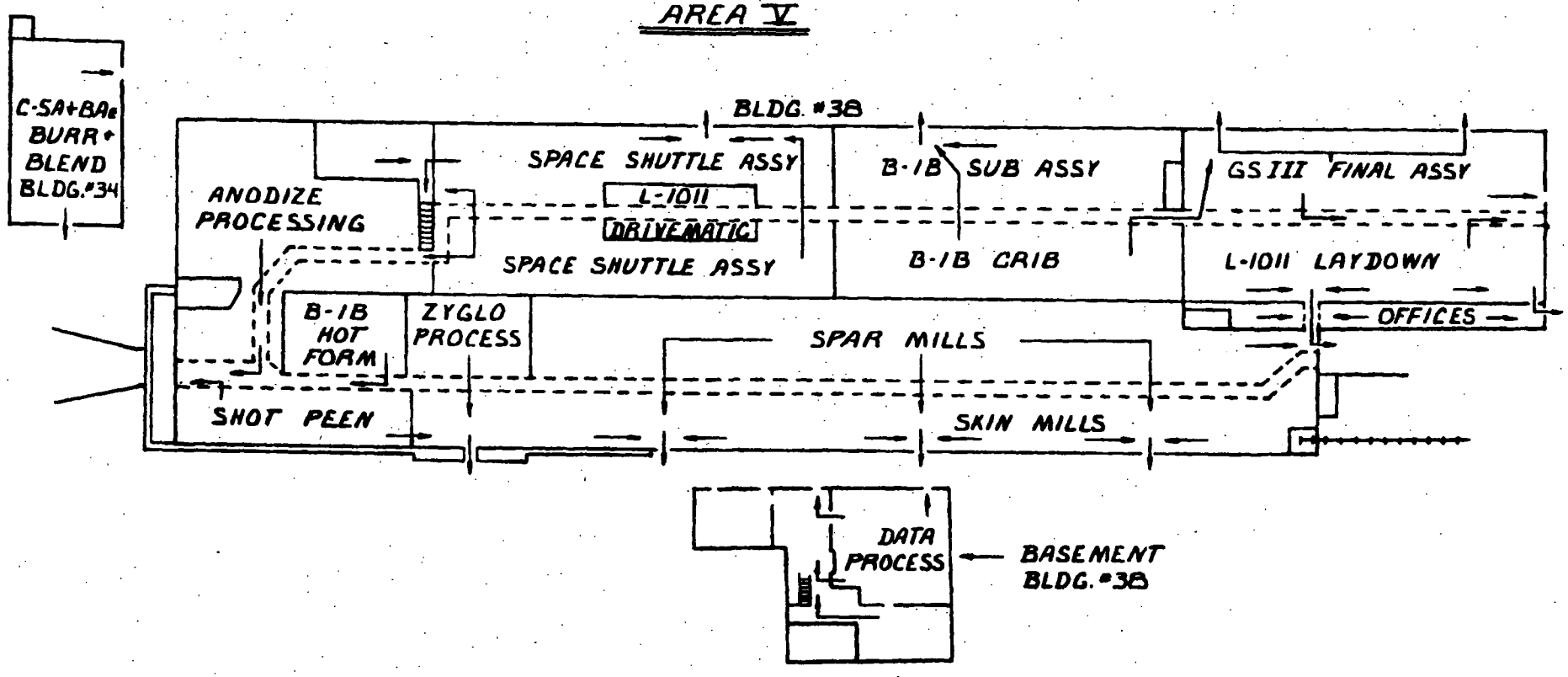
Bldg 27

EMERGENCY EVACUATION PLAN

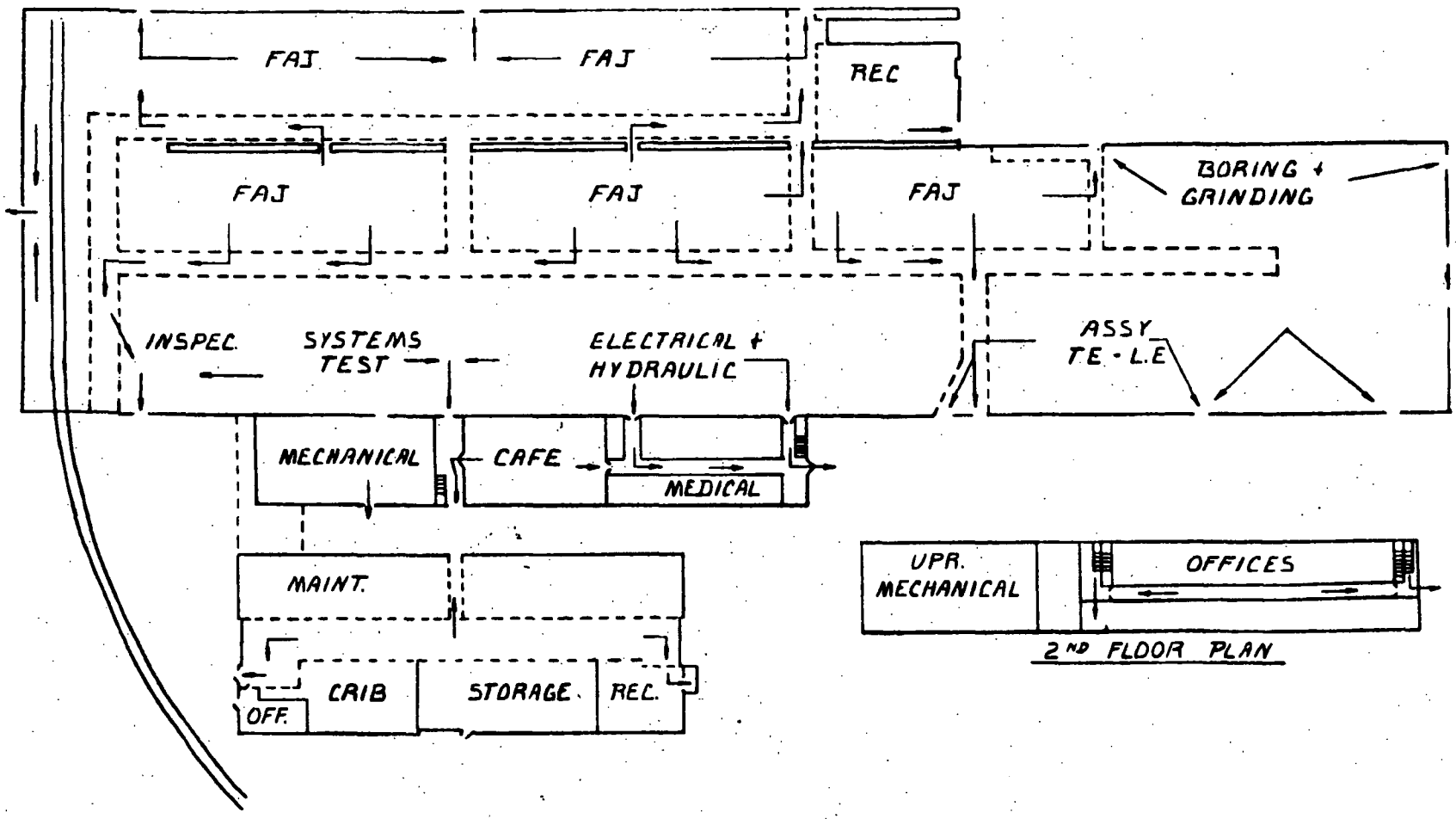
AREA IV



EMERGENCY EVACUATION PLAN
AREA V



EMERGENCY EVACUATION PLAN
B-1B SITE
AREA VI



2ND FLOOR PLAN

MEMORANDUM

TO: AVCO File

DATE: October 17, 1980

SUBJECT: Meeting with RCI/AVCO/DSWM

At 10:00 A.M. today, Ed Wilson, Mark Levy, and Chuck Higgins, Geologic Associates, Inc., Jack Waggener, Resource Consultants, Inc., and Wayne Lee, AVCO, met with Becky Darrell and Wayne Gregory (DSWM). During the meeting we discussed our plan of study for site investigation and closure plan development for the AVCO site.

Wilson explained that GA planned initially to conduct borings and excavate observation pits around the perimeter of the old fill area. He also explained that temporary monitoring wells will be installed in the borings. Analytical testing for soil and water and pressure testing of the rock will be performed.

Following that phase plans are to explore within the old fill itself.

Wilson identified all exploratory locations and requested comments or input from all parties. No suggestions were made. All parties agreed that the exploration plan was adequate.

We then discussed the chemical testing to be conducted. Wayne Gregory stated that the organics which had been previously discovered should be included within the list of parameters to be tested. He further stated that if the results of analysis showed that the concentrations found in May of 1980 were representative of site conditions, then there was "no problem". Higgins questioned the validity of the organic data provided because of the apparent inconsistency in observed concentrations for the same sample. Darrell advised that she would look into the matter and report back.

At the conclusion of the chemical discussion, we again asked for questions or comments. The only substantive remark (made by Gregory) was that the State's concern was to adequately define the situation at the site before the closure plan was developed. He again expressed agreement with our approach (which Darrell also confirmed) and offered to work with us in any way possible to resolve site conditions with a practical application of the DSWM Emergency Regulations.

P.O. Box 668 - Franklin, TN 37064 - (615)-794-3596
Franklin - Knoxville - Kingsport, TN

We then discussed the flexibility under the regulations. Gregory stated that the intent was to provide a "Cadillac design" which would be adjusted to specific technical realities. He reiterated on several occasions that the DSWM would work with us in approving the design and that appropriate flexibility would be applied where engineering standard practice, common sense, or technical data supported our recommendations.

The meeting then concluded.

L. E. Wilson

LEW/mr

cc: AVCO, Lee
Resource Consultants, Inc., Waggener
Resource Consultants, Inc., McCoy
Resource Consultants, Inc., North

AVCO LANDFILL
NASHVILLE, TENNESSEE

GA PROJECT NO. 80-165

12/12/80

TABLE OF CONTENTS

TEXT ..... Pages 1 through 9

Site Conditions and Landfill History ..... Page 2

Exploration and Testing ..... Page 3

Subsurface Conditions ..... Page 5

Hydrogeologic Conditions ..... Page 6

Conclusions and Recommendations ..... Page 7

LABORATORY DATA ..... Appendix I

DRAWINGS ..... Appendix II

Geologic Associates, Inc. GEOLOGISTS AND ENGINEERS

December 12, 1980

AVCO Corporation
Vultee Boulevard
Nashville, TN 37217

Attention: Mr. Wayne Lee

Gentlemen:

Re: AVCO Landfill
Nashville, Tennessee
GA Project No. 80-165

We have completed the initial phase of the geotechnical investigation for the above referenced project and herewith present the data, our comments and recommendations. The purpose of this study is to assess the geological, geotechnical and hydrogeological conditions that affect any environmental impact that may be incurred by the subject landfill. In addition, our investigation has been tailored to address the specific concerns and questions posed by the State of Tennessee, Department of Public Health.

To be incorporated into this study are the chemical analyses of selected soil and groundwater samples. A comprehensive list of chemical parameters and the testing procedures was determined by the Department of Public Health. This phase of the study is still in progress, and the results will be submitted at a later date.

GA
Founded 1953

P.O. Box 668 - Franklin, TN 37064 - (615)-794-3596
Franklin - Knoxville - Kingsport, TN

SITE CONDITIONS AND LANDFILL HISTORY.

The subject landfill is within the western portion of the AVCO property, and occupies approximately nine acres in and along an old drainage valley that once existed between the main plant and the present Briley Parkway. The limits of the landfill, as shown on Sheet 1 of the drawings, were established using photographic records and topographic data dating from 1939. Fill has been placed in the area since the late 1930's. The estimated maximum thickness of this fill is approximately 41 feet.

A steep slope, approximately ten feet high, transects the site from east to west. The northern portion of the site has previously been used as parking area, and is currently gravel covered. The southern portion of the site has, until recently, been used for the disposal of solid waste and is currently covered with scattered boulders and soil. Total topographic relief across the site approximates sixty feet. Surface drainage is generally fair and surface water flows southwestwardly across the site. On occasion, surface water collects within small depressions located in the northern portion of the site.

In addition, several reinforced concrete sanitary sewer and storm drain pipes are buried within the fill. Pipe diameters range from 12 inches

up to 42 inches. The approximate alignment of the various pipes, catch basins, and manhole locations are shown on the Site Plan, (Sheet 1).

We understand that the following constitutents are known to have been disposed of within the landfill:

Paper
Wood
Cardboard
Office Trash
Metal Banding
Paint Cans
Styrofoam
Rubber
Rags
Fiberglass Epoxy and Resin Residue
Washing Machine Tubs
Miscellaneous Scrap Steel
Construction/Demolition Debris

EXPLORATION AND TESTING.

Exploration consisted of drilling a total of ten holes at the locations shown by the Site Plan, Sheet 1. The overburden was drive-sampled in substantial conformance with ASTM D 1586 (Standard Penetration Test) in each of the borings. Bedrock was cored, size BQ, in nine of the borings to sufficient depths to penetrate the underlying aquifer(s) and to permit positive stratigraphic correlation. Further, the bedrock was pressure

tested hydraulically in two selected borings in order to quantify the permeability characteristics of the bedrock. The pressure test data are shown on the drawings.

Simple groundwater monitoring wells were installed in each of the borings to permit water sampling as well as measurement of the piezometric surface. In addition, two sampling chambers were installed in Boring No. 9 and isolated from each other in order to recover groundwater samples from two descrete horizons. All soil samples were visually classified, and the bedrock cores were logged by members of our professional staff. The samples and cores are on file at our Franklin, Tennessee, office.

Representative soil and water samples were obtained and are currently being subjected to chemical analysis by Resource Consultants, Inc., of Brentwood, Tennessee.

In addition to the exploration described above, eight inspection pits were excavated by backhoe at the locations and to the depths shown on the Plan and Logs. These pits were excavated under our direction in order to determine the character and the horizontal and vertical extent

of the solid waste buried across the site. To supplement our studies data gathered by the Tennessee Division of Solid Waste were thoroughly reviewed. Also, the historic records furnished by AVCO were utilized.

SUBSURFACE CONDITIONS.

The site is generally covered with a veneer of brown silty clay. Underlying this surficial veneer is a layer of solid waste, ranging from two to forty-one feet in thickness. Within the central portion of the site, the material is thickest and extends to the bedrock surface. Around the periphery of the site, the layer of debris thins out, and is underlain by up to fifteen feet of soil. Borings 9 and 10 did not encounter any waste. The inspection pits encountered random waste and a very strong, petrochemical odor emanated from many of the excavations.

The underlying bedrock is laminated, argillaceous limestone of the Hermitage Formation. Typically, this bedrock type is weathered to substantial depths along high-angle vertical fractures (joints) and essentially horizontal bedding planes. At the locations explored, extensive weathering extends about twelve feet below the bedrock surface. Limestone of the Carter's Formation underlies the Hermitage Formation, and was encountered at about elevations 490 to 508. The

bedrock dips less than three degrees to the northeast. The pressure test data indicates that below the zone of extensive weathering described above, the bedrock is relatively "tight".

HYDROGEOLOGIC CONDITIONS.

The groundwater level data developed to date indicates that general groundwater movement is toward the southwest. A potential configuration of the piezometric surface contour map is shown on Sheet 4 of the drawings. Of particular import and interest is the artesian condition encountered at Boring 3, the anomolous groundwater level encountered at Boring 4, and the fact that water was encountered within the fill material in Test Pit 9. A sewer line is in close proximity to Test Pit 4. We understand that the flow through this line includes plant process water, and may have a flow rate of up to 1.5 MGD. It is possible that leakage from this line may contribute to the water in this area.

Most of the groundwater was encountered within the bedrock, and presumably flows along horizontal planes of weakness. We believe that most of the groundwater flow occurs under confined conditions, and that when the horizontal flow paths are encountered during drilling operations, the water is free to rise to its true piezometric level within the boring.

The comprehensive chemical analysis of the representative groundwater samples, conducted in accordance with the procedures prescribed by the State, is still in progress. However, the water samples recovered from Boring No. 5 appear to be highly contaminated with some type of petroleum product, such as gasoline, diesel fuel, or jet fuel. Further, several of the test pits emanated a very strong petrochemical odor.

CONCLUSIONS AND RECOMMENDATIONS.

The plan for executing closure of the landfill by "simply" covering the site with a layer of relatively impervious, compacted soil is predicated on the assumption that:

1. There is no base flow (or groundwater flow) through the landfill materials.
2. Contaminants are not currently being leached out of the landfill in objectionable concentrations.

The data developed through our study to date suggest that these assumptions are not valid. Specifically, there is indication that the piezometric surface extends above the base of the landfill, consequently, a portion of the landfill material may be within the saturated zone. Definitely, the material in the area of Test Pit 9 is saturated.

GA

Further, while the chemical analysis of the water samples are not yet complete, the groundwater in the area of Boring No. 5 is evidently contaminated. While it is conceivable that the source of this contamination may not be the subject facility, we believe that the State will place the burden of proving that the contaminant is not emanating from the facility upon AVCO.

For your review, we have developed a final grading plan for the closure of the facility. This plan was developed to meet the criteria posed by the State regulations and does not provide for a specific future parking area, which would require the use of additional engineering fill. However, before this plan is submitted to the State for approval, we believe that additional studies are warranted. Based upon the preliminary data presented herein, it may also be necessary to develop methods to impede the flow of groundwater into the landfill material or to prevent the migration of leachate away from the landfill. The scope of these additional studies are obviously dependent upon the results of the chemical analysis. However, based upon the data at hand, we believe additional exploration is necessary to determine the source of contamination encountered in Boring 5, the extent of groundwater saturation of the landfill material, and the potential for water leakage from the sewer

line in the vicinity of Boring No. 9. When these studies are completed, and the chemical data assimilated, we will be able to develop and design the complete closure plan necessitated for this facility.

We are available at your convenience to discuss any questions you may have regarding this preliminary report. When the chemical test results are available, we will incorporate the data into this preliminary report, and will be able to develop our recommendations for future study.

Yours truly,

GEOLOGIC ASSOCIATES, INC.

Mark J. Levy, P. E.

MJL/mr

April 17, 1981

Division of Solid Waste Management
Department of Public Health
Suite 320
Capitol Hill Building
301 Seventh Avenue, North
Nashville, Tennessee 37217

Attention: Mr. James Spicer

Gentlemen:

Re: Closure of the AVCO
Landfill Facility
Nashville, Tennessee
GA Project No: 80-165

With reference to the above project and our meeting on April 15, 1981, we herewith submit the report of our comprehensive geotechnical investigation and associated environmental studies. The scope of our investigation met and exceeded the proposed plan of study, accepted by representatives from the Department of Public Health, in a meeting held at our office October 17, 1980.

The investigation indicates that the landfill contains non-hazardous waste, and that with one exception, at the locations sampled, the level of groundwater contamination is well below that level considered acceptable by the State. The exception cited above pertains to the severe groundwater contamination detected in Boring 5, located along the western edge of the landfill. Subsequent to detecting that contamination, extensive investigation within the area of Boring 5

confirmed that source of the contamination is beyond the limits of the AVCO property. We therefore conclude that the landfill does not pose a risk to the environment, and that it can be permanently closed.

For your evaluation, an extensive and costly grading plan designed to close the landfill is included in our report. However, considering the nature of the non-hazardous waste buried within the landfill and the latitude afforded by the regulations regarding facilities of this sort, it appears that a less elaborate closure plan can be approved. It is our opinion that the site can be properly closed by simply regrading the area to provide positive surface drainage, constructing lined drainage ditches across the area and placing topsoil and seeding the unpaved areas. We believe that such a plan will provide adequate protection of the groundwater regime and the surface environment, and will also satisfy the pertinent regulatory requirements. If you agree that the scope of the closure plan can be reduced as described above, please inform us and we will formally submit closure plans for this facility within two weeks.

We are available at your convenience to discuss any questions you

may have regarding the enclosed report and the proposed closure of this facility.

Yours truly,

GEOLOGIC ASSOCIATES, INC.

Mark J. Levy, P.E.

Enclosure: AVCO Landfill
Closure Report

Copy: Mr. Wayne Lee
Mr. Wayne McCoy

MJL/eb

4/10/81

AVCO LANDFILL CLOSURE
NASHVILLE, TENNESSEE

GA Project No. 80-165

TABLE OF CONTENTS

TEXT ..... Pages 1 through 15

Site Conditions and Landfill History ..... Page 2

Initial Exploration and Testing ..... Page 3

Subsurface Conditions ..... Page 5

Hydrogeologic Conditions ..... Page 7

Chemical Analysis ..... Page 9

Additional Exploration and Testing ..... Page 10

Conclusions ..... Page 13

Recommendations ..... Page 14

INITIAL ANALYTICAL DATA ..... Appendix I

SUBSEQUENT ANALYTICAL DATA ..... Appendix II

DRAWINGS ..... Appendix III

Geologic Associates, Inc. GEOLOGISTS AND ENGINEERS

April 10, 1981

AVCO Corporation
Vultee Boulevard
Nashville, TN 37217

Attention: Mr. Wayne Lee

Gentlemen:

Re: AVCO Landfill Closure
Nashville, Tennessee
GA Project No. 80-165

We have completed the geotechnical investigation and environmental studies for the subject project and herewith present the data, our comments and recommendations. The purpose of this study is to develop a closure plan which will consider and define the geotechnical and hydrogeological conditions that affect any environmental impact which may be incurred by the existing landfill. In addition, our investigation was tailored to address the specific concerns and questions posed by the State of Tennessee, Department of Public Health. These specific concerns were enumerated in the site evaluation report dated May 19, 1980, by Ms. Sarah B. Darrell of the Department of Public Health. Further, at a meeting held October 17, 1980, with representatives from the Department of Public Health, AVCO, Resource Consultants, Inc., and Geologic Associates, Inc., various aspects and questions concerning the landfill facility were discussed. At this meeting, the plan of study

Founded 1953

P.O. Box 668 - Franklin, TN 37064 - (615)-794-3596
Franklin - Knoxville - Kingsport, TN

for the site investigation and closure plan development, which was subsequently followed and is described herein, was considered acceptable by all parties.

SITE CONDITIONS AND LANDFILL HISTORY.

The subject landfill is within the western portion of the AVCO property, and occupies approximately nine acres in and along an old drainage valley that existed between the main plant and the present Briley Parkway. The approximate limits of the landfill, as shown on Sheet 1 of the drawings, were established using photographic records and topographic information dating from 1939. The area has been used for solid waste disposal since the late 1930's. The estimated maximum thickness of this fill is approximately forty-one feet.

An existing steep slope, approximately ten feet in height, transects the site from east to west as shown by the Plan, Sheet-1. The northern portion of the site has previously been used as parking area, and it is currently covered with crushed stone. The southern portion of the site has, until recently, been used for the disposal of solid waste and is currently covered with scattered boulders and soil. Total topographic relief across the site approximates sixty feet. Surface drainage is

generally fair and surface water flows southwestwardly across the site. On occasion, surface water collects within small depressions within the northern portion of the landfill site.

In addition, several reinforced concrete sanitary sewer and storm drain lines are buried within the fill. Pipe diameters range from 12 inches up to 42 inches; the approximate alignment of the various pipes, and the locations of catch basins and manholes are shown on the Site Plan, (Sheet 1).

Based on information furnished by AVCO, we understand that the following constitutents are known to have been disposed of within the landfill:

- Paper
- Wood
- Cardboard
- Metal Banding
- Paint Cans
- Styrofoam
- Rubber
- Rags
- Fiberglass Epoxy and Resin Residue
- Washing Machine Tubs
- Miscellaneous Scrap Steel
- Construction/Demolition Debris

INITIAL EXPLORATION AND TESTING.

The initial phase of exploration consisted of drilling a total of ten holes at the locations shown by the Site Plan, Sheet 1. The overburden

was drive-sampled in substantial conformance with ASTM D-1586 (Standard Penetration Test) in each of the borings. Bedrock was cored, size BQ (1-5/8" ϕ), in nine of the borings to depths sufficient to penetrate the underlying aquifer(s) and to permit positive stratigraphic correlation. Further, the bedrock interval was pressure tested hydraulically in two selected borings in order to quantify the permeability characteristics of the bedrock. The pressure test data are shown on the drawings.

Simple groundwater monitoring wells were installed in each of the borings to permit water sampling, as well as measurement of the piezometric surface. In addition, two water sampling chambers were installed in Boring No. 9; these were isolated from each other in order to recover groundwater samples from two discrete horizons. These data are shown on the drawings. All soil samples were visually classified and the bedrock cores were logged by members of our professional staff. The samples and cores are on file at our Franklin, Tennessee, office.

In addition to the exploration described above, eight inspection pits were excavated by backhoe at the locations and to the depths shown on the Plan and Logs. These pits were excavated at our direction in order

to better determine the character and the horizontal and vertical extent of the solid waste buried at various locations across the site.

To supplement our study, data gathered by the Tennessee Division of Solid Waste were thoroughly reviewed. Also, the historic records furnished by AVCO were used.

Representative soil, water, and refuse samples were subjected to chemical analyses by Resource Consultants, Inc., of Brentwood, Tennessee. A comprehensive list of chemical parameters and the testing procedures were selected by the Tennessee Department of Public Health. The results of this phase of the study are shown in Appendix A.

SUBSURFACE CONDITIONS.

The site is generally covered with a veneer of brown, silty clay. Underlying this surficial veneer is a layer of solid waste, ranging from two to forty-one feet in thickness at the locations explored. Within the north-central portion of the site (near Boring 11), the interval of waste is thickest and is in contact with the bedrock surface. Around the periphery of the site the layer of debris thins, and it is underlain by up to fifteen feet of undisturbed, residual soil. The inspection pits and borings 4 and 11 located within the areas of the landfill,

encountered waste which appeared to be consistent with the materials known to have been buried at the site. The remaining borings did not encounter any waste.

The natural soil, where present, is residual in nature, having been derived from in-situ weathering of the underlying bedrock. Typically, this soil is classified "CL" in accordance with the Unified Soil Classification System, and exhibits relatively low permeability characteristics in the range of 1×10^{-6} cm./sec. to 1×10^{-8} cm./sec. At the locations explored, the natural soil underlying the fill ranges in thickness from virtually zero feet to about fifteen feet. We postulate that the natural, undisturbed soil cover on the virgin slopes of the filled-in drainage way probably averages less than five feet in thickness, and that bedrock was exposed at numerous locations on the slopes.

The underlying bedrock is laminated, argillaceous limestone of the Hermitage Formation and dips less than three degrees to the northeast. In this area, this bedrock type is weathered to substantial depths along high-angled vertical fractures (joints) and gently dipping bedding planes. At the locations explored, extensive weathering extends about twelve feet below the bedrock surface. Below this upper zone of degradation, the bedrock is relatively unweathered, and the shaly laminae

of the Hermitage Formation generally form an effective barrier against the vertical migration of water. Limestone of the Carters Formation underlies the Hermitage Formation. The contact between the Hermitage and the Carters was encountered between elevations 490 to 508.

At this site, as is typical where a pristine interval of the Hermitage Formation overlies and protects the soluble Carters Formation, the latter is essentially unweathered. The only significant weaknesses detected are generally along nearly horizontal bedding planes. The pressure test data indicate that, below the zone of extensive weathering within the Hermitage described above, the bedrock is relatively impermeable on the order of 1×10^{-10} cm./sec.

HYDROGEOLOGIC CONDITIONS.

The groundwater level data developed during this study indicate that groundwater movement is generally toward the southwest. This direction would conform to the general slope of the natural ground surface. The potential configuration of the piezometric surface is shown by the contour map, Sheet 4. Of particular importance is the artesian condition encountered at Boring 3, the fact that water was encountered within the fill in Test Pit 9, and the anomalous groundwater level encountered at

Boring 4. It is possible that the artesian conditions at Boring 3 and the water encountered at Test Pit 9 are related to leakage from a sewer line that is located in proximity to these borings, which is reported to have a flow rate of up to 1.5 MGD. The groundwater level at Boring 4 is anomalous in that a low groundwater level was recorded in relation to the regional groundwater elevations measured during this study.

Virtually all of the groundwater encountered at the site occurs within the bedrock strata, as is common in this area. Specifically, the groundwater usually occurs within openings in the Carters Formation. Where the unweathered Hermitage Formation is shaly, it generally serves as a barrier to prevent the vertical migration of surficial water into the strata below. However, where the Hermitage has been extensively degraded or breached by joints, avenues for the vertical migration of groundwater into or out of the Carters Formation may exist. It has been our experience that, in the vicinity of the site, the Hermitage is phosphatic and very prone to solutioning. Also, an extensive network of enlarged, near-vertical fractures crisscrosses the area. Based on the topographic data and our experience, we presume that the original "valley" was the surface expression of extensive solutioning of the Hermitage along enlarged fractures which cross at azimuths coincident with the areal

joint pattern. It is axiomatic that the blocks of bedrock intervening between fracture traces may exhibit almost no evidence of solutioning when penetrated by exploratory borings. The absence of deep solution weathering in the borings does not preclude the presence of extensive weathering in the Carters at depth. We expect that the occasional occurrence of anomalies in water levels is related to this aspect.

CHEMICAL ANALYSIS.

Leachate extractions were performed pursuant to the EPA EP toxicity extraction procedure on representative soil and solid waste samples. The extracts were then subjected to organic and inorganic chemical analysis, as specified by the Tennessee Department of Public Health. As shown in Appendix I, the results indicate that the materials tested are non-hazardous.

Selected groundwater samples were also subjected to organic and inorganic chemical analyses as specified by the State. The degree of contamination of the water samples, with the exception of that recovered from Boring 5, is generally consistent with the concentrations measured by, and previously deemed acceptable by, the State. The chemical test results for the groundwater sampled from Boring 5 were an exception, in

that water from this boring is contaminated with some type of petroleum-based product. Chemical analyses noted that the sample was highly contaminated with oil and grease, Trans-1, 2-Dichloroethene, Trichloroethene, and 1, 1, 1-Trichloroethane; the results are shown in Appendix I. These data were discussed at a meeting held January 12, 1981, with representatives of AVCO, Geologic Associates, Inc., and Resource Consultants, Inc. At that time, a plan of additional exploration was designed to further examine the contamination encountered in Boring 5.

ADDITIONAL EXPLORATION AND TESTING.

The first phase of the additional studies included repeated sampling and analyses of water samples obtained from Boring 5. The samples were chemically tested for oil and grease content. As shown in Appendix II, these data indicate that, while the concentrations of oil and grease decreased from that initially recorded, they remained at a level considered excessive. Subsequently, sophisticated sampling wells were installed adjacent to Boring 5 in order to permit sampling of the groundwater from two, separate horizons. Groundwater from these horizons was then sampled repeatedly over a period of six weeks and the water samples were subjected to analysis for oil and grease content. Excessive levels of oil and grease concentrations occurred in both of

the horizons sampled. Results of the latter analysis are included in Appendix II.

Subsequently, thirteen additional inspection trenches were excavated in an effort to determine if the source of the contaminant was buried within the landfill. Ten of the trenches were located on the "upper plateau" of the landfill, adjacent to Boring 5 (see Plan), and three trenches were located directly down-slope from Boring 5.

The "upper plateau" trenches were excavated to refusal on bedrock, at a depth of 9.2 feet to 16.0 feet. Below a veneer of crushed stone, four inches to eight inches thick, in-place, undisturbed, reddish-brown residual clay was encountered in Trenches 1A and 8A inclusive, each of which extended to depths ranging from 9.2 feet to 14.0 feet. There was no evidence of any contamination within this undisturbed clay interval. Underlying this soil is an interval composed of gray, sandy, silty, clay and weathered bedrock - the indistinct interface of the residual soil and the bedrock (Hermitage Formation). This interface ranges in thickness from 0 to 4.5 feet. A petroleum odor emanated from this lower layer and "weeps" of the contaminant were observed from this interval. This contamination, which was evident at a depth of twelve feet in Trench 1A,

appeared to diminish as the excavations progressed northward from Boring 5 and Trench 1A, toward the main body of the landfill. In contrast, the contaminant was not evident in Trenches 6A, 7A and 8A. Trenches 9A and 10A were excavated on the "upper plateau", but within the landfill area. Only soil fill, rock fragments, roots and concrete slabs were encountered in Trenches 9A and 10A, which were excavated to depths of 16.0 feet and 11.6 feet, respectively. Trench 9A refused, presumably on bedrock, Trench 10A also refused, presumably on fill material. No petroleum odor was detected in either of these trenches.

Trenches 11A, 12A and 13A were excavated within the lower portion of the landfill, east of and directly downhill from Boring 5. Trenches 11A and 12A encountered a layer of fill up to three feet in thickness, overlying undisturbed residual soil. Small seeps occurred at a depth of about nine feet in both trenches, however, the water in Trench 12A had a very strong petroleum odor and an oily appearance, whereas Trench 11A exhibited evidence of only weak petroleum contamination. Trench 13A was excavated to a depth of 6.5 feet, through clay, concrete, and debris. The excavation was terminated prior to refusal when large inflows of water, presumably trapped within the fill, flooded the trench.

Water samples were obtained form Trenches 4A, 5A, 9A, 11A, 12A, and 13A, the only trenches where water was encountered. Also, soil samples were recovered from Trench 1A. The soil samples and water samples were subjected to chemical analysis. Results of the analysis are shown in Appendix II.

Locations of the trenches and detailed logs are shown in Appendix III.

CONCLUSIONS.

We conclude that the source of the petroleum contamination is located at or above elevation 555 (MSL), as that elevation is the highest level in which the contaminant was detected in Trench 1A. Also, it appears that the contaminant has traveled laterally through the weathered rock to the area of Trench 1A, because there is no evidence of any contamination within the overlying, undisturbed soil. Further, the qualitative and quanitative data indicate that the contamination diminishes northward from Boring 5, toward the landfill area. The degree of contamination, however, appears to remain relatively constant, moving easterly, downslope. Topographically, Boring 5 is a "panhandle" of the upper landfill area. Because the contaminants could not flow uphill from the lower landfill areas located to the south and east, and because the diminished

degree of contamination to the north indicates that the source of contaminants is not located within the upper, northern portion of the site, we conclude that the contaminants are flowing into the landfill area from an off-site source located west of the landfill. While the source of these contaminants is not known, we conclude that the off-site contaminants are entering AVCO's property west of and adjacent to Boring 5. Presumably, the permeable soil/bedrock interface, caused by weathering along a near-vertical joint within the Hermitage Formation, provides a localized, permeable avenue for the contaminants to flow into the landfill area. The source of these off-site contaminants can only be conjectured, at this time.

RECOMMENDATIONS.

Based on the data, it is our opinion that the closure of AVCO's landfill facility can be properly effected by the installation of an essentially impervious earth cap. While our investigation reveals that groundwater occurs within and below the refuse materials, because the analytical testing has determined that the bulk of the refuse is non-hazardous, and considering that there is no evidence of the presence of buried drums and chemical wastes within the inspection pits, it is our general opinion

that an earth cap constructed in accordance with State and Federal regulations, will provide adequate protection of the groundwater regime and the surface environment.

We have developed a grading plan for the closure of the facility. The plan is designed to meet the criteria described by the State regulations. This grading plan provides for a permanent cover at least three and one-half feet thick that will meet or exceed the minimum criteria required by the applicable State Regulations. We expect that future land use will be limited to providing parking and storage areas because the nature of the subgrade materials will generally prohibit the economical construction of any major structures. The on-going decomposition of the landfill, combined with imposition of even moderate structural loads will accelerate consolidation, thus causing extreme structural distress in any above-ground structures.

We are available at your convenience to discuss any questions you may have regarding this report and the closure of this facility.

Respectfully submitted,

GEOLOGIC ASSOCIATES, INC.

Mark J. Levy

Mark J. Levy, P. E.

MJL/mr

TEST WELL ANALYTICAL RESULTS

AVCO LANDFILL INVESTIGATION
Nashville, Tennessee

RCI Sample Number	17247	17123	17124	17248	17249	17125
Test Well Number	1	2	3	4	5	9A
Date Collected	12/3/80	11/24/80	11/24/80	12/3/80	12/3/80	11/24/80
Time Collected	1340	0930	1000	1350	1405	1055
Cyanide 2.0 (0.2)	< 0.003	< 0.003	< 0.003	0.004	2.32	< 0.003
Nitrate & Nitrite Nitrogen	0.24	0.27	0.24	0.06	0.15	0.11
Oil & Grease					3000	
pH, Std. Units	7.9	7.8	7.8	7.2	7.2	7.9
Phenols	0.003	< 0.002	< 0.002	0.006	0.009	0.011
Dissolved Arsenic (0.010)	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Dissolved Barium	< 0.05	< 0.05	< 0.05	0.18	0.14	< 0.05
Dissolved Cadmium	< 0.003	< 0.003	< 0.003	< 0.003	0.005	< 0.003
Dissolved Chromium	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dissolved Iron	< 0.01	0.03	< 0.01	0.04	0.44	0.09
Dissolved Lead	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dissolved Manganese (0.05)	0.16	0.02	0.06	0.60	0.36	0.02
Dissolved Mercury	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Dissolved Selenium (0.05)	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Dissolved Silver (0.10)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

All results except pH reported as mg/l.

All samples collected by Geologic Associates, Franklin, Tennessee.

RESOURCE CONSULTANTS INC.

TEST WELL ANALYTICAL RESULTS

AVCO LANDFILL INVESTIGATION
Nashville, Tennessee

.CI Sample Number	17247	17123	.17124	17248	17249	17125
Test Well Number	1	2	3	4	5	9A
ıate Collected	12/3/80	11/24/80	11/24/80	12/3/80	12/3/80	11/24/80
ıime Collected	1340	0930	1000	1350	1405	1055
Trans-1, 2-Dichloroethene (100)	ND	ND	47	10	5,200	ND
-1-Dichloroethane	11	ND	I	ND	91	ND
Trichloroethene (5)	ND	ND	14	1	13,000	ND
, 1, 1-Trichoroethane (200)	14	ND	95	ND	370	ND
Tetrahydrofuran	D	D	D	D	D	D
lethyl Ethyl Ketone	D			D	D	
Toluene					D	

OTES:

All concentrations reported as ug/l.

ND = Not Detected (Detection Limit = 1 ug/l).

D = Detected but not quantified.

I = Detected but not quantified due to interference of tetrahydrofuran.

All samples collected by Geologic Associates, Franklin, Tennessee.

RESOURCE CONSULTANTS INC.

ANALYTICAL RESULTS FROM CORE SAMPLES

AVCO LANDFILL INVESTIGATION
Nashville, Tennessee

RCI Sample No.	17084	17087	17088	17086
Hole Number	1	3	3	4
Field Sample Number	2	1	2	4
Location, feet	8.0-8.7	3.0-4.5	8.0-9.5	11.9-13.4
Date Received	11/7/80	11/7/80	11/7/80	11/7/80
Cyanide, mg/kg	< 0.1	< 0.1	< 0.1	0.7

RCI Extract Sample No.	17180	17183	17184	17182
Extract Analyses, mg/l:				
Arsenic	< 0.002	< 0.002	< 0.002	< 0.002
Barium	0.18	0.14	0.24	0.14
Cadmium	0.02	< 0.003	< 0.003	< 0.003
Chromium, total	< 0.01	< 0.01	< 0.01	< 0.01
Lead	< 0.1	< 0.1	< 0.1	< 0.1
Mercury	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Selenium	< 0.005	< 0.005	< 0.005	< 0.005
Silver	< 0.01	< 0.01	< 0.01	< 0.01

All samples collected by Geologic Associates, Franklin, Tennessee.

Extractions performed pursuant to EPA EP Toxicity extraction procedure specified in 40 CFR 261.24, Federal Register, Vol. 45, No. 98, May 19,1980.

RESOURCE CONSULTANTS INC.

ANALYTICAL RESULTS FROM CORE SAMPLES

AVCO LANDFILL INVESTIGATION

Nashville, Tennessee

RCI Sample No.	17085	17090	17089	17091
Hole Number.	4	4	5	11A
Field Sample Number	5	6	3	4
Location, feet	16.5-18.0	21.0-23.5	13.0-14.5	17.5-19.0
Date Received	11/7/80	11/7/80	11/7/80	11/7/80
Cyanide, mg/kg	< 0.1	< 0.1	< 0.1	0.7

RCI Extract Sample No.	17181	17186	17185	17187
Extract Analyses, mg/l:				
Arsenic	< 0.002	< 0.002	< 0.002	< 0.002
Barium	0.20	0.61	< 0.05	1.29
Cadmium	0.03	< 0.003	< 0.003	0.10
Chromium, total	< 0.01	< 0.01	< 0.01	0.09
Lead	< 0.1	< 0.1	< 0.1	< 0.1
Mercury	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Selenium	< 0.005	< 0.005	< 0.005	< 0.005
Silver	< 0.01	< 0.01	< 0.01	< 0.01

All samples collected by Geologic Associates, Franklin, Tennessee.

Extractions performed pursuant to EPA EP Toxicity extraction procedure specified in 40 CFR 261.24, Federal Register, Vol. 45, No. 98, May 19, 1980.

RESOURCE CONSULTANTS

ANALYTICAL RESULTS FROM CORE SAMPLES

AVCO LANDFILL INVESTIGATION
Nashville, Tennessee

RCI Sample Number	17084	17087	17088	17086
Hole Number	1	3	3	4
Field Sample Number	2	1	2	4
Location, feet	8.0-8.7	3.0-4.5	8.0-9.5	11.9-13.4
Date Received	11/7/80	11/7/80	11/7/80	11/7/80
Trans-1, 2-Dichloroethene	ND	ND	ND	ND
1, 1-Dichloroethane	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	400
1, 1, 1-Trichloroethane	ND	ND	ND	ND
Acetone	D	D	D	
Tetrahydrofuran	D			

NOTES:

All concentrations reported as ug/kg.

ND = Not Detected (Detection Limit 100 ug/kg).

D = Detected but not quantified.

All samples collected by Geologic Associates, Franklin, Tennessee.

RESOURCE CONSULTANTS INC.

ANALYTICAL RESULTS FROM CORE SAMPLES

AVCO LANDFILL INVESTIGATION
Nashville, Tennessee

RCI Sample Number	17085	17090	17089	17091
Hole Number	4	4	5	11A
Field Sample Number	5	6	3	4
Location, feet	16.5-18.0	21.0-23.5	13.0-14.5	17.5-19.0
Date Received	11/7/80	11/7/80	11/7/80	11/7/80
Trans-1, 2-Dichloroethene	ND	ND	ND	ND
1, 1-Dichloroethane	ND	ND	ND	ND
Trichloroethene	500	1,700	200	ND
1, 1, 1-Trichloroethane	ND	ND	ND	ND
Acetone				D
Tetrahydrofuran		D		
Methyl Ethyl Ketone		D		

NOTES:

All concentrations reported as ug/kg.

ND = Not Detected (Detection Limit 100 ug/kg).

D = Detected but not quantified.

All samples collected by Geologic Associates, Franklin, Tennessee.

RESOURCE CONSULTANTS INC.

ANALYTICAL RESULTS FROM TEST PIT SAMPLES
AVCO LANDFILL INVESTIGATION
Nashville, Tennessee

RCI Sample Number	17171	17172	17173
Test Pit Number	2	7	9
Field Sample Number	1	1	2
Date Collected	11/24/80	11/24/80	11/24/80
Trans-1, 2-Dichloroethene	ND	ND	ND
1, 1-Dichloroethane	ND	ND	ND
Trichloroethene	ND	ND	100
1, 1, 1-Trichloroethane	ND	ND	ND
Methyl Ethyl Ketone	D		
Chlorobenzene	D		
Ethylbenzene	D		
Toluene	D		

NOTES:

All concentrations reported as ug/kg.

ND = Not Detected (Detection Limit 100 ug/kg).

D = Detected but not quantified.

All samples collected by Geologic Associates, Franklin, Tennessee.

RESOURCE CONSULTANTS INC.

ANALYTICAL RESULTS FROM TEST PIT SAMPLES

AVCO LANDFILL INVESTIGATION
Nashville, Tennessee

RCI Sample No.	17171	17172	17173
Test Pit No.	2	7	9
Field Sample No.	1	1	2
Date Collected	11/24/80	11/24/80	11/24/80
Cyanide, mg/kg	0.3	< 0.1	0.2

RCI Extract Sample No.	17188	17189	17190
Extract Analyses, mg/l:			
Arsenic	< 0.002	< 0.002	< 0.002
Barium	2.39	0.14	0.28
Cadmium	0.06	< 0.003	0.03
Chromium, total	< 0.01	< 0.01	< 0.01
Lead	< 0.1	< 0.1	< 0.01
Mercury	< 0.0002	< 0.0002	0.0003
Selenium	0.005	0.009	< 0.005
Silver	< 0.01	< 0.01	< 0.01

All samples collected by Geologic Associates, Franklin, Tennessee.

Extractions performed pursuant to EPA EP Toxicity extraction procedure specified in 40 CFR 261.24, Federal Register, Vol. 45, No. 98, May 19, 1980.

RESOURCE CONSULTANTS INC

ANALYTICAL REPORT
SUBSEQUENT EXPLORATION AND TESTING PROGRAM

Well No.	Sample Date	Oil and Grease (mg/l)	pH
5	December 3, 1980	3000	7.2
5	January 19, 1981	1540	6.8
5	January 22, 1981	622	7.7
5	January 29, 1981	330	7.6
5S	February 9, 1981	6	7.2
5S	February 13, 1981	33	7.1
5S	February 19, 1981	23	
5S	February 25, 1981	25	6.6
5S	March 5, 1981	3	6.9
5S	March 11, 1981	27	6.2
5S	March 16, 1981	28	6.5
5D	February 13, 1981	34	7.4
5D	February 19, 1981	45	
5D	February 25, 1981	25	7.0
5D	March 5, 1981	6	7.5
5D	March 16, 1981	39	7.2

Note: 1) All samples collected by Geologic Associates, Inc.

2) Analyses performed by Resource Consultants, Inc.

GA

ANALYTICAL REPORT
SUBSEQUENT EXPLORATION AND TESTING PROGRAM

Inspection Pit No.	Oil and Grease	C O D (dissolved)	pH
4A	113	42	6.7
5A	21	20	7.3
9A	21	20	6.9
11A	25	20	7.0
12A	151	63	7.1
13A	323	20	6.8

Note: 1) All samples collected by Geologic Associates, Inc., on March 19, 1981

2) Analyses performed by Resource Consultants, Inc.

GA

SUMMARY OF THE GEOTECHNICAL/ENVIRONMENTAL INVESTIGATION
AVCO LANDFILL
NASHVILLE, TENNESSEE

January 12, 1981

The following is a summary of the data and conclusions developed by Geologic Associates, Inc., and Resource Consultants, Inc., relative to the geotechnical/environmental aspects of the AVCO landfill. The conclusions should be considered preliminary and may be modified as additional data is developed. A detailed report suitable for submittal to the State is being prepared and will be transmitted to AVCO shortly, pending the results of the January 12, 1981 meeting with AVCO officials.

ITEM 1

The exploratory data indicate that the bulk of the landfill contains non-hazardous material.

Conclusion

It is likely that a closure plan for the AVCO landfill can be developed on the basis that the landfill stores only non-hazardous material.

ITEM 2

Portions of the landfill are partially saturated. The saturating source can be groundwater or sewer lines buried within the landfill.

Conclusion

Because the study confirms that the bulk of the landfill contains non-hazardous material, in our opinion, saturation of the fill is of no consequence and will not ~~e~~affect the closure plans.

ITEM 3

Water sampled from Boring 5, located essentially beyond the limits of the landfill, show high concentrations of a petroleum product.

Conclusion

To more accurately establish the source and levels of contamination, a more elaborate study is required in the area of Boring 5. We recommend GC/MS analysis to accurately define the character of the contaminant. The source should be traced by means of more exploratory borings and observation pits.

REPORT OF ANALYSES

Division of Water Quality Control — Tennessee Department of Public He

SOURCE AVCD's LANDFILL Mi:

IDENTIFICATION COMPOSITE OF 3 LEACHATE STREAMS.

Field Number ____ Collected By RNY Primary Station Number ____ Date Collected 800528

Time Collected 945 Sample Depth (ft.) ____ Laboratory No. SWM474

10-Temperature °C		2	340-C.O.D. mg/L (High Level)		
300-D.O. mg/L		3	335 C.O.D. mg/L (Low Level)		18
310-5-day B.O.D. 20 °C mg/L		4	70508 Acidity Total - Hot mg/L		
403-pH, Lab.		5	412 Alkalinity (Net) mg/L		
400-pH, Field		6	38260-MBAS mg/L		0.05
81-App. Color Pt - Co units		7	95-Conductivity Micromho 25 °C		
80-True Color Pt - Co units		8	1105-Aluminum as Al ug/L		
70-Turbidity NTU	22	9	1007-Barium as Ba ug/L		60
410-Total Alk. as $CaCO_3$ mg/L		10	1032-Chromium-Hex. as Cr. ug/L		
415-Phth. Alk. As $CaCO_3$ mg/L		11	1033-Chromium-Tri. as Cr. ug/L		
437-Acidity as $CaCO_3$ mg/L		12	1034-Chromium-total as Cr. ug/L (VOA)		3
900-Total Hardness as $CaCO_3$ mg/L		13	1037-Cobalt as Co ug/L		
910-Calcium as $CaCO_3$ mg/L		14	1147-Selenium-total as Se ug/L		<1
927-Magnesium as Mg mg/L		15	1145-Selenium (Diss.) as Se ug/L		
929-Sodium as Na mg/L		16	1077-Silver as Ag ug/L		3
937-Potassium as K mg/L		17	32730-Phenols ug/L		<10
500-Total Residue mg/L	416	18	1022-Boron-Total as B ug/L		
530-Sus. Residue mg/L	9	19	615-Nitrite Nitrogen as N mg/L		
515-Diss. Residue mg/L	407	20	620-Nitrate Nitrogen as N mg/L		
31501-Coliform No./100 ml		21	405-Free CO_2 mg/L		
31616-Fecal Coliform No./100 ml.		22	505-Total Vol. Residue mg/L		
31679-Fecal Strep. No./100ml.		23	535-Vol. Sus. Residue mg/L		
635-Total Kjl. Nitrogen as N mg/L	0.25	24	545-Settleable Residue ml/L		
630-NO_3 & NO_2 as N mg/L	0.12	25	666-Diss. Phosphate as P mg/L		
1097-Antimony as Sb ug/L		26	745-Sulfide, total as S mg/L		
1045-Iron as Fe ug/L	5200	27	746-Sulfide, Dissolved as S mg/L		
1055-Manganese as Mn ug/L	710	28	369-Cl_2 Demand, 30 min. mg/L		
940-Chloride as Cl mg/L	29	29	50064-Cl_2, Free Res. mg/L		
950-Fluoride as F mg/L		30	50060-Cl_2, Combined Res. mg/L		
665-Total Phosphate as P mg/L		1	690-Total Carbon mg/L		
945-Sulfate as SO_4 mg/L	54	2	550-Oil and Grease mg/L		<1.
680-Total Organic Carbon mg/L	26	3	720-Cyanide as CN mg/L		0.03
1067-Nickel as Ni ug/L	10	4	32240-Tannin and Lignin mg/L		
71900-Mercury-Total as Hg ug/L	<0.2	5	610-Ammonia Nitrogen as N mg/L		
1051-Lead as Pb ug/L	20	6	605-Organic Nitrogen as N mg/L		
1042-Copper as Cu ug/L	10	7	58-Flow Rate CFM		
1002-Arsenic as As ug/L	4	8	61-Flow Rate CFS, Instantaneous		
1027-Cadmium as Cd ug/L	2	9	60-Flow Rate CFS, Mean Daily		
1092-Zinc as Zn ug/L	36	10			
955-Silica as SiO_2 mg/L		11			

Remarks :

PH-054
WQC-6/7

ORGANIC LABORATORY ANALYSIS REPORT

Field Log. No._____

Laboratory Sample No. Ø-168-A Date Received: 5-29-80 Date Completed: 6-2-80

Sample Collected By: RAY Date Collected: 5-28-80

Sample Source & Identification: AVCO LANDFILL

Composite of three leachate areas

VOLATILE ORGANICS ANALYSIS
(<2% SOLUBLE IN WATER WITH B.P. <140C)

A 5.0 ML. SAMPLE FROM A SPECIALLY PREPARED VOA BOTTLE IS PURGED ONTO A TENAX TRAP USING ZERO GRADE NITROGEN @ 25C. THE TRAP IS THEN DESORBED TO A TRACOR MT-220 G.C. AND ANALYZED USING A HALL 700 ELECTROCONDUCTIVITY DETECTOR IN THE CHLORINE MODE.

COLUMN: 1%SP 1000 ON CARBOPACK C
STARTING TEMPERATURE- 50C
INITIAL HOLD- 2 MINUTES
PROGRAM RATE- 6 DEGREES/MINUTE
FINAL TEMPERATURE- 200C
FINAL HOLD- 10 MINUTES

COMPOUND REQUESTED OR ANALYZED FOR

O	METHYLENE CHLORIDE		_____PPB
O	1,1-DICHLOROETHYLENE		_____PPB
O	1,1-DICHLOROETHANE		_____PPB
O	TRANS 1,2-DICHLOROETHYLENE		_____PPB
O	CHLOROFORM		_____PPB
O	1,2-DICHLOROETHANE		_____PPB
X	1,1,1-TRICHLOROETHANE	200	2.7 PPB
O	CARBON TETRACHLORIDE		_____PPB
O	BROMODICHLOROMETHANE		_____PPB
X	TRICHLOROETHYLENE	5	44 PPB
O	1,1,2-TRICHLOROETHANE		_____PPB
O	DIBROMOCHLOROMETHANE		_____PPB
O	BROMOFORM		_____PPB
O	TETRACHLOROETHYLENE		_____PPB
O	TETRACHLOROETHANE		_____PPB
O	CHLOROBENZENE		_____PPB
O			_____PPB
O			_____PPB
O			_____PPB
O			_____PPB

ORGANIC LABORATORY ANALYSIS REPORT

Field Log. No._____

Laboratory Sample No. Ø-168-B Date Received: 5-29-80 Date Completed: 6-3-80

Sample Collected By: RAY Date Collected: 5-29-80

Sample Source & Identification: AVCO LANDFILL

Composite of three leachate areas

VOLATILE ORGANICS ANALYSIS
<2% SOLUBLE IN WATER WITH B.P. <140C >

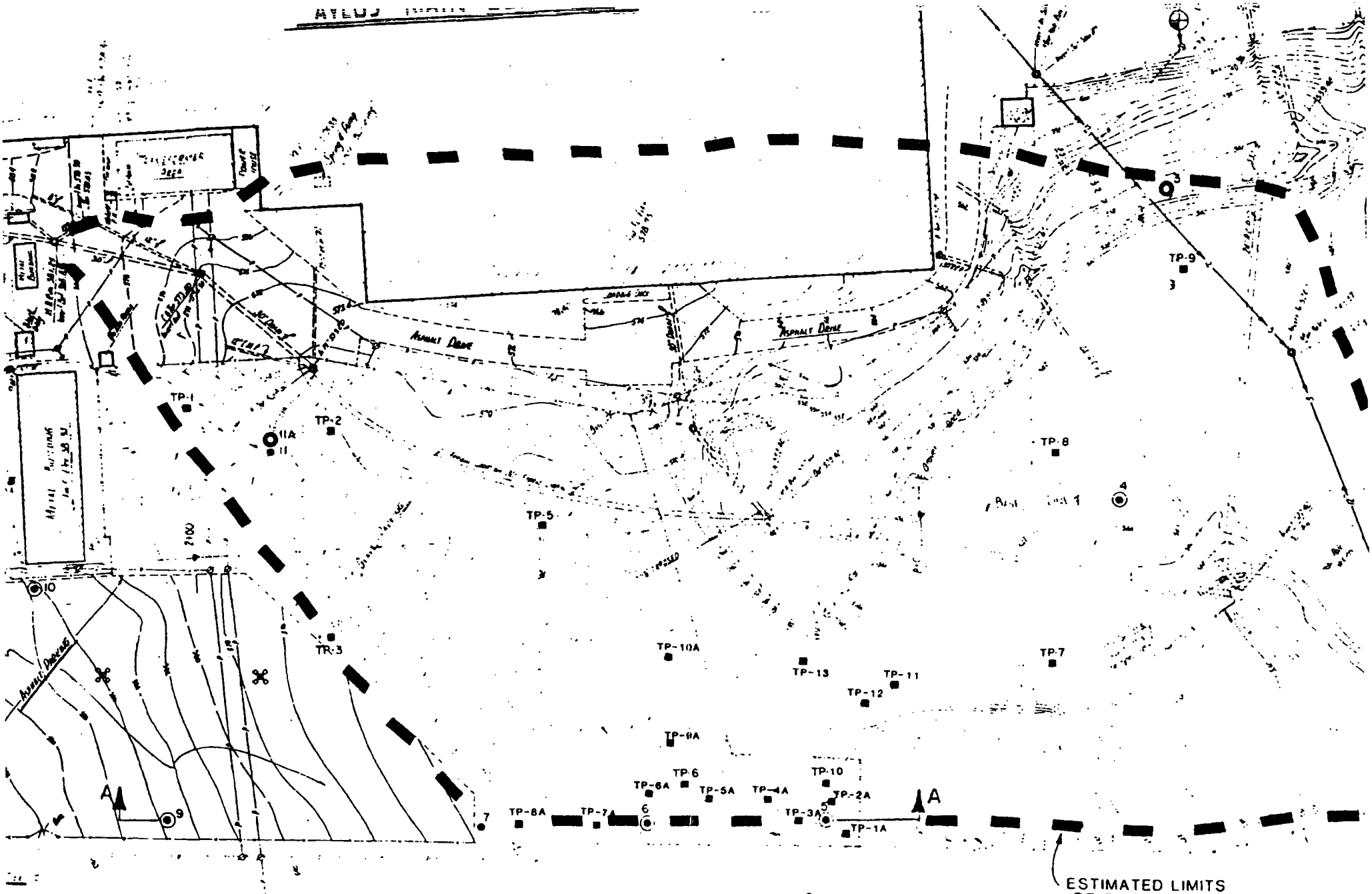
A 5.0 ML. SAMPLE FROM A SPECIALLY PREPARED VOA BOTTLE IS PURGED ONTO A TENAX TRAP USING ZERO GRADE NITROGEN @ 25C. THE TRAP IS THEN DESORBED TO A TRACOR MT-220 G.C. AND ANALYZED USING A HALL 700 ELECTROCONDUCTIVITY DETECTOR IN THE CHLORINE MODE.

COLUMN: 1%SP 1000 ON CARBOPACK C
STARTING TEMPERATURE- 50C
INITIAL HOLD- 2 MINUTES
PROGRAM RATE- 8 DEGREES/MINUTE
FINAL TEMPERATURE- 200C
FINAL HOLD- 10 MINUTES

COMPOUND REQUESTED OR ANALYZED FOR

0	METHYLENE CHLORIDE		____PPB
0	1,1-DICHLOROETHYLENE		____PPB
X	1,1-DICHLOROETHANE		2.6 PPB
X	TRANS 1,2-DICHLOROETHYLENE	∞	41 PPB
0	CHLOROFORM		____PPB
0	1,2-DICHLOROETHANE		____PPB
X	1,1,1-TRICHLOROETHANE		N.D. PPB
0	CARBON TETRACHLORIDE		____PPB
0	BROMODICHLOROMETHANE		____PPB
X	TRICHLOROETHYLENE	5	16 PPB
0	1,1,2-TRICHLOROETHANE		____PPB
0	DIBROMOCHLOROMETHANE		____PPB
0	BROMOFORM		____PPB
0	TETRACHLOROETHYLENE		____PPB
0	TETRACHLOROETHANE		____PPB
0	CHLOROBENZENE		____PPB
0			____PPB
0			____PPB
0			____PPB
0			____PPB

N.D. - NOT DETECTED



– PRE-CLOSURE LANDFILL INVESTIGATION

NC. – VULTEE BLVD. FACILITY
ASHVILLE, TENNESSEE

ADAPTED FROM "AVCO LANDFILL INVESTIGATION; GEOTECHNICAL INVESTIGATION PLAN"; 4/10/81; GEOLOGIC ASSOCIATES, INC.

BENCH MARKS

Geologic Associates, Inc. GEOLOGISTS AND ENGINEERS

File AVCO
Davidson C
JRS 7.

APR 14 1982

April 12, 1982

Mr. James Spicer
Division of Solid Waste Management
Department of Public Health
State of Tennessee
150 Ninth Avenue North
Nashville, TN 37219

Dear Mr. Spicer:

Re: AVCO Landfill Closure
Nashville, Tennessee

With reference to the above project and our meeting of April 2, 1982, we herewith confirm the Owners intention to place approximately 20,000 cubic yards of additional soil cover over the landfill. The proposed new grading plan is shown on the attached plan and it is our understanding that you approve of this plan.

This earth borrow is being generated by the construction of a large manufacturing facility on the AVCO property. During the installation of the deep foundation for the facility, trichloroethylene was encountered, in several of the drilled piers located along the southwest side of the construction site, beyond the limits of the earth excavation. Subsequently, in order to evaluate the extent of the contamination, Geologic Associates, Inc., drilled a number of borings, continuously sampled as per ASTM D-1586, that extended approximately five feet below the base of the proposed excavation. There was no contamination readily apparent in any of the samples. However, in accordance with our discussion, we will subject a total of ten samples to laboratory analysis. These samples will be selected from five borings, and will be

GA
Founded 1953
P.O. Box 668 - Franklin, TN 37064 - (615)-794-3596
Franklin - Knoxville - Kingsport, TN

tested for trichloroethylene. We will present the results of this analysis as they become available.

We are available at your convenience to discuss any questions or comments you may have regarding this investigation and landfill closure.

Yours truly,

GEOLOGIC ASSOCIATES, INC.

Mark J. Levy, P. E.

MJL/mr

cc: Mr. Wayne Lee,
AVCO/Aerostructures Corp.

PO BOX 498 • TWO MARYLAND FARMS • SUITE 340
BRENTWOOD, TENNESSEE 37027 • 615-373-5040

ANALYTICAL REPORT

TO: Mr. Mark Levy
Geologic Associates, Inc.
P. O. Box 668
Franklin, TN 37064

Description: FOR: AVCO

RCI # 21226 - Hole 3, Sample 4 -5.5' to 7.0'
RCI # 21264 - Hole 3, Sample 9-13.0' to 14.5'
RCI # 21265 - Hole 5, Sample 4 -5.5' to 7.0'
RCI # 21271 - Hole 5, Sample 8-11.5' to 13.0'

RCI Sample Number	21266	21264	21265	21271	
Date Collected					
Time Collected					
Date Received	4/6/82	4/6/82	4/6/82	4/6/82	

Acidity (mg/l as $CaCO_3$)					
Alkalinity (mg/l as $CaCO_3$)					
BOD, 5-day, 20°C					
Chlorides					
COD					
Cyanide					
Fluorides					
MBAS					
Nitrogen - Ammonia					
Nitrogen - Total Kjeldahl					
Nitrogen - Nitrite, Nitrate					
Oil and Grease					
pH (pH units)					
Phenols					
Phosphate - Ortho					
Phosphate - Total					
Sulfates					
Suspended Solids					
Total Dissolved Solids					
Total Solids					
Turbidity (NTU)					
Aluminum					
Arsenic					
Barium					
Beryllium					
Calcium					
Cadmium					
Chromium					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Mercury					
Nickel					
Potassium					
Selenium					
Silver					
Sodium					
Zinc					
Trichloroethylene (mg/kg)	<0.01	<0.01	0.05	<0.01	

PO BOX 498 • TWO MARYLAND FARMS • SUITE 340
BRENTWOOD, TENNESSEE 37027 • 615-373-5040

ANALYTICAL REPORT

TO: Geologic Associates

FOR: AVCO

Description:
RCI # 21262 - Hole 7, Sample 4 - 5.5' to 7.0'
RCI # 21268 - Hole 7, Sample 9 - 13.0' to 14.5'
RCI # 21263 - Hole 12, Sample 4 - 5.5' to 7.0'
RCI # 21267 - Hole 12, Sample 9 - 13.0' to 14.5'

RCI Sample Number	21262	21268	21263	21267	
Date Collected					
Time Collected					
Date Received	4/6/82	4/6/82	4/6/82	4/6/82	

Acidity (mg/l as $CaCO_3$)					
Alkalinity (mg/l as $CaCO_3$)					
BOD, 5-day, 20°C					
Chlorides					
COD					
Cyanide					
Fluorides					
MBAS					
Nitrogen - Ammonia					
Nitrogen - Total Kjeldahl					
Nitrogen - Nitrite, Nitrate					
Oil and Grease					
pH (pH units)					
Phenols					
Phosphate - Ortho					
Phosphate - Total					
Sulfates					
Suspended Solids					
Total Dissolved Solids					
Total Solids					
Turbidity (NTU)					
Aluminum					
Arsenic					
Barium					
Beryllium					
Calcium					
Cadmium					
Chromium					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Mercury					
Nickel					
Potassium					
Selenium					
Silver					
Sodium					
Zinc					
Trichloroethylene (mg/kg)	<0.01	0.05	0.25	<0.01	

PO BOX 498 • TWO MARYLAND FARMS • SUITE 340
BRENTWOOD, TENNESSEE 37027 • 615-373-5040

ANALYTICAL REPORT

TO: Geologic Associates

FOR: AVCO

Description: RCI # 21270 - Hole 14, Sample 4 - 5.5' to 7.0'
RCI # 21269 - Hole 14, Sample 9 - 13.0' to 14.5'

RCI Sample Number	21270	21269			
Date Collected					
Time Collected					
Date Received	4/6/82	4/6/82			

Acidity (mg/l as $CaCO_3$)					
Alkalinity (mg/l as $CaCO_3$)					
BOD, 5-day, 20°C					
Chlorides					
COD					
Cyanide					
Fluorides					
MBAS					
Nitrogen - Ammonia					
Nitrogen - Total Kjeldahl					
Nitrogen - Nitrite, Nitrate					
Oil and Grease					
pH (pH units)					
Phenols					
Phosphate - Ortho					
Phosphate - Total					
Sulfates					
Suspended Solids					
Total Dissolved Solids					
Total Solids					
Turbidity (NTU)					
Aluminum					
Arsenic					
Barium					
Beryllium					
Calcium					
Cadmium					
Chromium					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Mercury					
Nickel					
Potassium					
Selenium					
Silver					
Sodium					
Zinc					
Trichloroethylene (mg/kg)	<0.01	0.03			

U.S. EPA REGION IV

SDMS

Unscannable Material Target Sheet

DocID: 10660173 Site ID: TND004042057

Site Name: Aerostructures Corporation

Nature of Material:

Map:	☐	Computer Disks:	☐
Photos:	☐	CD-ROM:	☐
Blueprints:	☐	Oversized Report:	☐
Slides:	☐	Log Book:	☐

Other (describe): Final Grading Plan

Amount of material: _____

* Please contact the appropriate Records Center to view the material *

STATE OF TENNESSEE
DEPARTMENT OF PUBLIC HEALTH
CORDELL HULL BUILDING
NASHVILLE, TENNESSEE 37219

June 5, 1981

Mr. Mark Levy
Geologic Associates, Inc.
Reynolds Road
Franklin, Tennessee 37064

Re: Closure of the AVCO Landfill Facility
Nashville, Tennessee

Dear Mark:

As per our meeting concerning the subject project, it is the Division's determination that a less elaborate closure plan can be approved for this site. This determination is based on evidence presented in the report indicating that with the exception of one monitoring point, the site appears to contain no hazardous waste. Evidence provided by your study shows that the contamination in the one monitoring point (Boring 5) originates off of the AVCO property.

When preparing revised plans, care should be taken to insure that the site has proper surface drainage, proper drainage around the site, adequate soil cover and proper vegetative cover.

If you have any questions or if we may be of any help, please feel free to call.

Yours truly,

James R. Spicer

James R. Spicer
Division of Solid Waste Management

JRS/ns/ 4-5

cc: Mr. Wayne Lee

STATE OF TENNESSEE
DEPARTMENT OF PUBLIC HEALTH
CORDELL HULL BUILDING
NASHVILLE, TENNESSEE 37219

July 22, 1981

Avco Corporation
Through
Geologic Associates, Inc.
Reynolds Road
Franklin, TN 37064

Attn: Mr. Mark Levy

Subject: Avco Closure Plans

Dear Gentlemen:

The Division has reviewed the subject plans as submitted on July 20, 1981 and have found them to be acceptable. This determination was based not only on the final grading plan but also the "Avco Landfill Closure" report of April 10, 1981.

If during the closure process any wastes previously unidentified are discovered, we ask that this Division be notified immediately. We also ask that we be notified when closure is complete so a final inspection can be made by the Division. If you encounter any problems or have any questions, please feel free to call.

Yours truly,

James R. Spicer
Division of Solid Waste Management

JRS/ns/1-3-2

cc: Joe Walkup
Wayne Lee-Avco Corp.

STATE OF TENNESSEE
DEPARTMENT OF PUBLIC HEALTH
DIVISION OF SOLID WASTE MANAGEMENT

326 CAPITOL HILL BUILDING
NASHVILLE, TENNESSEE 37219
TELEPHONE (615) 741-3424

HAZARDOUS WASTE GENERATOR NOTIFICATION

PART ONE

PLEASE TYPE OR PRINT LEGIBLY. SEE INSTRUCTIONS FOR FURTHER INFORMATION.

1. ORGANIZATION'S FULL NAME AT SITE Avco Aerostructures Division		IDENTIFICATION CODE TND004042057	
2. MAILING ADDRESS P.O. Box 210	CITY Nashville	STATE TN	ZIP CODE 37202
3. DOES YOUR FACILITY/OPERATION GENERATE ANY WASTE WHICH IS DETERMINED TO BE HAZARDOUS ACCORDING TO RULE 1200-1-11-.02(1)(E)?		YES X	NO

IF THE ANSWER TO QUESTION 3 IS 'NO', SKIP TO LINE 13 AND RETURN ONLY THIS PAGE TO THE DEPARTMENT.

4. DO YOU REQUEST A PARTIAL EXEMPTION BECAUSE YOU ARE A SMALL GENERATOR OF HAZARDOUS WASTE AS DEFINED IN RULE 1200-1-11-.02(1)(G)?	YES	NO X

5. SITE ADDRESS
Vultee Boulevard, ~~Nashville~~, TN 37217

6. SITE COUNTY
Davidson County

7. OWNER NAME Avco Corporation, Greenwich, CT	PHONE WITH AREA CODE (203) 552-1800
8. MANAGER NAME R. SAPPENFIELD ~~Francis X. Suozzi~~, Vice President & General Mgr.	PHONE WITH AREA CODE (615) 361-2114
9. PRINCIPAL TECHNICAL CONTACT L. W. Lee, Plant Engineer III	PHONE WITH AREA CODE (615) 361-2306

10. NUMBER OF EMPLOYEES	YEARS IN OPERATION	SIC CODES	JOB SHOP
3200	41	3728 & 3769	

11. EMERGENCY CONTACTS FOR 24 HOURS/DAY AND 7 DAYS/WEEK.

NAME	TIME PERIOD COVERED	PHONE WITH AREA CODE
A. Avco Security	All	(615) 361-2063
B. L. W. Lee	Normal Work Days	(615) 361-2306
C.		
D.		

12. CURRENT ENVIRONMENTAL PERMITS (AIR, WATER, SOLID WASTE AND RADIOLOGICAL)
GIVE PERMIT TYPE, SOURCE (FEDERAL, STATE AND LOCAL), PERMIT NUMBER AND EXPIRATION DATE.

1. Air Pollution Operating Permit - City of Nashville, TN, Permit No. 42-1 thru 42-18
2. NPDES Permit (Water) - Tennessee Dept. of Public Health, Permit No. TN0001597
3. Hazardous Waste (Interim Status), EPA Region IV, Generator ID #TND004042057

13. CERTIFICATION: I CERTIFY THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED IN THIS AND ALL ATTACHED DOCUMENTS, AND THAT I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE, AND COMPLETE.

SIGNATURE (MANAGER OR OWNER)	TITLE	DATE	SHEETS
F. X. Suozzi	Vice President & General Manager	1/21/82	15

BELOW IS FOR DEPARTMENT USE ONLY.

14. DATE RECEIVED	DATE DUE	COUNTY CODE	PRIORITY	FOLLOW UP?
1982				

15. COMMENTS

NFO

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
NASHVILLE FIELD OPERATIONS
NASHVILLE ENVIRONMENTAL FIELD OFFICE
3000 MORGAN ROAD
JOELTON 37080

August 25, 1994

Mr. David Jarrett
Textron Aerostructures
P. O. Box 210
Nashville, Tennessee 37202

Dear Mr. Jarrett:

Re: HAZARDOUS WASTE INSPECTION
Tennessee Hazardous Waste Management Act

Dear Mr. Jarrett:

This letter confirms the observations and recommendations which were made during the Hazardous Waste Generator inspection concerning your facility. The attached inspection report verifies that no violations were discovered during the inspection on August 23 1994.

If you have any questions concerning this letter or any part of the inspection report, please do not hesitate to contact me at (615) 299-9922.

Sincerely,

Tom Yates

Tom Yates
Division of Solid Waste Management

TDY/SW-182/825/fp

cc: DSWM - Central Office, Nashville
U.S.E.P.A. - Region IV

INSPECTION REPORT

SITE/OPERATION INSPECTED:

Textron Aerostructures
P. O. Box 210
1431 Vultee Boulevard
Nashville, Tennessee 37202
TND 00 404 2057

OWNER/OPERATOR/PRIMARY CONTACT:

David Jarrett

DATE AND TIME OF INSPECTION:

August 23, 1994

REPORT PREPARED BY:

Tom Yates
Division of Solid Waste Management
Department of Environment and Conservation
3000 Morgan Road
Joelton, TN 37080
(615) 299-9922

NAMES AND AFFILIATIONS OF OTHER INSPECTION PARTICIPANTS:

None

PURPOSE OF INSPECTION:

This routine Hazardous Waste Generator Inspection was conducted to evaluate Textron Aerostructures compliance with the applicable requirements of the Rules Governing Hazardous Waste Management in Tennessee.

EVALUATION BASIS:

Large Quantity Hazardous Waste Generator

FACILITY DESCRIPTION:

Textron manufactures airplane wings for a variety of aircraft ranging from small private to large commercial and military planes. Their aircraft wing market is worldwide.

They began operation in 1941 making World War II fighter planes. They presently employ about 2,000 people.

The manufacturing operations include, cutting, shaping, coating, surface treating and painting of composite and

aluminum stock for use as wing components. Textron also installs the systems contained in the wing which make it function and do all the necessary assembly so that the finished product will be ready for use when attached to the rest of the plane.

The processes involved result in the generation of 22 hazardous waste streams according to Textron's recent annual report data. These processes include cleaning and treating aluminum surfaces, painting, degreasing, anodizing, plating, lab testing and cleaning equipment. Approximately 65 satellite hazardous waste containers were identified at various locations throughout the plant. All of these containers were 55 gallon drums. Full containers are picked up daily as needed at the satellite locations and transported to the main accumulation area. Non-liquid hazardous waste such as wipes, rags, aprons, gloves and paint cups are transferred from the drums to special, lined, carton like containers and properly marked labeled and stored in the main hazardous waste accumulation area until shipped. Liquid hazardous waste containers, when full, are moved to the main accumulation area, properly marked, labeled and stored until shipped. The annual report of 1993 hazardous waste off-site shipping shows that a total of 298,164 kgs. was shipped in that year. A review of manifest show that transporters and treatment/disposal facilities used included Safety Kleen, Laidlaw, Heritage, LWD, Chem Waste, McTank, Byrson and OSCO.

A system of color coded drums was implemented to facilitate the separation and collection of certain non-hazardous waste. This seems to be working well and has helped in the management of these wastes.

A review of the waste reduction process report showed a meaningful reduction in the generation of hazardous waste.

VIOLATIONS:

No violations

RECOMMENDATIONS:

An up date of the emergency coordinator list in the contingency plan to reflect the recent personnel change should be done as soon as possible. I appreciate the time and cooperation given me during the inspection. If there are any questions about this report contact Tom Yates (615) 299-9922.

Tom Yates Tom Yates

Date August 26, 1994

TDY/SW-188/825/fp

WASTE REDUCTION PLAN CHECKLIST Textron 9-23

✔ A plan MAY have a preface, including: Have plan & update show total reduction 1,556, 667, 937

- ☐ waste reduction activities completed or implemented to date
- ☐ impediments to waste reduction specific to the facility (i.e., legal or contractural obligations)

✔ A plan MUST include:

- ☐ a written policy, dated and signed by top management
- ☐ a statement of scope and objectives involving evaluation of technologies, procedures, and training used to eliminate unnecessary waste and encourage hazardous waste reduction/minimization
- ☐ an assessessment and characterization of wastestreams (i.e., types, amounts, costs, and reasons for the waste)
- ☐ an evaluation of reduction options that apply to each wastestream (i.e., technical and economic feasibility and prioritization)
- ☐ specific quantitative goals for hazardous waste reduction/minimization in numeric terms (i.e., kgs., lbs. or tons per production unit).
- ☐ an explanation of rationale for performance goal and any specific impediments to obtaining that goal
- ☐ a description of accounting system for waste management costs (i.e., raw material loss, management, oversight, compliance and liability costs)
- ☐ a description of employee waste reduction awareness and training programs
- ☐ a description of methods to make the plan part of the company's standard practices

WASTEWATER TREATMENT SYSTEM PERMIT BY RULE

Tennessee Department of Health and Environment
Division of Solid Waste Management
Customs House, 701 Broadway, Nashville, TN 37219-5403

1. Organization's full name at facility	EPA identification code
AVCO AEROSTRUCTURES	TND004042057

2. IMPORTANT: Indicate below whether or not your facility has a wastewater treatment system.
(x) Yes, then continue with item 3 below. Pretreatment System discharging to Sanitary Sewer
( ) No, then complete the certification (item 10 on back) and return this form.

3. Site Location	County
AVCO AEROSTRUCTURES Vultee Blvd., Nashville, TN 37202	Davidson

4. Technical Contact (include title)	Phone with area code
Tony E. Chatman, Environmental Engineer	(615) 361-2697 (work)

5. List below each hazardous waste stream treated using your notification waste page number. Include the treatment process codes and a brief description of the treatment process.

Waste page	Process codes	Process description
1	T31,T40,T48,T49	Sand filters are used to remove large particulate matter, followed by carbon absorption to remove organics. Anions and cations are removed by ion exchange resins. The ion exchange columns are regenerated as needed and released material is neutralized if necessary. This waste is hauled into a TSDF (TRICIL)
9	T31,T40,T48,T49	Same as above.

6. Attach a facility schematic to include all units in your wastewater treatment system up to the point of discharge. Provide photographs of all units in the wastewater treatment system.

BELOW IS FOR DEPARTMENT USE ONLY. Form is continued on back.

Action	Date	Initials	Comments
11. Application Received			
12. Tank Data Received			
13. Permit ( ) Approved ( ) Denied			

PH-2594, SWM (2/85)

7. Tank description. Provide a brief description of each tank's function, volume in gallon and material of construction. Use one line for each tank. Uniquely identify each tank.

Tank ID	Tank function	Tank Volume, gal.	Material Of Construction
T1	AVCO rinsewater collection	40,000	concrete, fiberglass lined
T12	De-mineralizered water collection	80,000	concrete, fiberglass lined
T14	Regeneration waste collection	40,000	concrete, fiberglass lined
T13	collects overflow & corrects pH level	10,000	concrete, fiberglass lined
T14	NaOH Storage	5,000	Fiberglass
T15	HCL Storage	5,000	Fiberglass
Sand Filter #1 & 2	2 each, filters large solid waste	2,500	Metal
Carbon Filter #1 & 2	2 each, filters fine solids	2,500	Metal
Cation #1,#2,#3	Removes positively charged ions	2,000	Metal
Anion #1, #2,#3	Removes negatively charged ions	2,000	Metal

8. Indicate the point of wastewater discharge from the wastewater treatment system.

a. Municipal sewer system name

Discharges treated dimineralized water that is produced*

b. NPDES Permit number for discharge into natural waters

c. Specify other discharge point

None

9. Additional comments

*In excess of what AVCO can utilize for its rinse water tanks. Once the flow of water from the rinse water tank to the treatment plant and the amount of water sent back to the plant from the treatment facility is balanced, a closed loop will result. No discharge to the Metro Nashville sewer will occur as per conversation with April Ingram.

10. Certify that the information given in this document and attachments is true, accurate and complete by signing and dating below.

Signature and title by owner or manager.		Date
Tony E. Chestman	Environmental Engineer	4-1-85

File
19-022
Textron Aerostruct

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

NASHVILLE ENVIRONMENTAL FIELD OFFICE
537 BRICK CHURCH PARK DRIVE
NASHVILLE, TENNESSEE 37243-1550

August 27, 1992

Mr. Phillip Marks
Kaybee and Associates, Inc.
6427 Fallengate Drive
Spring, TX 77373

Dear Mr. Marks:

I have read your August 24, 1992 letter and the copies of other letters you enclosed regarding an exemption request for caustic soda waste generated by Textron Aerostructures in Nashville, Tennessee. Tennessee's Hazardous Waste Regulations provide in Rule 1200-1-11-.02(1)(b)5(i)II that materials are not waste when they can be shown to be recycled by being used or reused as effective substitutes for commercial products. Based on the information you have submitted, it is my understanding that the caustic soda waste generated by Textron Aerostructures will be used as an effective substitute by Reynolds Metals in Gregory, Texas; therefore your request is granted. It will be imperative that Kaybee and Associates and Textron Aerostructures have records and documents available for review, if requested, to show that all of the caustic soda shipped from Textron Aerostructures is used as a commercial product and as described in the information you submitted. This non-waste classification only applies to waste identified by your letter and only when it is used in the way that is described in the information submitted.

If you have any questions regarding this letter, contact me at 741-0654.

Sincerely,

Tom Yates

Tom Yates
Division of Solid Waste Management

TY/S1062240

KAYBEE & ASSOCIATES, INC.
6427 FALLENGATE DRIVE
SPRING, TEXAS 77373

713-821-5116
713-821-1308

AUGUST 24, 1992

NASHVILLE ENVIRONMENTAL
RECEIVED
AUG 25 1992
TENNESSEE DEPARTMENT
OF ENVIRONMENT
AND CONSERVATION
FIELD OFFICE

Tennessee Department of Health & Enviroment
Division of South Solid Waste Management
537 Rickchuch Park Ar.
Nashville, Tennessee 37243-1550

Attention: Mr. Tom Yates

Dear Mr. Yates:

Regarding our telephone conversation of Monday, August 24, 1992, we respectfully request an exemption from your state of Tennessee, for a spent caustic soda stream generated by Textron Arostructure in Nashville, Tennessee. We are asking them to consider using Kaybee as an alternative to diposal.

It must be classified a product used in place of a commercial grade chemical. We therefore, need an exclusion from your state, as we have for Texas. This assures Reynolds that they are not classified as a user of hazardous waste.

For your further information, I have enclosed herewith, some copies of letters where we have previously requested this same exclusion from other states, including Texas.

Kaybee does not store any of these streams picked up from chemical milling plants. It is always delivered directly to Reynolds Metals, in Gregory, Texas, where it is put into their process, or recyled.

If you need additional information, or need to discuss this request in more detail, please feel free to call our office at anytime.

Thank you for your consideration, and early reply.

Very Truly Yours,

Phillip Marks, V. Pres.

PEM/kmr
ENLOSURES

CC: Frank Strickland, Reynolds Metals

3-20-89 3-20-89 R-2

TENNESSEE DEPARTMENT OF HEALTH AND ENVIRONMENT

OFFICE CORRESPONDENCE

FROM	TO	DATE
AxD	SWM	

1989 MAR 20 AM 8:10

DATE: March 17, 1989

TO: Tom Tiesler

FROM: W. Richard Reed, II W.R.R.

SUBJECT: Textron Aerostructures, TND #00-404-2057

Attached is a copy of our audit report on Textron Aerostructures of Nashville, Tennessee. Please note that management did not respond to the draft copy of our report.

Please review this report with members of your staff. If additional information is required or if you wish to discuss this report, please call me.

WRR:FLP:bd

Attachment

cc: Wayne Scharber

FROM	DATE

10

PH-0001
SR 3/77

AUDIT REPORT

TEXTRON AEROSTRUCTURES, TND #00-404-2057

Nashville, Tennessee

REMEDIAL ACTION FEE AND MANAGEMENT FEE LIABILITY

for the period

1981 through 1988

STATE OF TENNESSEE

DEPARTMENT OF HEALTH & ENVIRONMENT

OFFICE OF INTERNAL AUDIT

TEXTRON AEROSTRUCTURES, TND #00-404-2057

Nashville, Tennessee

PURPOSE OF THE AUDIT

The purpose of this audit was to evaluate the correctness and timeliness of fees paid to the Department of Health and Environment by Textron Aerostructures as required by Chapter 1200-1-11 of the Division of Solid Waste Management rules and regulations.

The objectives of the audit were as follows:

1. To determine if any hazardous waste had been generated and shipped on which fees had not been paid;

2. To determine if the facility was operating in compliance with the terms of the applications and permits on file with the department;

3. To determine the validity of any exclusions or variances taken by the company.

SCOPE OF THE AUDIT

To accomplish our stated objectives, we reviewed the company's fee payments for the period 1981 through 1988. The Division of Solid Waste Management's files were reviewed to identify the fees due. We then reviewed the shipping manifests of the company in order to reconcile the reported quantities of hazardous waste with the actual quantities. If applicable, we obtained conversion factors used by the company in converting gallons of waste to kilograms.

Our examination included any other auditing procedures we considered necessary in the circumstances to determine compliance with the Hazardous Waste Management Act of 1983.

TEXTRON AEROSTRUCTURES
TND #00-404-2057

POST AUDIT AUTHORITY

This audit was conducted pursuant to the authority of Tennessee Code Annotated 68-46-107 which states in part:

"The Commissioner is authorized to, at any reasonable time:

> Enter any place where wastes have been generated, stored, transported, treated, disposed of, or otherwise handled; and
>
> Inspect and copy any records, reports, test results or other information relating to the purposes of this part."

BACKGROUND INFORMATION

Textron Aerostructures (formerly AVCO Aerostructures) manufactures wings and other components for the aerospace industry. The company generates a variety of waste streams ranging from solvents and paint booth sludge to nitric acid and other corrosive liquids.

The company was issued a variance from classification as a waste for Trichlorethylene (F001) on January 12, 1987.

TEXTRON AEROSTRUCTURES
TND #00-404-2057

SUMMARY OF AUDIT FINDINGS

Our review of the Remedial Action Fee Payments and Management Fee Payments at Textron Aerostructures resulted in the following amounts due from the company.

	Fees	Penalties	Total
Remedial Action Fees	$1,362.69	$13,360.01	$14,722.70
Management Fees	400.00	284.13	684.13
Totals	$1,762.69	$13,644.14	$15,406.83

TEXTRON AEROSTRUCTURES
TND #00-404-2057

REMEDIAL ACTION (SUPERFUND) FEE PAYMENTS

Our review of the records indicated that Textron Aerostructures under-reported hazardous waste generated and shipped in 1983 and 1984 by 110,310 kg. and 66,662 kg., respectively. (See Schedule A)

The result of the above activity is as follows:

	1983	1984	Total
Additional Fee	$ 849.39	$ 513.30	$ 1,362.69
Penalty	9,889.29	3,470.72	13,360.01
Totals	$10,738.68	$3,984.02	$14,722.70

The penalty for 1983 was computed at five percent, per month, compounded monthly for 52 months. This represents the period the fee was due until the audit date, January 18, 1989.

The 1984 penalty was computed as described above for 42 months.

It should be noted that our review of the 1982 shipments revealed that Textron generated and shipped 2,295,656 kg. of waste. This is 36,265 kg. less than reported on the 1983/84 Remedial Action Fee worksheet. Whenever audited quantities are less than reported quantities, we use the quantities reported by the generator. It will be the responsibility of the generator to demonstrate that the quantities originally reported are incorrect.

HAZARDOUS WASTE MANAGEMENT FEE PAYMENTS

Our review of the records indicated that, with the exception of the 1984 and 1988 Management Fees, all fees were paid timely and correctly. (See Schedule B)

The 1988 Management Fee has not been paid as of the audit date.

Total due for the 1988 Management Fee is as follows:

Fee	$400.00
Penalty	284.13
Total	$684.13

The penalty is computed at five percent, per month, compounded monthly for eleven months. This represents the period the fee was due until the audit date, January 18, 1989.

(SCHEDULE A)

TDHE-OIA
REMEDIAL ACTION FEES
AEROSTRUCTURES
TND# 00-404-2057

	1983/1984		1984/1985		1985/1986		
	Report	Audit	Report	Audit	Report	Audit	TOTAL
Qty. Generated	2,331,921	2,331,921	2,807,008	2,917,318	3,026,170	3,092,832	
Exclusions	-0-	-0-	-0-	-0-	-0-	-0-	
Net Generated	2,331,921	2,331,921	2,807,008	2,917,318	3,026,170	3,092,832	
Generator Fee	$7,000.00	$7,000.00	$7,000.00	$7,000.00	$7,000.00	$7,000.00	$21,000.00
Acute H/W Fee	500.00	500.00	500.00	500.00	-0-	-0-	1,000.00
Total Fees	7,500.00	7,500.00	7,500.00	7,500.00	7,000.00	7,000.00	22,000.00
Off-Site Shipments	2,331,921	2,331,921	2,807,008	2,917,318	3,026,170	3,092,832	
Exclusions	-0-	-0-	-0-	-0-	-0-	-0-	
Net Shipments	2,331,921	2,331,921	2,807,008	2,917,318	3,026,170	3,092,832	
Off-Site Fee	17,955.79	7,955.79	21,613.96	22,436.35	23,301.51	23,814.81	64,233.95
Total Fee	25,455.79	25,455.79	29,113.96	29,963.35	30,301.51	30,814.81	86,233.95
Payments	25,455.79	25,455.79	29,113.96	29,113.96	30,301.51	30,301.51	84,871.26
Net Due	-0-	-0-	-0-	849.39	-0-	513.30	1,362.69
Penalties	-0-	-0-	-0-	9,889.29	-0-	3,470.72	13,360.01
Balance Due	-0-	-0-	-0-	$10,738.68	-0-	$3,984.02	$14,722.70

COMMENTS:

A1019047

(SCHEDULE B)

TDHE-OIA
HAZARDOUS WASTE MANAGEMENT FEES
TEXTRON AEROSTRUCTURES
TND# 00-404-2057

YEAR	1981	1982	1984	1985	1986	1987	1988	TOTAL
Due Date	4/22/82	3/1/83	3/1/84	6/3/85	3/1/86	3/1/87	3/1/88	
Generator	100.00	$100.00	$100.00	$400.00	$400.00	$400.00	$400.00	$1,900.00
Transporter	--	--	--	--	--	--	--	--
TSDF	--	--	--	--	--	--	--	--
Total Due	$100.00	$100.00	$100.00	$400.00	$400.00	$400.00	$400.00	$1,900.00
Date Paid	--	9/30/83	3/28/84	5/24/85	2/18/86	2/18/87	Not	
Generator	100.00	100.00	100.00	400.00	400.00	400.00	Paid	1,500.00
Transporter	--	--	--	--	--	--	--	--
TSDF	--	--	--	--	--	--	--	--
Other	--	--	--	--	--	--	--	--
Total Paid	$100.00	$100.00	$100.00	$400.00	$400.00	$400.00	-0-	$1,500.00
Penalties	-0-	-0-	100.00	-0-	-0-	-0-	284.13	384.13
Total Due	100.00	100.00	200.00	400.00	400.00	400.00	684.13	$2,284.13
Less Payments	100.00	100.00	200.00	400.00	400.00	400.00	-0-	1,600.00
Balance Due	-0-	-0-	-0-	-0-	-0-	-0-	$684.13	$684.13

COMMENTS:

A1019047

TEXTRON AEROSTRUCTURES, INC.
Nashville, Tennessee 37202

Vultee Blvd., PO Box 210
USEPA ID TND004042057

615-361-2697

****
GENERATOR'S WASTE MATERIAL PROFILE SUMMARY
****

WASTE STREAM	WASTE STREAM NAME	GENERATING PROCESS
001	Spent NaOH Solution,D002	Chemical Milling
002	Spent Trichloroethylene,F001	Degreasing Still Bottoms
003	Waste Paint, Solvent Mix,F001,D001	Cleaning Paint Operation
007	Spent Chromic Acid/NaCr2O7 Waste,D002	Rinse Tanks/Anodize/Acid
008	Paint Booth Waste,D007	Waste Dried Paint Pigmen
012	Waste Corrosive Liquid,NOS,D002	Misc.Lab Waste,Glassware
013	Nitric Acid,LT40%,D002	Titanium Parts Anodizing
015	Waste Petroleum Naptha	Degreasing of Machinery
016	Waste Phosphoric Acid	Phos Anodize of Aluminum
017	Deionize Plant Waste	Backwash of D.I. Units

EXTRUN AEROSTRUCTURES, INC. Vultee Blvd., PO Box 210
Nashville, Tennessee 37 5 USEF)ID TND004042057
615-361-2697

****
GENERATOR'S WASTE MATERIAL PROFILE SHEET
****

. ıeral Information Updated: 02/29/88 Waste Stream #: 001

Name of waste: SPENT NaOH SOLUTION,D002
Process(s) generating waste: CHEMICAL MILLING

Is this waste a Dioxin listed waste as defined in 40CFR261.31 ? :yes X :no

. Physical Characteristics of Waste

LAND FILL BAN NOTE: Is this waste a F001-005 ? :Yes X :No

1. Color:	2. Odor:	Physical State @ 70 F:
WHITE	LYE-TYPE	:Solid :Semi-Solid X :Liquid :Powder

4. Layers:	5. Specific Gravity	6. Free Liquids:
:Multilayered :Bi-layered X :Single Phased	Range: 1.40	X :Yes :No Volume: 100 %

7. pH :Less than 2.0 :4.1-7.0 X :10.00-12.0 :NA
:2.1-4.0 :7.1-10.0 X :Greater than 12.5

8. Liquid Flash Point: :Less than 73F :140 - 199F :Closed Cup
:74 - 99F :Greater than 200F :Open Cup
:100 - 139F X :None

CHEMICAL COMPOSITION **********	Min.%	Max.%		Min.%	Max.%
1. SODIUM HYDROXIDE	12	20	5. TAP WATER	95	98
2. SODIUM SULFIDE	0.5	1.0	6.		
3. SODIUM GLUCONATE	1.5	2.0	7.		
4. ALUMINUM	10	15	8.		
			9.		

Indicate if this waste contains any of the following:

	NONE	or LESS THAN 50 ppm	or ACTUAL
1. PCB's	X		
2. Cyanides	X		
3. Phenolics	X		
4. Sulfides		X	

METALS: Indicate if this waste contains any of the following:

******	LESS THAN or ACTUAL		LESS THAN or ACTUAL
1. Arsenic	<5		
2. Barium	<100	8. Copper	<5
3. Cadmium	<1	9. Nickel	<5
Chromium	<5	10. Zinc	<5
Lead	<5	11.	
6. Mercury	0.02	12.	
7. Selenium	<1	13.	

:EP TOX/TCLP X :TOTAL

Kenny Anger

XTRON AEROSTRUCTURES, INC. Vultee Blvd., PO Box 210
Nashville, Tennessee 37 USEP ID TND004042057
615-361-2697

****
GENERATOR'S WASTE MATERIAL PROFILE SHEET
****

eral Information Updated: 02/29/88 Waste Stream #: 002

Name of waste: SPENT TRICHLOROETHYLENE,F001
Process(s) generating waste: DEGREASING STILL BOTTOMS

Is this waste a Dioxin listed waste as defined in 40CFR261.31 ? :yes X :no

Physical Characteristics of Waste

LAND FILL BAN NOTE: X :Yes
Is this waste a F001-005 ? :No

1. Color: GREY

2. Odor: TRIC.

Physical State @ 70 F:
:Solid :Semi-Solid
X :Liquid :Powder

4. Layers:
:Bi-layered X :Multilayered :Single Phased

5. Specific Gravity Range: 1.40

6. Free Liquids: X :Yes :No
Volume: 90 %

7. pH
:Less than 2.0 :4.1-7.0 :10.00-12.0 X :NA
:2.1-4.0 :7.1-10.0 :Greater than 12.5

8. Liquid Flash Point:
:Less than 73F :140 - 199F :Closed Cup
:74 - 99F :Greater than 200F :Open Cup
:100 - 139F X :None

CHEMICAL COMPOSITION
****

	Min.%	Max.%
1. TRICHLOROETHYLENE	10	100
2. WATER	0	90
3. DIRT,SILT AND SAND	0	5
4.		
5.		
6.		
7.		
8.		
9.		

Indicate if this waste contains any of the following:

	NONE	or	LESS THAN 50 ppm	or	ACTUAL
1. PCB's	X				
2. Cyanides	X				
3. Phenolics	X				
4. Sulfides	X				

METALS: Indicate if this waste contains any of the following:
******

	LESS THAN or ACTUAL		LESS THAN or ACTUAL
1. Arsenic	<5		
2. Barium	<100	8. Copper	<5
3. Cadmium	<1	9. Nickel	<5
4. Chromium	<5	10. Zinc	<5
5. Lead	<5	11.	
6. Mercury	0.02	12.	
7. Selenium	<1	13.	

* :EP TOX/TCLP X :TOTAL *

Kevin Sanger

EXTRON AEROSTRUCTURES, INC. ''ltee Blvd., PO Box 210
Nashville, Tennessee 37 USEP. ID TND004042057
615-361-2697

****
GENERATOR'S WASTE MATERIAL PROFILE SHEET
****

. . ıeral Information Updated: 02/29/88 Waste Stream #: 003

Name of waste: WASTE PAINT,SOLVENT MIX,F003,D001
Process(s) generating waste: CLEAN UP OF PAINTING OPERATIONS

Is this waste a Dioxin listed waste as defined in 40CFR261.31 ? :yes X :no

Physical Characteristics of Waste

LAND FILL BAN NOTE: X :Yes
Is this waste a F001-005 ? :No

1. Color: GREY-GREEN
2. Odor: SOLVENT
Physical State @ 70 F:
X :Solid X :Semi-Solid
X :Liquid :Powder

4. Layers: X :Multilayered :Bi-layered :Single Phased
5. Specific Gravity Range: 1.60
6. Free Liquids: X :Yes :No Volume: 10 %

7. pH :Less than 2.0 :2.1-4.0 :4.1-7.0 :7.1-10.0 :10.00-12.0 :Greater than 12.5 X :NA

8. Liquid Flash Point: X :Less than 73F :74 - 99F :100 - 139F :140 - 199F :Greater than 200F :None
X :Closed Cup :Open Cup

CHEMICAL COMPOSITION

	Min.%	Max.%
1. METHYLETHYLKETONE	05	75
2. TOLUENE	05	20
3. MIBK	00	05
4. ACETONE	00	10
5. PAINT PIGMENT	10	20
6. WATER	00	15
7.		
8.		
9.		

Indicate if this waste contains any of the following:

	NONE	or LESS THAN 50 ppm	or ACTUAL
1. PCB's	X		
2. Cyanides	X		
3. Phenolics	X		
4. Sulfides	X		

METALS: Indicate if this waste contains any of the following:

	LESS THAN or ACTUAL		LESS THAN or ACTUAL
1. Arsenic	<5		
2. Barium	<100	8. Copper	<5
3. Cadmium	<1	9. Nickel	<5
Chromium	<5	10. Zinc	<5
5. Lead	<5	11.	
6. Mercury	0.02	12.	
7. Selenium	<1	13.	

:EP TOX/TCLP X :TOTAL

Kevin Amos

EXTRON AEROSTRUCTURES, INC. | ltee Blvd., PO Box 210
Nashville, Tennessee 37203 | USEPA ID TND004042057
615-361-2697

****
GENERATOR'S WASTE MATERIAL PROFILE SHEET
****

. General Information Updated: 02/29/88 Waste Stream #: 007

Name of waste: SPENT CHROMIC ACID/NaCr207 WASTE
Process(s) generating waste: FROM CHROMIC ACID/RINSE/ANADOIZE

Is this waste a Dioxin listed waste as defined in 40CFR261.31 ? :yes X :no

. Physical Characteristics of Waste

LAND FILL BAN NOTE: Is this waste a F001-005 ? X :Yes :No

1. Color: GREEN
2. Odor: ACRID
Physical State @ 70 F: :Solid :Semi-Solid X :Liquid :Powder

4. Layers: :Bi-layered X :Multilayered :Single Phased
5. Specific Gravity Range: 1.40
6. Free Liquids: X :Yes :No Volume: 80 %

7. pH X :Less than 2.0 :2.1-4.0 :4.1-7.0 :7.1-10.0 :10.00-12.0 :Greater than 12.5 :NA

8. Liquid lash Point: :Less than 73F :74 - 99F :100 - 139F X :140 - 199F :Greater than 200F :None :Closed Cup :Open Cup

CHEMICAL COMPOSITION
****

	Min.%	Max.%
1. CHROMIC ACID	0	90
2. MIXED SOLIDS	05	10
3. WATER	10	90
4. SULFURIC ACID	0	27.9
5.		
6.		
7.		
8.		
9.		

Indicate if this waste contains any of the following:

	NONE	or	LESS THAN 50 ppm	or	ACTUAL
1. PCB's	X				
2. Cyanides	X				
3. Phenolics	X				
4. Sulfides			X		

METALS: Indicate if this waste contains any of the following:
******

	LESS THAN or ACTUAL		LESS THAN or ACTUAL
1. Arsenic	<5		
2. Barium	<100	8. Copper	<5
3. Cadmium	<1	9. Nickel	<5
4. Chromium	<200 - >1000	10. Zinc	<5
5. Lead	<5	11.	
6. Mercury	0.02	12.	
7. Selenium	<1	13.	

XTRON AEROSTRUCTURES, INC.) ')tee Blvd., PO Box 210
Nashville, Tennessee 37203 USEPA ID TND004042057
615-361-2697

****
GENERATOR'S WASTE MATERIAL PROFILE SHEET
****

. General Information Updated: 02/29/88 Waste Stream #: 008

Name of waste: PAINT BOOTH WASTE,D007
Process(s) generating waste: DRIED PAINT PIGMENT,WASTE

Is this waste a Dioxin listed waste as defined in 40CFR261.31 ? :yes X :no

. Physical Characteristics of Waste

LAND FILL BAN NOTE: Is this waste a F001-005 ? :Yes X :No

1. Color: VARIOUS

2. Odor: NONE

Physical State @ 70 F: X :Solid X :Semi-Solid :Liquid :Powder

4. Layers: X :Multilayered :Bi-layered :Single Phased

5. Specific Gravity Range: 2.0

6. Free Liquids: X :Yes :No Volume: 02 %

7. pH :Less than 2.0 :4.1-7.0 :10.00-12.0 X :NA :2.1-4.0 :7.1-10.0 :Greater than 12.5

8 Liquid Flash Point: :Less than 73F :74 - 99F :100 - 139F X :140 - 199F :Greater than 200F :None :Closed Cup X :Open Cup

CHEMICAL COMPOSITION

**********	Min.%	Max.%
1. PIGMENT, PAINT	10	90
2. WATER	00	02
3. CHROMIUM	00	2.0
4. DIRT	00	05
5.		
6.		
7.		
8.		
9.		

Min.% Max.%

Indicate if this waste contains any of the following:

	NONE	or	LESS THAN 50 ppm	or	ACTUAL
1. PCB's	X				
2. Cyanides	X				
3. Phenolics	X				
4. Sulfides	X				

METALS: Indicate if this waste contains any of the following:

******	LESS THAN or ACTUAL		LESS THAN or ACTUAL
1.Arsenic	<5		
2.Barium	<100	8.Copper	<5
Cadmium	<1	9.Nickel	<5
Chromium	<5 — < 1000	10.Zinc	<5
5.Lead	<5	11.	
6.Mercury	0.02	12.	
7.Selenium	<1	13.	

XTRON AEROSTRUCTURES, INC.
. Nashville, Tennessee 372
tee Blvd., PO Box 210
USEPA ID TND004042057
615-361-2697

****
GENERATOR'S WASTE MATERIAL PROFILE SHEET
****

neral Information Updated: 02/29/88 Waste Stream #: 012

ame of waste: WASTE CORROSIVE LIQUID,NOS,D002
rocess(s) generating waste: MISC. LAB AND PROCESS CHEMICALS

s this waste a Dioxin listed waste as defined in 40CFR261.31 ? :yes X :no

Physical Characteristics of Waste

LAND FILL BAN NOTE: Is this waste a F001-005 ? X :Yes :No

1. Color:	2. Odor:	Physical State @ 70 F:
VARIOUS	ACRID	X :Solid X :Semi-Solid X :Liquid :Powder

4. Layers:	5. Specific Gravity	6. Free Liquids:
X :Multilayered :Bi-layered :Single Phased	Range: 1.10	X :Yes :No Volume: 40 %

7. pH
:Less than 2.0 X :4.1-7.0 :10.00-12.0 :NA
X :2.1-4.0 X :7.1-10.0 :Greater than 12.5

8. Liquid Flash Point:
:Less than 73F :140 - 199F :Closed Cup
:74 - 99F :Greater than 200F :Open Cup
:100 - 139F X :None

CHEMICAL COMPOSITION
****

	Min.%	Max.%
1. DETERGENT WASTE	00	20
2. PAPER WASTES	00	20
3. WATER	00	40
4. MISC.SPENT ACIDS	00	20
5. SPENT BASES	00	20
6. GLASS BOTTLES	00	20
7.		
8.		
9.		

Indicate if this waste contains any of the following:

	NONE	or LESS THAN 50 ppm	or ACTUAL
1. PCB's	X		
2. Cyanides	X		
3. Phenolics	X		
4. Sulfides	X		

METALS: Indicate if this waste contains any of the following:
******

	LESS THAN or ACTUAL		LESS THAN or ACTUAL
1. Arsenic	<5		
2. Barium	<100	8. Copper	<5
3. Cadmium	<1	9. Nickel	<5
4. Chromium	<5	10. Zinc	<5
5. Lead	<5	11.	
6. Mercury	0.02	12.	
7. Selenium	<1	13.	

:EP TOX/TCLP X :TOTAL

Kevin Bonger

:XTRUN AEROSTRUCTURES, INC. Vultee Blvd., PO Box 210
Nashville, Tennessee 372 USEPA ID TND004042057
615-361-2697

****
GENERATOR'S WASTE MATERIAL PROFILE SHEET
****

General Information Updated: 02/29/88 Waste Stream #: 013

Name of waste: NITRIC ACID,LT40%,D002
Process(s) generating waste: TITANIUM PARTS ANODIZING

Is this waste a Dioxin listed waste as defined in 40CFR261.31 ? :yes X :no

Physical Characteristics of Waste

LAND FILL BAN NOTE: :Yes
Is this waste a F001-005 ? X :No

1. Color: BLACK
2. Odor: ACRID
Physical State @ 70 F: :Solid :Semi-Solid X :Liquid :Powder

4. Layers: :Bi-layered X :Multilayered :Single Phased
5. Specific Gravity Range: 1.15
6. Free Liquids: X :Yes :No Volume: 100 %

7. pH X :Less than 2.0 :4.1-7.0 :10.00-12.0 :NA
X :2.1-4.0 :7.1-10.0 :Greater than 12.5

8. Liquid Flash Point: :Less than 73F :74 - 99F :100 - 139F X :140 - 199F :Greater than 200F :None
X :Closed Cup :Open Cup

CHEMICAL COMPOSITION

	Min.%	Max.%
1. NITRIC ACID	05	40
2. NH4HF2	00	10.5
3. Na2Cr2O7	00	5.0
4. WATER	00	50
5.		
6.		
7.		
8.		
9.		

Indicate if this waste contains any of the following:

	NONE	or	LESS THAN 50 ppm	or	ACTUAL
1. PCB's	X				
2. Cyanides	X				
3. Phenolics	X				
4. Sulfides	X				

METALS: Indicate if this waste contains any of the following:

******	LESS THAN or ACTUAL			LESS THAN or ACTUAL
1. Arsenic	<5			
2. Barium	<100		8. Copper	<5
3. Cadmium	<1		9. Nickel	<5
4. Chromium	<200	— <1000	10. Zinc	<5
5. Lead	<5		11.	
6. Mercury	0.02		12.	
7. Selenium	<1		13.	

X :EP TOX/TCLP X :TOTAL

Kevin Songer

:XTRUN AEROSTRUCTURES, INC. Vultee Blvd., PO Box 210
Nashville, Tennessee 372 USEPA ID TND004042057
615-361-2697

****
GENERATOR'S WASTE MATERIAL PROFILE SHEET
****

eral Information Updated: 02/29/88 Waste Stream #: 015

Name of waste: WASTE PETROLEUM NAPTHA
Process(s) generating waste: DEGREASING OF MACHINERY

Is this waste a Dioxin listed waste as defined in 40CFR261.31 ? :yes x :no

Physical Characteristics of Waste

LAND FILL BAN NOTE: Is this waste a F001-005 ? X :Yes :No

1. Color:	2. Odor:	Physical State @ 70 F:
DARK BROWN	PETROLEUM	:Solid :Semi-Solid X :Liquid :Powder

4. Layers:	5. Specific Gravity	6. Free Liquids:
:Multilayered :Bi-layered X :Single Phased	Range: 0.85	X :Yes :No Volume: 100 %

7. pH :Less than 2.0 :4.1-7.0 :10.00-12.0 X :NA
:2.1-4.0 :7.1-10.0 :Greater than 12.5

8. Liquid Flash Point: X :Less than 73F :140 - 199F X :Closed Cup
X :74 - 99F :Greater than 200F :Open Cup
:100 - 139F :None

CHEMICAL COMPOSITION

**********	Min.%	Max.%		Min.%	Max.%
1. NAPTHA	50	98	5.		
2. OILS & GREASES	02	20	6.		
3.			7.		
4.			8.		
			9.		

Indicate if this waste contains any of the following:

	NONE	or	LESS THAN 50 ppm	or	ACTUAL
1. PCB's	X				
2. Cyanides	X				
3. Phenolics	X				
4. Sulfides	X				

METALS: Indicate if this waste contains any of the following:

******	LESS THAN or ACTUAL		LESS THAN or ACTUAL
1. Arsenic	<5		
2. Barium	<100	8. Copper	<5
3. Cadmium	<1	9. Nickel	<5
4. Chromium	<5	10. Zinc	<5
5. Lead	<5	11.	
6. Mercury	0.02	12.	
7. Selenium	<1	13.	

:EP TOX/TCLP X :TOTAL

Kevin Conger

Nashville, Tennessee 372

USEPA ID TND004042057

615-361-2697

****

GENERATOR'S WASTE MATERIAL PROFILE SHEET

****

General Information Updated: 02/29/88 Waste Stream #: 016

Name of waste: WASTE PHOSPHORIC ACID

Process(s) generating waste: PHOS ANAODIZE OF ALUMINUM

Is this waste a Dioxin listed waste as defined in 40CFR261.31 ? :yes X :no

Physical Characteristics of Waste

LAND FILL BAN NOTE: Is this waste a F001-005 ? X :Yes :No

1. Color: BLACK

2. Odor: ACRID

Physical State @ 70 F: :Solid :Semi-Solid X :Liquid :Powder

4. Layers: :Bi-layered X :Multilayered :Single Phased

5. Specific Gravity Range: 1.10

6. Free Liquids: X :Yes :No Volume: 100 %

7. pH X :Less than 2.0 X :4.1-7.0 :10.00-12.0 :NA X :2.1-4.0 :7.1-10.0 :Greater than 12.5

8. Liquid Flash Point: :Less than 73F :74 - 99F :100 - 139F X :140 - 199F :Greater than 200F :None X :Closed Cup :Open Cup

CHEMICAL COMPOSITION

	Min.%	Max.%
1. PHOSPHORIC ACID	00	15
2. WATER	00	99
3. ALUMINUM	02	07
4.		
5.		
6.		
7.		
8.		
9.		

Indicate if this waste contains any of the following:

	NONE	or LESS THAN 50 ppm	or ACTUAL
1. PCB's	X		
2. Cyanides	X		
3. Phenolics	X		
4. Sulfides	X		

METALS: Indicate if this waste contains any of the following:

	LESS THAN or ACTUAL		LESS THAN or ACTUAL
1. Arsenic	<5		
2. Barium	<100	8. Copper	<5
3. Cadmium	<1	9. Nickel	<5
4. Chromium	<5	10. Zinc	<5
5. Lead	<5	11.	
6. Mercury	0.02	12.	
7. Selenium	<1	13.	

X :EP TOX/TCLP X :TOTAL

Kevin Longer

EXTRON AEROSTRUCTURES, INC. Vultee Blvd., PO Box 210
Nashville, Tennessee 372 USEPA ID TND004042057
615-361-2697

****
GENERATOR'S WASTE MATERIAL PROFILE SHEET
****

General Information Updated: 02/29/88 Waste Stream #: 017

Name of waste: DEIONIZE PLANT WASTES, F017
Process(s) generating waste: DEIONIZER PLANT

Is this waste a Dioxin listed waste as defined in 40CFR261.31 ? :yes X :no

Physical Characteristics of Waste

LAND FILL BAN NOTE: Is this waste a F001-005 ? X :Yes :No

1. Color: GREEN

2. Odor: NONE

Physical State @ 70 F: :Solid X :Liquid :Semi-Solid :Powder

4. Layers: :Bi-layered X :Multilayered :Single Phased

5. Specific Gravity Range: 1.05

6. Free Liquids: X :Yes :No Volume: 98 %

7. pH X :Less than 2.0 X :2.1-4.0 X :4.1-7.0 X :7.1-10.0 :10.00-12.0 :Greater than 12.5 :NA

8. Liquid Flash Point: :Less than 73F :74 - 99F :100 - 139F X :140 - 199F :Greater than 200F :None :Closed Cup :Open Cup

CHEMICAL COMPOSITION

	Min.%	Max.%		Min.%	Max.%
1. CHROMIUM	00	3.0	5. HCl	00	0.5
2. ZINC	00	1.0	6. NaOH	00	0.9
3. WATER	00	100	7.		
4. DIRT/TRASH	01	08	8.		
			9.		

Indicate if this waste contains any of the following:

	NONE	or	LESS THAN 50 ppm	or	ACTUAL
1. PCB's	X				
2. Cyanides	X				
3. Phenolics	X				
4. Sulfides	X				

METALS: Indicate if this waste contains any of the following:

	LESS THAN or ACTUAL		LESS THAN or ACTUAL
1. Arsenic	<5		
2. Barium	<100	8. Copper	<5
3. Cadmium	<1	9. Nickel	<5
4. Chromium	<5	10. Zinc	<5
5. Lead	<5	11.	
6. Mercury	0.02	12.	
7. Selenium	<1	13.	

X :EP TOX/TCLP X :TOTAL

Kevin Borger

TEXTRON AEROSTRUCTURES, INC.
Nashville, Tennessee 37202

Vultee Blvd., PO Box 210
USEPA ID TND004042057

615-361-2697

****
GENERATOR'S WASTE MATERIAL PROFILE SUMMARY
****

WASTE STREAM	WASTE STREAM NAME	GENERATING PROCESS
001	Spent NaOH Solution,D002	Chemical Milling
002	Spent Trichloroethylene,F001	Degreasing Still Bottoms
003	Waste Paint, Solvent Mix,F001,D001	Cleaning Paint Operation
007	Spent Chromic Acid/NaCr2O7 Waste,D002	Rinse Tanks/Anodize/Acid
008	Paint Booth Waste,D007	Waste Dried Paint Pigmen
012	Waste Corrosive Liquid,NOS,D002	Misc.Lab Waste,Glassware
013	Nitric Acid,LT40%,D002	Titanium Parts Anodizing
015	Waste Petroleum Naptha	Degreasing of Machinery
016	Waste Phosphoric Acid	Phos Anodize of Aluminum
017	Deionize Plant Waste	Backwash of D.I. Units

1988 Waste Profile

TEXTRON AEROSTRUCTURES, INC.
Nashville, Tennessee 37202

Vultee Blvd., PO Box 210
USEPA ID TND004042057

615-361-2697

****
GENERATOR'S WASTE MATERIAL PROFILE SUMMARY
****

WASTE STREAM	WASTE STREAM NAME	GENERATING PROCESS
001	Spent NaOH Solution,D002	Chemical Milling
002	Spent Trichloroethylene,F001	Degreasing Still Bottoms
003	Waste Paint, Solvent Mix,F001,D001	Cleaning Paint Operations
007	Spent Chromic Acid/NaCr2O7 Waste,D002	Rinse Tanks/Anodize/Acid
008	Paint Booth Waste,D007	Waste Dried Paint Pigment
012	Waste Corrosive Liquid,NOS,D002	Misc.Lab Waste,Glassware
013	Nitric Acid,LT40%,D002	Titanium Parts Anodizing
015	Waste Petroleum Naptha	Degreasing of Machinery
016	Waste Phosphoric Acid	Phos Anodize of Aluminum
017	Deionize Plant Waste	Backwash of D.I. Units

XTRON AEROSTRUCTURES, INC. Vultee Blvd., PO Box 210
Nashville, Tennessee 37 3 USEF ID TND004042057
615-361-2697

****
GENERATOR'S WASTE MATERIAL PROFILE SHEET
****

eral Information Updated: 02/29/88 Waste Stream #: 001

ame of waste: SPENT NaOH SOLUTION,D002
rocess(s) generating waste: CHEMICAL MILLING

s this waste a Dioxin listed waste as defined in 40CFR261.31 ? :yes X :no

Physical Characteristics of Waste

LAND FILL BAN NOTE: Is this waste a F001-005 ? :Yes X :No

1. Color: WHITE

2. Odor: LYE-TYPE

Physical State @ 70 F: :Solid X :Liquid :Semi-Solid :Powder

4. Layers: :Multilayered :Bi-layered X :Single Phased

5. Specific Gravity Range: 1.40

6. Free Liquids: X :Yes :No Volume: 100 %

7. pH :Less than 2.0 :2.1-4.0 :4.1-7.0 :7.1-10.0 X :10.00-12.0 X :Greater than 12.5 :NA

3. Liquid Flash Point: :Less than 73F :74 - 99F :100 - 139F X :140 - 199F :Greater than 200F :None :Closed Cup :Open Cup

CHEMICAL COMPOSITION	Min.%	Max.%		Min.%	Max.%
. SODIUM HYDROXIDE	12	20	5. TAP WATER	95	98
. SODIUM SULFIDE	0.5	1.0	6.		
. SODIUM GLUCONATE	1.5	2.0	7.		
. ALUMINUM	10	15	8.		
			9.		

ndicate if this waste contains any of the following:

	NONE	or	LESS THAN 50 ppm	or	ACTUAL
1. PCB's	X				
2. Cyanides	X				
3. Phenolics	X				
4. Sulfides			X		

TALS: Indicate if this waste contains any of the following:

	LESS THAN or ACTUAL		LESS THAN or ACTUAL
Arsenic	<5		
Barium	<100	8. Copper	<5
Cadmium	<1	9. Nickel	<5
Chromium	<5	10. Zinc	<5
Lead	<5	11.	
Mercury	0.02	12.	
Selenium	<1	13.	

:EP TOX/TCLP X :TOTAL

KTRON AEROSTRUCTURES, INC. Vultee Blvd., PO Box 210
Nashville, Tennessee 37 USEP ID TND004042057
615-361-2697

****
GENERATOR'S WASTE MATERIAL PROFILE SHEET
****

neral Information Updated: 02/29/88 Waste Stream #: 002

ame of waste: SPENT TRICHLOROETHYLENE,F001
ocess(s) generating waste: DEGREASING STILL BOTTOMS

s this waste a Dioxin listed waste as defined in 40CFR261.31 ? :yes X :no

Physical Characteristics of Waste

LAND FILL BAN NOTE: X :Yes
Is this waste a F001-005 ? :No

1. Color: GREY
2. Odor: TRIC.
Physical State @ 70 F: :Solid :Semi-Solid X :Liquid :Powder

4. Layers: :Multilayered :Bi-layered X :Single Phased
5. Specific Gravity Range: 1.40
6. Free Liquids: X :Yes :No Volume: 90 %

7. pH :Less than 2.0 :4.1-7.0 :10.00-12.0 X :NA :2.1-4.0 :7.1-10.0 :Greater than 12.5

8. Liquid Flash Point: :Less than 73F :74 - 99F :100 - 139F X :140 - 199F :Greater than 200F :None :Closed Cup :Open Cup

CHEMICAL COMPOSITION

	Min.%	Max.%
1. TRICHLOROETHYLENE	10	100
2. WATER	0	90
3. DIRT,SILT AND SAND	0	5
4.		
5.		
6.		
7.		
8.		
9.		

Indicate if this waste contains any of the following:

	NONE	or	LESS THAN 50 ppm	or	ACTUAL
1. PCB's	X				
2. Cyanides	X				
3. Phenolics	X				
4. Sulfides	X				

METALS: Indicate if this waste contains any of the following:

****	LESS THAN or ACTUAL		LESS THAN or ACTUAL
Arsenic	<5		
Barium	<100	8. Copper	<5
Cadmium	<1	9. Nickel	<5
Chromium	<5	10. Zinc	<5
Lead	<5	11.	
Mercury	0.02	12.	
Selenium	<1	13.	

EP TOX/TCLP X TOTAL

XTRON AEROSTRUCTURES, INC. ''ltee Blvd., PO Box 210
Nashville, Tennessee 372..3 USEP. ID TND004042057
615-361-2697

****
GENERATOR'S WASTE MATERIAL PROFILE SHEET
****

..neral Information Updated: 02/29/88 Waste Stream #: 003

ame of waste: WASTE PAINT,SOLVENT MIX,F003,D001
rocess(s) generating waste: CLEAN UP OF PAINTING OPERATIONS

s this waste a Dioxin listed waste as defined in 40CFR261.31 ? :yes X :no

Physical Characteristics of Waste

LAND FILL BAN NOTE: X Is this waste a F001-005 ? :Yes :No

1. Color: GREY-GREEN

2. Odor: SOLVENT

Physical State @ 70 F:
X :Solid X :Semi-Solid
X :Liquid :Powder

4. Layers: X :Multilayered :Bi-layered :Single Phased

5. Specific Gravity Range: 1.60

6. Free Liquids: X :Yes :No Volume: 10 %

7. pH :Less than 2.0 :2.1-4.0 :4.1-7.0 :7.1-10.0 :10.00-12.0 :Greater than 12.5 X :NA

9. Liquid ash: X :Less than 73F :74 - 99F :100 - 139F :140 - 199F :Greater than 200F :None

X :Closed Cup :Open Cup

HEMICAL COMPOSITION

	Min.%	Max.%
. METHYLETHYLKETONE	05	75
. TOLUENE	05	20
. MIBK	00	05
. ACETONE	00	10
5. PAINT PIGMENT	10	20
6. WATER	00	15
7.		
8.		
9.		

ndicate if this waste contains any of the following:

	NONE	or LESS THAN 50 ppm	or ACTUAL
1. PCB's	X		
2. Cyanides	X		
3. Phenolics	X		
4. Sulfides	X		

ETALS: Indicate if this waste contains any of the following:

****	LESS THAN or ACTUAL		LESS THAN or ACTUAL
Arsenic	<5		
Barium	<100	8. Copper	<5
Cadmium	<1	9. Nickel	<5
C mium	<5	10. Zinc	<5
Lead	<5	11.	
Mercury	0.02	12.	
Selenium	<1	13.	

Rec'd
09-17-03

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
Division of Superfund
4th Floor, L &C Annex
401 Church Street
Nashville, Tennessee 37243-1538

September 15, 2003

Tony DeAngelo
Site Assessment Project Officer
U.S. Environmental Protection Agency
Region 4
61 Forsyth Street S.W.
Atlanta, GA 30303-8909

Dear Tony:

TN rec's FI

Enclosed is the PA for the AVCO/Aerostructures Corp. site in Nashville, TN. Staff is recommending further investigation at this site based on the HRS score. The ESI for the Solid and Liquid Waste Disposal site in Dyer County, TN was given directly to Femi Akindele while he was in the Jackson EAC. Staff is recommending further investigation at this site also based on the score.

TN rec's FI

If you need additional information or have any questions, please contact me at (615) 532-0925.

Sincerely,

Suzanne Wilkes

Suzanne Wilkes
Division of Superfund

XTRON AEROSTRUCTURES, INC. ltee Blvd., PO Box 210
Nashville, Tennessee 37203 USEPA ID TND004042057
615-361-2697

****
GENERATOR'S WASTE MATERIAL PROFILE SHEET
****

General Information Updated: 02/29/88 Waste Stream #: 007

ame of waste: SPENT CHROMIC ACID/NaCr2O7 WASTE
rocess(s) generating waste: FROM CHROMIC ACID/RINSE/ANADOIZE

s this waste a Dioxin listed waste as defined in 40CFR261.31 ? :yes X :no

Physical Characteristics of Waste

LAND FILL BAN NOTE: Is this waste a F001-005 ? X :Yes :No

1. Color: GREEN
2. Odor: ACRID
Physical State @ 70 F: :Solid X :Liquid :Semi-Solid :Powder

4. Layers: :Bi-layered X :Multilayered :Single Phased
5. Specific Gravity Range: 1.40
6. Free Liquids: X :Yes :No Volume: 80 %

. pH X :Less than 2.0 :2.1-4.0 :4.1-7.0 :7.1-10.0 :10.00-12.0 :Greater than 12.5 :NA

.Liquid ash Point: :Less than 73F :74 - 99F :100 - 139F X :140 - 199F :Greater than 200F :None :Closed Cup :Open Cup

HEMICAL COMPOSITION

**********	Min.%	Max.%
. CHROMIC ACID	0	90
. MIXED SOLIDS	05	10
. WATER	10	90
. SULFURIC ACID	0	27.9

	Min.%	Max.%
5.		
6.		
7.		
8.		
9.		

ndicate if this waste contains any of the following:

	NONE	or LESS THAN 50 ppm	or ACTUAL
1. PCB's	X		
2. Cyanides	X		
3. Phenolics	X		
4. Sulfides		X	

TALS: Indicate if this waste contains any of the following:

****	LESS THAN or ACTUAL		LESS THAN or ACTUAL
.Arsenic	<5		
.Barium	<100	8.Copper	<5
.C nium	<1	9.Nickel	<5
.C. mium	<200 - >1000	10.Zinc	<5
.Lead	<5	11.	
Mercury	0.02	12.	
Selenium	<1	13.	

(TRON AEROSTRUCTURES, INC. ' tee Blvd., PO Box 210
' Nashville, Tennessee 37203 USEPA ID TND004042057
615-361-2697

****
GENERATOR'S WASTE MATERIAL PROFILE SHEET
****

General Information Updated: 02/29/88 Waste Stream #: 008

ame of waste: PAINT BOOTH WASTE,D007
-ocess(s) generating waste: DRIED PAINT PIGMENT,WASTE

s this waste a Dioxin listed waste as defined in 40CFR261.31 ? :yes X :no

Physical Characteristics of Waste

LAND FILL BAN NOTE: :Yes
Is this waste a F001-005 ? X :No

. Color: VARIOUS

2.Odor: NONE

Physical State @ 70 F:
X :Solid X :Semi-Solid
:Liquid :Powder

. Layers: :Bi-layered X :Multilayered :Single Phased

5.Specific Gravity Range: 2.0

6.Free Liquids: X :Yes :No Volume: 02 %

. pH :Less than 2.0 :2.1-4.0 :4.1-7.0 :7.1-10.0 :10.00-12.0 X :Greater than 12.5 :NA

.l 'quid .sh Point: :Less than 73F :74 - 99F :100 - 139F X :140 - 199F :Greater than 200F :None :Closed Cup X :Open Cup

HEMICAL COMPOSITION

**********	Min.%	Max.%
. PIGMENT, PAINT	10	90
. WATER	00	02
. CHROMIUM	00	2.0
. DIRT	00	05

	Min.%	Max.%
5.		
6.		
7.		
8.		
9.		

ndicate if this waste contains any of the following:

	NONE	or	LESS THAN 50 ppm	or	ACTUAL
1. PCB's	X				
2. Cyanides	X				
3. Phenolics	X				
4. Sulfides	X				

TALS: Indicate if this waste contains any of the following:

****	LESS THAN or ACTUAL		LESS THAN or ACTUAL
Arsenic	<5		
Barium	<100	8.Copper	<5
C ium	<1	9.Nickel	<5
Ch. omium	<5 ~ < 1000	10.Zinc	<5
Lead	<5	11.	
Mercury	0.02	12.	
Selenium	<1	13.	

(TRON AEROSTRUCTURES, INC. ...tee Blvd., PO Box 210
Nashville, Tennessee 372.. USEPA ID TND004042057
615-361-2697

****
GENERATOR'S WASTE MATERIAL PROFILE SHEET
****

...neral Information Updated: 02/29/88 Waste Stream #: 012

ame of waste: WASTE CORROSIVE LIQUID,NOS,D002
-ocess(s) generating waste: MISC. LAB AND PROCESS CHEMICALS

s this waste a Dioxin listed waste as defined in 40CFR261.31 ? :yes X :no

Physical Characteristics of Waste

LAND FILL BAN NOTE: Is this waste a F001-005 ? :Yes X :No

1. Color: VARIOUS

2. Odor: ACRID

Physical State @ 70 F:
X :Solid X :Semi-Solid
X :Liquid :Powder

4. Layers: X :Multilayered :Bi-layered :Single Phased

5. Specific Gravity Range: 1.10

6. Free Liquids: X :Yes :No Volume: 40 %

7. pH X :Less than 2.0 X :2.1-4.0 X :4.1-7.0 X :7.1-10.0 :10.00-12.0 :Greater than 12.5 :NA

8. Liquid Flash Point: :Less than 73F :74 - 99F :100 - 139F X :140 - 199F :Greater than 200F :None :Closed Cup :Open Cup

CHEMICAL COMPOSITION

	Min.%	Max.%
. DETERGENT WASTE	00	20
. PAPER WASTES	00	20
. WATER	00	40
. MISC.SPENT ACIDS	00	20
5. SPENT BASES	00	20
6. GLASS BOTTLES	00	20
7.		
8.		
9.		

Indicate if this waste contains any of the following:

	NONE	or LESS THAN 50 ppm	or ACTUAL
1. PCB's	X		
2. Cyanides	X		
3. Phenolics	X		
4. Sulfides	X		

METALS: Indicate if this waste contains any of the following:

****	LESS THAN or ACTUAL		LESS THAN or ACTUAL
Arsenic	<5		
Barium	<100	8.Copper	<5
Cadmium	<1	9.Nickel	<5
Chromium	<5	10.Zinc	<5
Lead	<5	11.	
Mercury	0.02	12.	
Selenium	<1	13.	

KTRON AEROSTRUCTURES, INC. Vultee Blvd., PO Box 210
Nashville, Tennessee 372 USEPA D TND004042057
615-361-2697

****
GENERATOR'S WASTE MATERIAL PROFILE SHEET
****

eral Information Updated: 02/29/88 Waste Stream #: 013

ame of waste: NITRIC ACID,LT40%,D002
rocess(s) generating waste: TITANIUM PARTS ANODIZING

s this waste a Dioxin listed waste as defined in 40CFR261.31 ? :yes X :no

Physical Characteristics of Waste

LAND FILL BAN NOTE: Is this waste a F001-005 ? X :Yes :No

1. Color: BLACK
2. Odor: ACRID
Physical State @ 70 F: :Solid :Semi-Solid X :Liquid :Powder

4. Layers: :Bi-layered X :Multilayered :Single Phased
5. Specific Gravity Range: 1.15
6. Free Liquids: X :Yes :No Volume: 100 %

7. pH X :Less than 2.0 :4.1-7.0 :10.00-12.0 :NA
X :2.1-4.0 :7.1-10.0 :Greater than 12.5

8. Liquid Flash Point: :Less than 73F :74 - 99F :100 - 139F X :140 - 199F :Greater than 200F :None X :Closed Cup :Open Cup

CHEMICAL COMPOSITION

	Min.%	Max.%
. NITRIC ACID	05	40
. NH4HF2	00	10.5
. Na2Cr2O7	00	5.0
. WATER	00	50

	Min.%	Max.%
5.		
6.		
7.		
8.		
9.		

ndicate if this waste contains any of the following:

	NONE	or	LESS THAN 50 ppm	or	ACTUAL
1. PCB's	X				
2. Cyanides	X				
3. Phenolics	X				
4. Sulfides	X				

ETALS: Indicate if this waste contains any of the following:

	LESS THAN or ACTUAL		LESS THAN or ACTUAL
. Arsenic	<5		
. Barium	<100	8. Copper	<5
. Cadmium	<1	9. Nickel	<5
. Chromium	<200 — <1000	10. Zinc	<5
. Lead	<5	11.	
. Mercury	0.02	12.	
. Selenium	<1	13.	

X :EP TOX/TCLP X :TOTAL

Kevin Amos

XTRON AEROSTRUCTURES, INC. Vultee Blvd., PO Box 210
Nashville, Tennessee 372 USEPA ID TND004042057
615-361-2697

****
GENERATOR'S WASTE MATERIAL PROFILE SHEET
****

eral Information Updated: 02/29/88 Waste Stream #: 015

ame of waste: WASTE PETROLEUM NAPTHA
rocess(s) generating waste: DEGREASING OF MACHINERY

s this waste a Dioxin listed waste as defined in 40CFR261.31 ? :yes x :no

Physical Characteristics of Waste

LAND FILL BAN NOTE: Is this waste a F001-005 ? X :Yes :No

1. Color: DARK BROWN
2. Odor: PETROLEUM
Physical State @ 70 F: :Solid X :Liquid :Semi-Solid :Powder

3. Layers: :Bi-layered X :Multilayered :Single Phased
5. Specific Gravity Range: 0.85
6. Free Liquids: X :Yes :No Volume: 100 %

7. pH :Less than 2.0 :2.1-4.0 :4.1-7.0 :7.1-10.0 :10.00-12.0 :Greater than 12.5 X :NA

8. Liquid Flash Point: X :Less than 73F X :74 - 99F :100 - 139F :140 - 199F :Greater than 200F :None X :Closed Cup :Open Cup

CHEMICAL COMPOSITION

	Min.%	Max.%
. NAPTHA	50	98
. OILS & GREASES	02	20
.		
.		

	Min.%	Max.%
5.		
6.		
7.		
8.		
9.		

ndicate if this waste contains any of the following:

	NONE	or LESS THAN 50 ppm	or ACTUAL
1. PCB's	X		
2. Cyanides	X		
3. Phenolics	X		
4. Sulfides	X		

ETALS: Indicate if this waste contains any of the following:

	LESS THAN or ACTUAL		LESS THAN or ACTUAL
Arsenic	<5		
Barium	<100	8. Copper	<5
Cadmium	<1	9. Nickel	<5
Chromium	<5	10. Zinc	<5
Lead	<5	11.	
Mercury	0.02	12.	
Selenium	<1	13.	

:EP TOX/TCLP X :TOTAL

Kevin Amaker

XTRON AEROSTRUCTURES, INC. Vultee Blvd., PO Box 210
Nashville, Tennessee 372' USEPA ID TND004042057
615-361-2697

****
GENERATOR'S WASTE MATERIAL PROFILE SHEET
****

eral Information Updated: 02/29/88 Waste Stream #: 016

ame of waste: WASTE PHOSPHORIC ACID
ocess(s) generating waste: PHOS ANAODIZE OF ALUMINUM

this waste a Dioxin listed waste as defined in 40CFR261.31 ? :yes X :no

Physical Characteristics of Waste

LAND FILL BAN NOTE: Is this waste a F001-005 ? X :Yes :No

1. Color: BLACK
2. Odor: ACRID
Physical State @ 70 F: :Solid :Semi-Solid X :Liquid :Powder

4. Layers: :Multilayered :Bi-layered X :Single Phased
5. Specific Gravity Range: 1.10
6. Free Liquids: X :Yes :No Volume: 100 %

7. pH X :Less than 2.0 X :4.1-7.0 :10.00-12.0 :NA
X :2.1-4.0 :7.1-10.0 :Greater than 12.5

8. Liquid Flash Point: :Less than 73F :74 - 99F :100 - 139F X :140 - 199F :Greater than 200F :None X :Closed Cup :Open Cup

CHEMICAL COMPOSITION

	Min.%	Max.%
1. PHOSPHORIC ACID	00	15
2. WATER	00	99
3. ALUMINUM	02	07
4.		
5.		
6.		
7.		
8.		
9.		

Indicate if this waste contains any of the following:

	NONE	or LESS THAN 50 ppm	or ACTUAL
1. PCB's	X		
2. Cyanides	X		
3. Phenolics	X		
4. Sulfides	X		

METALS: Indicate if this waste contains any of the following:

	LESS THAN or ACTUAL		LESS THAN or ACTUAL
1. Arsenic	<5		
2. Barium	<100	8. Copper	<5
3. Cadmium	<1	9. Nickel	<5
4. Chromium	<5	10. Zinc	<5
5. Lead	<5	11.	
6. Mercury	0.02	12.	
7. Selenium	<1	13.	

X :EP TOX/TCLP X :TOTAL

Kevin Conger

XTRON AEROSTRUCTURES, INC. Vultee Blvd., PO Box 210
Nashville, Tennessee 372 USEPA ID TND004042057
615-361-2697

****
GENERATOR'S WASTE MATERIAL PROFILE SHEET
****

General Information Updated: 02/29/88 Waste Stream #: 017

Name of waste: DEIONIZE PLANT WASTES, F017
Process(s) generating waste: DEIONIZER PLANT

Is this waste a Dioxin listed waste as defined in 40CFR261.31 ? :yes X :no

Physical Characteristics of Waste

LAND FILL BAN NOTE: Is this waste a F001-005 ? X :Yes :No

1. Color: GREEN
2. Odor: NONE
Physical State @ 70 F: :Solid X :Liquid :Semi-Solid :Powder

4. Layers: :Bi-layered X :Multilayered :Single Phased
5. Specific Gravity Range: 1.05
6. Free Liquids: X :Yes :No Volume: 98 %

7. pH X :Less than 2.0 X :2.1-4.0 X :4.1-7.0 X :7.1-10.0 :10.00-12.0 :Greater than 12.5 :NA

8. Liquid ash Point: :Less than 73F :74 - 99F :100 - 139F X :140 - 199F :Greater than 200F :None :Closed Cup :Open Cup

CHEMICAL COMPOSITION

	Min.%	Max.%
1. CHROMIUM	00	3.0
2. ZINC	00	1.0
3. WATER	00	100
4. DIRT/TRASH	01	08
5. HCl	00	0.5
6. NaOH	00	0.9
7.		
8.		
9.		

Indicate if this waste contains any of the following:

	NONE	or LESS THAN 50 ppm	or ACTUAL
1. PCB's	X		
2. Cyanides	X		
3. Phenolics	X		
4. Sulfides	X		

METALS: Indicate if this waste contains any of the following:

	LESS THAN or ACTUAL		LESS THAN or ACTUAL
1. Arsenic	<5		
2. Barium	<100	8. Copper	<5
3. Cadmium	<1	9. Nickel	<5
4. Chromium	<5	10. Zinc	<5
5. Lead	<5	11.	
6. Mercury	0.02	12.	
7. Selenium	<1	13.	

X EP TOX/TCLP X TOTAL

1984 Hazardous Waste Generation Summary Report

Page _____ of _____

EPA ID CODE TND 00-404-2057 -Y
Tony E. Chatman
Environmental Engineer
AVCO AEROSTRUCTURES DIVISION
PO BOX 210
NASHVILLE TN 37202

Please complete and return this form to the following address:

Tennessee Department of Health and Environment
Division of Solid Waste Management
Customs House, Fourth Floor
701 Broadway
Nashville, Tennessee 37219-5403

If the information on the label is incorrect, please correct.

For technical assistance, call (615) 741-3424.

2. Waste Page	Waste Name	EPA Waste Code(s)	Amount generated during 1984 (in kg)	Amount on-site on 01/01/84 (in kg)	Amount on-site on 12/31/84 (in kg)	Waste mgt. methods
1	Spent Sodium Hydroxide Solution	D002	825,684	1,000	1,000	H01
2	Spent Trichloroethylene	F001	5,000	1,000 est.	4,000 est.	H01
3	Waste Paint/Solvent Mix	D001	37,726	5,000 est.	12,750	H01
4	Paint Booth Sludge generated from water wash paint booth operations	D007	34,750	1,000 est.	30,000	H01
5	Paint Booth Sludge generated from decarbonization of cadium cyanide plating solution	F007	143,677	1,000 est.	5,295	H01
6	Sodium Hydroxide Sludge Tank Bottom	D002	2,523	2,000 est.	2,000 est.	H01
7	Chromic Acid Sludge Tank Bottom	D002	76,835	1,000 est.	1,000 est.	H01
8	Paint Solids	D002	54,362	1,000 est.	1,000 est.	H01
9	Spent Corrosive Solutions used in surface treating of aluminium	D007	1,887,794	1,000 est.	1,000 est.	H01

3. Certification: I certify that the above information is true, accurate and complete. (Sign by owner or manager and give title and date.)

Tony E. Chatman Environmental Engineer 3/28/85

Tony E. Chatman

PH 2575, SWM (02/85)

1[illegible]4 Annual Shipping Report for Haza[illegible]ous Waste Generators

EPA ID CODE TND 00-404-2057 -Y
T.E. CHATMAN
ENVIRONMENTAL ENGINEER
AVCO AEROSTRUCTURES DIVISION
PO BOX 210
NASHVILLE TN 37222

Please complete and return this form to following address:

Tennessee Department of Health and Environment
Division of Solid Waste Management
Customs House, Fourth Floor
701 Broadway
Nashville, Tennessee 37219-5403

If the information on the label is incorrect, please correct.
For technical assistance, call (615) 741-3424.

For the period code below, use : Jan.-June (1); July-Dec. (2); or all year (3)

2. Dot Shipping Name / Waste name	EPA Waste codes	Amount shipped in kilograms	Number of shipments	TSDF EPA ID number	Transporter EPA ID number	Period code	Handling codes
a. Hazardous Waste Liquid,NOS	D002	868,846	44	TND00772277	TND008867335	3	T23,T40
b. Hazardous Waste Liquid,NOS	D002	86,199	5	TND00772277	OHD980905939	3	T23,T40
c. Hazardous Waste Liquid,NOS	D002	171,012	12	KYD088438817	KYD088438817	3	T06,T07
d. Hazardous Waste Liquid,NOS	D002	35,249	2	KYD088438817	TND008867335	1	T06,T07
e. Spent Acid Solution	D002	670,598	37	TND00772277	TND008867335	3	T23,T40
f. Spent Acid Solution	D002	9,795	1	TND00772277	OHD980905939	2	T23,T40
g. Spent Acid Solution	D002	37,522	2	KYD088438817	KYD088438817	1	T06,T07
h. Spent Sodium Hydroxide Solution	D002	506,009	28	TND00772277	TND008867335	3	T23,T40
i. Spent Sodium Hydroxide Solution	D002	319,675	20	KYD088438817	KYD088438817	3	T06,T07

3. Certification: I certify that the above information is true, accurate and complete. (Sign by owner or manager and give title and date.)

Tony E. Chatman — Environmental Engineer — 3/28/85

Tony E. Chatman

PH 211 b, SWM (Rev. 01/85)

1984 Annual Shipping Report for Hazardous Waste Generators

Summarize the off-site shipments of hazardous waste you initiated during the reporting year. Do not include wastes which are not regulated by the Department such as PCB's. This information should be obtained from, and accountable to, your hazardous waste manifest records. Complete one line for each combination of initial transporter and TSD facility involved in the handling of a waste. Each line should include how much of a specific waste (or waste combination) was shipped to a specific TSD facility via a specific transporter during the reporting year.

Please number each page in the space provided on the upper right side of the report.

DOT Shipping Name/Waste Name - Enter the DOT shipping name or a descriptive waste name. Each different waste or waste combination must be separately entered. Mixtures of the same constituent wastes but of varying relative concentrations may be regarded as the same waste unless the hazard characteristics of the mixtures are different.

EPA Waste Codes - Enter the applicable hazardous waste code(s) which identifies the waste or the combination of wastes (e.g., F001, K001, D001, etc.).

Amount Shipped In Kilograms - Enter the amount in kilograms of the waste shipped during the reporting year to the specified TSD facility via the specified transporter. For conversion, one kilogram equals 2.2 pounds. Units of volume may not be used for reporting but must be converted into kilograms taking into account the appropriate density or specific gravity of the waste. For example, a full 55 gallon drum of hazardous wastewater with a specific gravity of 1.02 should be reported as 55 gallons x 1.02 x 8.34 lb/gal. x kg/2.2 lb. = 55 x 1.02 x 8.34/2.2 = 212.67 or 212.7 kg. The weight of the hazardous waste reported should not include container weight.

Shipment - For each line enter the number of shipments during the reporting year to the specified TSD facility via the specified transporter. NOTE: Each shipment should have been separately manifested.

Destination/Source ID Number - Enter the installation identification number (e.g., TND000000000) of the TSD facility to which the waste was shipped.

Transporter ID Number - Enter the installation identification number (e.g., TND000000000) of the transporter who picked up the waste.

Period Code - Enter the correct number (1,2 or 3) for the period hazardous waste was generated during the reporting year (see explanation at top of Annual Shipping Report Form).

Handling Code - Enter the handling codes (see the list on the back of the general instructions) that most closely represent the techniques used at the facility that you have indicated as receiving this waste. Enter all that are applicable, in the order of handling.

Certification - The report must be signed by the generator or his authorized agent, including his title and date signed.

1984 Annual Shipping Report for Hazardous Waste Generators

EPA ID CODE TND 00-404-2057 -Y
T.E. CHATMAN
ENVIRONMENTAL ENGINEER
AVCO AEROSTRUCTURES DIVISION
PO BOX 210
NASHVILLE TN 37202

Please complete and return this form to following address:

Tennessee Department of Health and Environment
Division of Solid Waste Management
Customs House, Fourth Floor
701 Broadway
Nashville, Tennessee 37219-5403

If the information on the label is incorrect, please correct.
For technical assistance, call (615) 741-3424.

For the period code below, use : Jan.-June (1); July-Dec. (2); or all year (3)

2. Dot Shipping Name / Waste name	EPA Waste codes	Amount shipped in kilograms	Number of shipments	TSDF EPA ID number	Transporter EPA ID number	Period code	Handling codes
a. Hazardous Waste Liquid,NOS	F007	36,499	2	TND00772277	TND008867335	1	T23,T40
b. Hazardous Waste Liquid,NOS	F007	16,681	1	KYD088438817	TND008867335	1	T06,T07
c. Hazardous Waste Liquid,NOS	F007	90,497	5	KYD088438817	KYD088438817	1	T06,T07
d. Spent Ethanolamine Sollution	D002	6,209	1	KYD088438817	KYD088438817	1	T06,T07
e. Spent Sodium Dichromate Solution	D002	76,835	4	TND00772277	TND008867335	1	T23,T40
f. Waste Paint Related Material	D001	54,362	2	TND000645770	TND000645770	1	S01
g. Flammable Liquid	D001	37,226	1	TND000645770	TND000645770	1	S01
h. Spent Acid Solution	D002	2,364	1	TND000645770	TND000645770	1	S01
i. Spent Trichloroethylene	F001	592	1	TND000645770	TND00645770	1	S01

3. Certification: I certify that the above information is true, accurate and complete. (Sign by owner or manager and give title and date.)

Tony E. Chatman — Environmental Engineer — 3/28/85

Tony E. Chatman

PH 211-b, SWM (Rev. 01/85)

File 19-022

Tennessee Hazardous Waste Notification 07/20/1993

1. Organization's full, legal name.
TEXTRON AEROSTRUCTURES

EPA ID Code
TND 00-404-2057

2. Mailing Address: City, State and Zip Code
PO BOX 210 NASHVILLE TN 37202

3a. Site Address: City, State and Zip Code
#1431 VULTEE BOULEVARD, NASHVILLE, TN 37217

County Name
Davidson

3b. Latitude
36.0714

Longitude
86.4136

4. Owner Name
TEXTRON INC

Phone number
(615) 361-2000

5. Manager or Operator Name
FRED N HUBBARD

Phone number
(615) 361-2061

6. Principal technical contact
DAVID P JARRETT

Phone number
(615) 361-2697

7. Num. Employees	Year Began	SIC codes	Job Shop
~~2500~~ 2000	1941	3728, 3769, ,	(Y)

8. Emergency Contacts:

Name	Time Period	Phone Number
a. DAVID P JARRETT	NIGHTS	(615) 876-3749
b. DAVID P JARRETT	DAYS	(615) 361-2697
c. AVCO SECURITY	ALL	(615) 361-2063
d.		

9. Environmental Permits.

#AIR POLLUTION OPERATING PERMIT-CITY OF NASHVILLE, TN, PERMIT NO. 42-1 THRU 42-24 9/30/92 2. NPDES PERMIT (WATER) TENN DEPT OF HEALTH & ENVIRONMENT PERMIT NO TND001597 MODIFICATION 9/27/95. HAZARDOUS WASTE (INTERIM STATUS),

10. Burning Hazardous Waste as fuel.

Transporting HW fuel...

Blending or marketing...

Burning HW fuel...

11. Certify as true, accurate and complete by signing name, title and date.

Below is for Department use only

12. Date rcvd	County	Gen.	Small Gen.	CE SQG
02281992	19	Y	N	

13. Date Closed

14. Comments
HANDDELIVERED

WS #2 being used by Reynolds
exclusion granted

Waste Stream Report (front) 07/20/1993

ation's full name at facility.
ON AEROSTRUCTURES

EPA ID Code
TND 00-404-2057

Waste name
WASTE PAINT/SOLVENT MIX-D001, D007, D008, F002, F003, F005

Waste Number
3

3. Years generated | No longer gen. date | Gen. Freq.

1941 | Continuous, Accident, Various (V)

4. Hazard criteria | EPA waste codes | SIC code

ABG | F003, F002, F005, D001 | 37283769

5. Phys. form | %Solid | %Water | Vol. to wt. | Chlorine PPM | BTU/lb.

Liq-Othr (3) | 80.0 | .0 | 7,200 | 0.0 | 12,000.0

6. Monthly Maximum | Annual Average | Max. Amt. stored on-site | Max. Days stored

4,200.0 | 55,000.0 | 15,000.0 | 75

7. DOT Shipping name | DOT Hazard class/code | DOT ID Code

RQ WASTE PAINT RELATED MATERIAL | Flam. liquid 07 | 1993

8. Generation process.
GENERATED FROM PAINTING OPERATIONS FROM PAINT EQUIPMENT CLEAN-UP

9. Annual Report Section.

Rpt. Yr.	Amt. Generated	Amt. On-site FIRST of Yr.	Amt. On-site LAST of Yr.
1993			

a. Total Hndl | SITE | Methods | b. Amt. Hndl | SITE | Methods

c. Amt. Hndl. | SITE | Methods | d. Amt. Hndl. | SITE | Methods

10. Efforts to reduce volume and toxicity of the waste.

Reformulation . . . . . .(a)
In process recycling. . .(b)
Equipment modification. .(c)
Substitute raw materials.(d)
Improved operations (e)
No effort - explain (f)
Other - explain (g)

11. Changes in volume and toxicity
a. Increased toxicity ( ), b. decreased toxicity ( ), c. No change ( ). Amount of Reduction (kg)

1999 Hazardous Waste Generator Maintenance Fees

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

INSTRUCTIONS

Complete the following to determine if you owe the hazardous waste maintenance fee for generators. Return the certified form even if no fees are due.

1.1	Enter the number of months in 1998 that you generated more than 100 but less than 1000 kilograms of hazardous waste.	0
1.2	If you are a Conditionally Exempt Small Quanity Generator (CESQG), enter the number of months in 1998 that you accumulated at any time more than 1000 kilograms of non-acute hazardous waste.	N/A
1.3	Enter the number of months in 1998 that you generated 1,000 or more kilograms of hazardous waste.	12
1.4	Enter the number of months in 1998 that you generated 1 or more kilograms of acute hazardous waste, or 100 or more kilograms of a spill or residue of acute hazardous waste.	0
1.5	If you are a CESQG, enter one (1) if you received a Notice of Violation in 1998, other than for over-accumulation as expressed in line in 1.2 above.	N/A

Note: Wastes generated from the cleanup or containment of a Superfund site or a spill on public property shall be excluded from the above for the fee calculations only. Also, exlcuded are wastes listed under 1200-1-11-.02(1)(c)(ii) or 40 CFR 261.5 (c) & (d), incorporated by reference in 1200-1-11-.02(1)(a). For examples, wastes handled as H03, H05, H06 and H07; fly ash, drilling fluids, and cement kiln dusts; and still bottoms recycled onsite as long as the waste recycled has been counted once.

If all lines above are zero, you owe no fee. Enter zero on line 1 below and certify on line 2.

If either line 1.1 or 1.2 is greater than zero, and all lines 1.3 to 1.5 are zero, your are considered a small quantity generator for fee purposes. Enter $550 on line 1 below and certify on line 2.

If any line 1.3 to 1.5 is greater than zero, you are considered a large quantity generator for fee purposes. Enter $900 on line 1 below and certify on line 2.

Enter Name and Installation ID:

TND 00-404-2057 YN - - Nashville FO

THE AEROSTRUCTURES CORPORATION
Attn: DAVID P JARRETT
1431 VULTEE BOULEVARD
NASHVILLE, TN 37217

Please complete and return the original to the above address.

For technical assistance, call 1-(800) 237-7018 (in Tennessee only.)

1. See the instructions to determine if you owe a hazardous waste generator maintenance fee. If you are a large quantity generator, enter $900. If you are a small quantity generator, enter $550. Else, enter zero. Submit the completed form with your check or money order payable to Treasurer, State of Tennessee. Do not send cash. — $900

2. Certify that the information given above is true, accurate and complete.

Signature of owner, manager or authorized representative.	Title	Date
[signature]	[illegible]	2/25/99

Below is for DEPARTMENT USE only.

CD No.	Date received	Amount	Receipt #	Comments

CN-0906 (Rev. 11/95) RDA 2203

1998 Offsite Shipping Report

For wastes shipped offsite only.

TND 00-404-2057 YN - - Nashville FO

THE AEROSTRUCTURES CORPORATION
Attn: DAVID P JARRETT
1431 VULTEE BOULEVARD
NASHVILLE, TN 37217

Please complete and return this form to following address:

Tennessee Department of Environment and Conservation
Division of Solid Waste Management
Fifth Floor, L & C Tower
401 Church Street
Nashville, Tennessee 37243-1535

Also, complete this form when terminating business.
For technical assistance, call 1 (800) 237-7018 in Tennessee only.

2. Waste Streams or "FS"	DOT Shipping Name or Waste Name	EPA Waste Codes	Amount shipped in kilograms	Number of shipments	TSDR/Destination Facility Installation ID	Transporter Installation ID	TSDR Handling Codes
a. 1	WASTE HYDROXIDE SOLUTION	D002 D003 D007	8,616.8	3	IND000645770	SCD987574647	S-01
b. 3	WASTE PAINT RELATED MATERIAL	D001, D007 D008, D035 F002, F003	33,319.7	4	GAD096623282	ELR000006353	S-01
c. 3	WASTE PAINT RELATED MATERIAL	D001, D007 D008, D035 F002, F003	27,755.1	4	IND000645770	SCD987574647	S-01
d. 7	WASTE CORROSIVE SOLID, NOS	D002 D007	79,428.5	4	IND093219012	IND058484114	T-21
e. 7	WASTE CORROSIVE SOLID, NOS	D002 D007	1,814.1	1	IND000645770	SCD987574647	S-01
f. 11	WASTE POISON LIQUID, NOS	D003, D008 F007, F008	1,877.6	2	IND000645770	SCD987574647	S-01
g. 12	WASTE CORROSIVE LIQUID, NOS	D002, D003 D007	11.3	1	IND000645770	SCD987574647	S-01
h. 17	HAZARDOUS WASTE LIQUID, NOS	D002, D003 D007, D008 F019	80,562.4	4	IND093219012	IND058484114	T-21
3. Totals: Sum the two columns to the right. Page totals: sum the following two columns			233,385.5	23			
Final totals: sum all page totals on last page of report							

4. Certification: I certify that the above information is true, accurate and complete. (Sign by generator and give title and date.)

David P Jarrett, Env Mgr, 2/26/99

CN-0779 (Rev. 11/94)

RDA 2203

1998 Offsite Shipping Report

For wastes shipped offsite only.

INSTRUCTIONS

Summarize your **offsite** shipments of hazardous wastes in 1998. This information must be obtained from, and accountable to, your hazardous waste manifest copies returned by the TSDR. You and your TSDR must reconcile any manifest differences and report only the mutually corrected amounts or else file manifest discrepancy reports. Document the reasons for any corrections by using TSDR analyses, actual weights from scale receipts, manifest changes, etc.

Complete one line for each combination of initial transporter and TSDR who handled a waste. If no shipments at all were initiated in 1998, write "No Shipments" in the DOT Shipping Name of line 2a and certify the report. If some wastes were shipped offsite, but others were not, omit those that were not shipped offsite.

Page _____ of ____ - Number each page in the space provided on the upper right side of the report.

Waste Streams or "FS" - Enter the source of the waste as the waste stream number from your Hazardous Waste Stream Report forms. For mixtures, enter as many numbers as appropriate. If the waste is being shipped directly from your RCRA permitted storage, enter "FS" (From Storage).

DOT shipping name/waste name - Enter only one of either the DOT shipping name or a descriptive waste name. Enter each different waste or waste combination on a separate line. Enter various mixtures of the same constituent wastes on the same line unless the hazard characteristics of the resultant mixtures are different.

EPA waste codes - Enter the applicable hazardous waste code(s) which identifies the waste or combination of wastes. See Rules 1200-1-11-.02(3) and (4) for the EPA waste codes. (For example, F001, K001, D001.)

Amount shipped (in kilograms) - Enter the amount of wastes in kilograms that you shipped during the reporting year to the specified TSD facility by the specified transporter. Use the Total Quantity (Item 13) from the Manifest after converting it to kilograms. The weight reported should include the weight of the drum unless you know that the waste will be removed from the drum and the drum will not be handled as a hazardous waste. For generators, this amount should match the total of lines 11D1 of the Waste Stream Reports that are included on this line. For TSDR's, it should match the lines on the Summary Report with the word "SHIPPED" in the handling column.

For conversion, 2.2 pounds equals one kilogram. Convert volume into weight in kilograms taking into account the appropriate density or specific gravity of the waste. For example, water weighs 8.34 lbs./gallon. A full 55 gallon drum of hazardous wastewater with a specific gravity of 1.02 should be reported as 55 gallons * 1.02 * 8.34 lb./gal ÷ 2.2lb./kg. = 212.67 or 212.7 kg.

Shipment - Enter the number of separately manifested shipments during the reporting year for each line completed.

TSDR ID number - Enter the Installation Identification Number of the treatment, storage or disposal facility/destination facility to which the waste was shipped. Enter only one number.

Transporter ID number - Enter the Installation Identification Number of the initial transporter who picked up the waste. Enter only one number.

Handling codes - Use the codes shown on page 6 of the instructions for the Hazardous Waste Stream Report. Enter the **TSDR Handling Codes** that most closely represent the techniques you contracted to be used at the facility that **received** this waste. Enter all codes that are applicable in the order of handling of the waste. Use only the TSDR Handling Codes and not the Waste Management Codes.

Totals - Sum the amount shipped and the number of shipments for each page and record the total of all pages on the last page.

Certification - The generator must sign the report and include the title and date signed. The certification must be made by one who is authorized to legally bind the company as when signing contracts.

1998 Offsite Shipping Report

For wastes shipped offsite only.

TND 00-404-2057 YN - - Nashville FO

THE AEROSTRUCTURES CORPORATION
Attn: DAVID P JARRETT
1431 VULTEE BOULEVARD
NASHVILLE, TN 37217

Please complete and return this form to following address:

Tennessee Department of Environment and Conservation
Division of Solid Waste Management
Fifth Floor, L & C Tower
401 Church Street
Nashville, Tennessee 37243-1535

Also, complete this form when terminating business.
For technical assistance, call 1 (800) 237-7018 in Tennessee only.

2. Waste Streams or "FS"	DOT Shipping Name or Waste Name	EPA Waste Codes	Amount shipped in kilograms	Number of shipments	TSDR/Destination Facility Installation ID	Transporter Installation ID	TSDR Handling Codes
a. 19	WASTE CORROSIVE LIQUID/SOLID, NOS	D002, D008 LABP	201.9	2	TND000645770	SCD987574647	S-01
b. 20	WASTE TRICHLOROETHYLENE	F001	408.2	1	TND000645770	SCD987574647	S-01
c. 21	HAZARDOUS WASTE LIQUID/SOLID, NOS	D002, D006 D007, D008	317.5	2	TND000645770	SCD987574647	S-01
d. 22	WASTE COMPRESSED GAS, NOS	D001, D007 D018, D021 D035	204.1	2	TND000645770	SCD987574647	S-01
e.							
f.							
g.							
h.							
3. Totals: Sum the two columns to the right.			1,131.7	7			
Page totals: sum the following two columns							
Final totals: sum all page totals on last page of report			234,517.2	30			

4. Certification: I certify that the above information is true, accurate and complete. (Sign by generator and give title and date.)

David Jarrett, Env. Mgr., 2/26/99

CN-0779 (Rev. 11/94)

RDA 2203

1998 Offsite Shipping Report

For wastes shipped offsite only.

INSTRUCTIONS

Summarize your **offsite** shipments of hazardous wastes in 1998. This information must be obtained from, and accountable to, your hazardous waste manifest copies returned by the TSDR. You and your TSDR must reconcile any manifest differences and report only the mutually corrected amounts or else file manifest discrepancy reports. Document the reasons for any corrections by using TSDR analyses, actual weights from scale receipts, manifest changes, etc.

Complete one line for each combination of initial transporter and TSDR who handled a waste. If no shipments at all were initiated in 1998, write "No Shipments" in the DOT Shipping Name of line 2a and certify the report. If some wastes were shipped offsite, but others were not, omit those that were not shipped offsite.

Page _____ of ____ - Number each page in the space provided on the upper right side of the report.

Waste Streams or "FS" - Enter the source of the waste as the waste stream number from your Hazardous Waste *Stream Report forms. For mixtures, enter as many numbers as appropriate. If the waste is being shipped* directly from your RCRA permitted storage, enter "FS" (From Storage).

DOT shipping name/waste name - Enter only one of either the DOT shipping name or a descriptive waste name. Enter each different waste or waste combination on a separate line. Enter various mixtures of the same constituent wastes on the same line unless the hazard characteristics of the resultant mixtures are different.

EPA waste codes - Enter the applicable hazardous waste code(s) which identifies the waste or combination of wastes. See Rules 1200-1-11-.02(3) and (4) for the EPA waste codes. (For example, F001, K001, D001.)

Amount shipped (in kilograms) - Enter the amount of wastes in kilograms that you shipped during the reporting year to the specified TSD facility by the specified transporter. Use the Total Quantity (Item 13) from the Manifest after converting it to kilograms. The weight reported should include the weight of the drum unless you know that the waste will be removed from the drum and the drum will not be handled as a hazardous waste. For generators, this amount should match the total of lines 11D1 of the Waste Stream Reports that are included on this line. For TSDR's, it should match the lines on the Summary Report with the word "SHIPPED" in the handling column.

For conversion, 2.2 pounds equals one kilogram. Convert volume into weight in kilograms taking into account the appropriate density or specific gravity of the waste. For example, water weighs 8.34 lbs./gallon. A full 55 gallon drum of hazardous wastewater with a specific gravity of 1.02 should be reported as 55 gallons * 1.02 * 8.34 lb./gal ÷ 2.2lb./kg. = 212.67 or 212.7 kg.

Shipment - Enter the number of separately manifested shipments during the reporting year for each line completed.

TSDR ID number - Enter the Installation Identification Number of the treatment, storage or disposal facility/destination facility to which the waste was shipped. Enter only one number.

Transporter ID number - Enter the Installation Identification Number of the initial transporter who picked up the waste. Enter only one number.

Handling codes - Use the codes shown on page 6 of the instructions for the Hazardous Waste Stream Report. Enter the **TSDR Handling Codes** that most closely represent the techniques you contracted to be used at the facility that **received** this waste. Enter all codes that are applicable in the order of handling of the waste. Use only the TSDR Handling Codes and not the Waste Management Codes.

Totals - *Sum the amount shipped and the number of shipments for each page and record the total of all pages on* the last page.

Certification - The generator must sign the report and include the title and date signed. The certification must be made by one who is authorized to legally bind the company as when signing contracts.

Hazardous Waste Notification

Tennessee Department of Environment and Conservation; Division of Solid Waste Management
Fifth Floor, L & C Tower: 401 Church Street: Nashville, TN 37243-1535

~~Please complete and/or correct, certify and return. Retain a copy for your records.~~

1. Organization's full, legal name THE AEROSTRUCTURES CORPORATION			Installation identification no. TND 00-404-2057	
2. Mailing address 1431 VULTEE BOULEVARD	City NASHVILLE	State	Zip code TN 37217	
3 a. Site address #1431 VULTEE BOULEVARD, NASHVILLE, TN 37217	City	State	Zip code	County name Davidson
b. Latitude (degrees, minutes & seconds) 36.0714	Longitude (degrees. minutes & seconds) 86.4136			
4. Owner name (may be corporation or company name) TA ~~ACQUISITION~~ HOLDINGS INC ACQUISITION		Type P	Phone with area code (615) 361-2000	
5. Manager or operator name CLIFFORD D WELLS		Type P	Phone with area code (615) 361-2061	
6. Principal technical contact DAVID P JARRETT	FAX number + area code (615) 361-2219		Phone with area code (615) 361-2697	
7. Number of employees 2500 ~~1600~~	Year operation began 1941	SIC codes (Primary SIC first,etc.) 3728, 3769, ,	Job shop Yes (No) (N)	

8. Emergency contacts for 24 hours per day and 7 days per week

	Name	Time period covered	Phone with area code
a.	DAVID P JARRETT	NIGHTS	(615) 299-9219
b.	DAVID P JARRETT	DAYS	(615) 361-2697
c.	SECURITY	ALL	(615) 361-2063
d.	TED L. WILKINSON ~~J I RODERGON~~	DAYS/NIGHT	(615) 361-2008

9. a. Do you receive RCRA hazardous waste from offsite and recycle it? Yes ( ) No X
   b. Do you recycle RCRA hazardous waste from onsite? Yes X No ( )

10. Certify that the information given in this document is true. accurate and complete by signing and dating.

Signature of authorized representative	Title	Date
David P Jarrett	Eng Mgr	2/25/99

*** Below is for Department use only ***

11. Date received	County code	Priority	Generator Yes No	Small Generator Yes No	Special status
	19			Y M	

12. Date closed	TSDR status	Transporter status

13. Comments

Hazardous Waste Notification

INSTRUCTIONS FOR COMPUTER GENERATED AND BLANK FORMS

Below are instructions for Hazardous Waste Notification. For previous notification, review the data and mark any changes on the computer generated form. If you need extra copies, please photocopy the blank form before writing on it.

Complete this form for each site generating a hazardous waste in Tennessee. If a company owns multiple sites, describe each site and its wastes on a separate set of forms. Rule 1200-1-11-.01(2)(a) provides a definition of "onsite". Rule 1200-1-11-.03(1)(b) gives the procedures to determine if a waste is hazardous. Attach a completed Hazardous Waste Stream Report for each waste stream determined to be hazardous.

Each new generator of hazardous waste must submit this form within 90 days after the date of initial generation. Each generator is responsible for maintaining an up-to-date form by notifying the Division within 30 days of significant changes. Submit one copy of the applicable forms to the Division of Solid Waste Management, Fifth Floor, L & C Tower, 401 Church Street, Nashville, Tennessee 37243-1535.

Line 1: **Organization name** - Give the organization's full, legal name for this site to distinguish it from any other site the organization may own or operate in Tennessee. Supply your installation identification number. If no number is available, call the Division for instructions on how to obtain one. There is now a one-time application fee of $50.00 for a new number.

Line 2: **Mailing address** - Give a complete mailing address with zip code according to U. S. Postal Service standards for this site. Give the state code of TN for Tennessee or the two character postal abbreviation for any other state. Please supply the full 9 digit zip code if possible. Mail will be sent to the technical contact if supplied on line 6. This address will be used to mail the annual hazardous waste report forms. Carefully consider who should receive the mail and where it should be delivered to insure prompt delivery before any late penalties are assessed.

Line 3: **Site Address** - Give the full address which will aid the Division in going to this site. Do not give a P. O. Box number. Give the Tennessee county name in which the site is located. Give the latitude and longitude of the site by degrees, minutes and seconds. Latitude and longitude may be found by using U. S. Geologic Survey quadrangle maps.

Line 4: **Owner name** - Give the personal or corporate name and phone number of the immediate owner of the site. In Type, enter one of the following codes which best describes the owner type:

Private . . .	P	Indian . . .	I
Federal government . .	F	Municipal government . . .	M
State government . . .	S	Special District . . .	D
County government . . .	C	Other . . .	O

Line 5: **Manager name** - Give the name and phone number of the manager or person who is responsible for the direction of activities at the site. In Type, use the codes from line 4 above which best describes the manager type.

Line 6: Principal **technical contact** - Give the name and fax and phone number of the person who is knowledgeable about the hazardous waste generated at this site and who the Division may contact for further information if needed. The blank annual report package from the Division will be addressed to this person.

Line 7: Give the **number of employees** at this site. Enter the **year that operations began** at the site. Enter the four digit **primary Standard Industrial Classification** (SIC) code of the site. If additional SIC codes are known, please supply them. If your site operates as a job shop, as described in Rule 1200-1-11-.03(2)(e), circle "Yes" in the box with the caption "Job Shop".

Line 8: **Emergency contact** - Give the name, phone number and time the designated emergency contact may be called. The Division must be able to call 24 hours per day and 7 days per week regarding emergencies. Only one person should be designated for any time period. Enter only one phone number per line. If additional space is needed, attach a separate sheet and identify the information with the form name and line number.

Line 9: a. Check the yes box if you **receive RCRA hazardous waste from offsite and recycle it.**
b. Check the yes box if you **recycle RCRA hazardous waste from onsite.**

Line 10: **Certification** - After all documents have been compiled for submission to the Division, the manager or owner responsible for the site must sign, give their title and the date signed. The certification must be made by one who is authorized to legally bind the company as when signing contracts.

Lines 11 to 13 are for **Department use only!**

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name.** Use standard name from regulations whenever possible. WASTE SODIUM HYDROXIDE SOLUTION D002	WASTE STREAM NUMBER 1

3. Give the years that this waste has been generated, e.g. 1975, 1982-. 1965	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation Continuous Accidental/ One time Various ____ (Y)
4. Circle all appropriate **hazard criteria.** Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). CFGE	**EPA waste codes.** (Primary first; six maximum.) D002,D007,D003	**SIC code** for generating process. 3728, 3769

5. **Physical form** code	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Liq-Watr (2)	5.0	.0	10.500	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
50,000.0	550,000.0	41,000.0	10

7. **DOT shipping** name	DOT hazard class		DOT ID code
RQ WASTE HYDROXIDE SOLUTION	Corrosive	08	1760

8. Describe the **generation process.**

A. SPENT "ALKALINE ETCH" SOLUTION USED IN SURFACE TREATMENT OF ALUMINUM PARTS. B. SPENT "CHEMICAL MILL" SOLUTION USED IN FINISHING SURFACE OF ALUMINUM PARTS.

9. **Chemical Characteristics.** pH	Flash point	Reactive code	**Concentration units.** Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM( )
13.5		2	X (W)

Hazardous constituents. Give range of values at right.	lower value	upper value
A. CHEM ~~ACHEM~~ MILL": SODIUM HYDROXIDE	12	20
B. SODIUM SULFIDE	.5	1.0
C. SODIUM GLUCONATE (OF NAOH SOLUTION)	1.5	2.0
D. ALUMINUM (DISSOLVED)	10	15
E. TAP WATER		

10. Describe how you have **managed** or intend to manage this waste **through final disposition.** Use the Waste Management Method Codes on page 6 of the instructions.

S01, S02, T23, T24, T31, T40, T37, T21, D81

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
1998	8,616.8	0	0	8,616.8

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

	Total Handled OFFsite	TSDR handling/Waste management methods		Amount Handled ONsite	TSDR handling/Waste management methods
D1	8,616.8 kg	S01, S02, T23, T24, T31, T40, T37, T21, D81	D2	kg	
	Amount Handled ONsite	**TSDR handling/Waste management methods**		**Amount Handled ONsite**	**TSDR handling/Waste management methods**
D3	kg		D4	kg	

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0.058	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
David Manett	Plant Mgr	2/25/99

***** Below is for Department use only. *****

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8), Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name.** Use standard name from regulations whenever possible. WASTE PAINT/SOLVENT MIX-D001, D007, D008, F002, F003, F005	WASTE STREAM NUMBER 3

3. Give the years that this waste has been generated, e.g. 1975, 1982-. 1941	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation Continuous Accidental/ One time Various ____ (V)
4. Circle all appropriate **hazard criteria.** Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). ABG	**EPA waste codes.** (Primary first; six maximum.) F003,F002,F005,D001,D007,D018	**SIC code** for generating process. 3769, 3728

5. **Physical form code**	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Liq-Othr (3)	80.0	.0	7.200	0.0	12,000.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
4,200.0	55,000.0	15,000.0	75

7. **DOT shipping** name	DOT hazard class		DOT ID code
RQ WASTE PAINT RELATED MATERIAL	Flam/Comb Liquids	03	1993

8. Describe the **generation process.**

GENERATED FROM PAINTING OPERATIONS FROM PAINT EQUIPMENT CLEAN-UP

9. **Chemical Characteristics.** pH	Flash point	Reactive code	**Concentration units.** Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM( )
7.0	<72 F		X (W)

Hazardous constituents. Give range of values at right.	lower value	upper value
A. MEK	50	75
B. TOLUENE	5	20
C. MIBK	0	5
D. ACETONE	5	10
E. CHROMIUM	5	54PPM

10. Describe how you have **managed** or intend to manage this waste **through final disposition.** Use the Waste Management Method Codes on page 6 of the instructions.

S01, T16, T50, T63

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
1998	65,405.8	4,807.3	9,138.3	61,074.8

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

	Total Handled OFFsite	TSDR handling/Waste management methods		Amount Handled ONsite	TSDR handling/Waste management methods
D1	61,074.8 kg	S01, T50, T16, T63, D81	D2	kg	
D3	Amount Handled ONsite kg	TSDR handling/Waste management methods	D4	Amount Handled ONsite kg	TSDR handling/Waste management methods

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0.829	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	Eng Mgr	2/25/99

*** Below is for Department use only. ***

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8), Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility: THE AEROSTRUCTURES CORPORATION
   Installation identification number: TND 00-404-2057

2. **Waste name.** Use standard name from regulations whenever possible.: PAINT BOOTH SLUDGE -D007
   WASTE STREAM NUMBER: 4

3. Give the **years** that this waste has been generated, e.g. 1975, 1982-.: 1941
   Date no longer generated. (MM/DD/YY):
   Annual **Frequency** of generation: Continuous / Accidental/ One time / Various (V)

4. Circle all appropriate **hazard criteria**. Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). ABG
   EPA **waste codes**. (Primary first; six maximum.): D007,D001,D006,D008
   SIC code for generating process.: 3728, 3769

5. **Physical form code**: Slurry (4)
   % Solid: 80.0
   % Water: .0
   Vol. to wt. conversion (pounds/gallon): 9.500
   If used for fuel, chlorine content(PPM): 0.0
   BTU per pound: 0.0

6. **Generation rates** in kilograms.
   Monthly maximum (kg): 1,000.0
   Annual average (kg): 3,000.0
   Maximum stored onsite (kg): 1,000.0
   Maximum days stored: 75

7. **DOT shipping** name: RQ HAZARDOUS WASTE LIQUID, N.O.S.
   DOT hazard class: Misc Haz. Mat 09
   DOT ID code: NA9189

8. Describe the **generation process**.

   SLUDGE GENERATED FROM WATER WASH PAINT BOOTH OPERATIONS.

9. **Chemical Characteristics.**
   pH: 5-9
   Flash point: 130 F
   Reactive code:
   Concentration units. Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM( ) X (W)

   Hazardous constituents. Give range of values at right.

	lower value	upper value
A. WATER	10	99
B. PAINT SOLIDS	1	90
C. MIXED PAINT SOLVENTS (MEK ACETONE, TOLUENE)		<0.1
D. CHROMIUM	0	100
E.		

10. Describe how you have **managed** or intend to manage this waste **through final disposition**. Use the Waste Management Method Codes on page 6 of the instructions.

    S01, T21, D81

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year 1998	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
	0	0	0	0

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

D1	Total Handled OFFsite 0 kg	TSDR handling/Waste management methods	D2	Amount Handled ONsite kg	TSDR handling/Waste management methods
D3	Amount Handled ONsite kg	TSDR handling/Waste management methods	D4	Amount Handled ONsite kg	TSDR handling/Waste management methods

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A. Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	Eng-Mgr	2/25/99

*** Below is for Department use only. ***

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8); Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name.** Use standard name from regulations whenever possible. WASTE CYANIDE SLUDGE	WASTE STREAM NUMBER 5

3. Give the years that this waste has been generated, e.g. 1975, 1982-.	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation
1941		Continuous Accidental/ One time Various ____ (V)
4. Circle all appropriate **hazard criteria.** Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). BCF	**EPA waste codes.** (Primary first; six maximum.) F007, D008, D003, F008	**SIC code** for generating process. 3728, 3769

5. **Physical form code**	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Slurry (4)	5.0	.0	13.000	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
1,000.0	2,000.0	1,000.0	75

7. **DOT shipping** name	DOT hazard class		DOT ID code
SODIUM CYANIDE, POISON	Poisons	6.1 06	1689

8. Describe the **generation process.**

~~ORIGINAL REC'D 03-02-95/1 CORRECTION REC'D 05-26-95. DLD~~

GENERATED FROM DECARBONIZATION OF CADMIUM CYANIDE PLATING SOLUTION

9. **Chemical Characteristics.** pH	Flash point	Reactive code	**Concentration units.** Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM( ) X (V)
<2	0	1	

Hazardous constituents. Give range of values at right.	lower value	upper value
A. COPPER CYANIDE	2.3	3.0
B. SODIUM CYANIDE	3.0	4.5
C. SODIUM CARBONATE	1.5	2.3
D. ROCHELLE SALTS	3.8	4.5
E. TAP WATER		

10. Describe how you have **managed** or intend to manage this waste **through final disposition.** Use the Waste Management Method Codes on page 6 of the instructions.

S01, T07, T31, T50, T25, T27, T23, T37, T21, D81

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year 1998	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
	0	0	0	0

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

D1	Total Handled OFFsite 0 kg	TSDR handling/Waste management methods	D2	Amount Handled ONsite kg	TSDR handling/Waste management methods
D3	Amount Handled ONsite kg	TSDR handling/Waste management methods	D4	Amount Handled ONsite kg	TSDR handling/Waste management methods

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R3)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A. Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	[illegible]	2/25/99

*** Below is for Department use only. ***

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8), Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name**. Use standard name from regulations whenever possible. SODIUM HYDROXIDE SLUDGE (TANK BOTTOM) -D002	WASTE STREAM NUMBER 6

3. Give the **years** that this waste has been generated, e.g. 1975, 1982-. 1941	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation Continuous Accidental/ One time Various ____ (V)
4. Circle all appropriate **hazard criteria**. Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). CG	EPA **waste codes**. (Primary first; six maximum.) D002,D006,D007	**SIC code** for generating process. 3728, 3769

5. **Physical form code**	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Slurry (4)	90.0	.0	10.000	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
400.0	1,000.0	500.0	75

7. **DOT shipping** name	DOT hazard class		DOT ID code
WASTE CORROSIVE SOLID, N.O.S.	Poisons	06	1759

8. Describe the **generation process**.

"TANK BOTTOM" SLUDGE FROM SODIUM HYDROXIDE METAL FINISHING PROCESS.

9. **Chemical Characteristics.** pH	Flash point	Reactive code	**Concentration units**. Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM( )
13.5	0		X (W)

Hazardous constituents. Give range of values at right.	lower value	upper value
A. ALUMINUM HYDROXIDE	90	95
B. MIXED SOLIDS (DIRT, ALUMINUM)	5	10
C. CHROMIUM	10	200
D. CADMIUM	5	20
E.		

10. Describe how you have **managed** or intend to manage this waste **through final disposition**. Use the Waste Management Method Codes on page 6 of the instructions.

S01, T23, T31, T40, T67, T44, T45, T21, D81

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year 1998	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
	0	0	0	0

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

D1	Total Handled OFFsite 0 kg	TSDR handling/Waste management methods	D2	Amount Handled ONsite kg	TSDR handling/Waste management methods
D3	Amount Handled ONsite kg	TSDR handling/Waste management methods	D4	Amount Handled ONsite kg	TSDR handling/Waste management methods

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	2/23 [illegible]	2/25/99

*** Below is for Department use only. ***

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8), Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name**. Use standard name from regulations whenever possible. CHROMIC ACID SLUDGE (TANK BOTTOM) D002, D007	WASTE STREAM NUMBER 7

3. Give the **years** that this waste has been generated, e.g. 1975, 1982-. 1941	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation Continuous Accidental/ One time Various ____ (Y)
4. Circle all appropriate **hazard criteria**: Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). CDG	EPA **waste codes**. (Primary first; six maximum.) D002,D007	**SIC code** for generating process. 3728, 3769

5. **Physical form code**	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Slurry (4)	75.0	.0	10.000	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
454.0	2,000.0	900.0	75

7. **DOT shipping** name	DOT hazard class		DOT ID code
WASTE CORROSIVE SOLID, NOS	Corrosive	08	1759

8. Describe the **generation process**.

"TANK BOTTOM" SLUDGE FROM CHROMIC ACID METAL FINISHING PROCESS.

9. **Chemical Characteristics.** pH	Flash point	Reactive code	**Concentration units.** Use PPM for TCLP and EP Toxic wastes % volume( ), % weight(W), PPM( )
<2	0		

Hazardous constituents. Give range of values at right.	lower value	upper value
A. CHROMIC ACID	80	85
B. MIXED SOLIDS (DIRT, ALUMINUM)	5	10
C. TAP WATER		
D.		
E.		

10. Describe how you have **managed** or intend to manage this waste **through final disposition**. Use the Waste Management Method Codes on page 6 of the instructions.

S01, T31, T40, T21, D85

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
1998	81,469.4	0	226.8	81,242.6

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

	Total Handled OFFsite	TSDR handling/Waste management methods		Amount Handled ONsite	TSDR handling/Waste management methods
D1	81,242.6 kg	S01, T23, T24, T31, T40, T37, T21	D2	kg	
	Amount Handled ONsite	**TSDR handling/Waste management methods**		**Amount Handled ONsite**	**TSDR handling/Waste management methods**
D3	kg		D4	kg	

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
17.416	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	Eng Mgr	2/25/99

Below is for Department use only.

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8); Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name**. Use standard name from regulations whenever possible. PAINT SOLIDS -D007	WASTE STREAM NUMBER 8

3. Give the **years** that this waste has been generated, e.g. 1975, 1982-.	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation
1941		Continuous Accidental/ One time Various (N)

4. Circle all appropriate **hazard criteria**. Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g).	**EPA waste codes**. (Primary first; six maximum.)	**SIC code** for generating process.
ABG	D007,D001,D008	3728, 3769

5. **Physical form** code	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Sldg-Othr (6)	70.0	.0	10.000	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
900.0	4,500.0	1,000.0	75

7. **DOT shipping** name	DOT hazard class	DOT ID code
PAINT SOLIDS NOS	Flam Sol/Sp Comb Sol04	1325

8. Describe the **generation process**.

DRY PAINT BUILD-UP CHIPPED FROM HANGERS ON PAINT CONVEYOR LINE, PAINT CHIPS & BLAST MEDIA.

9. **Chemical Characteristics**. pH	Flash point	Reactive code	**Concentration units**. Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM( )
7.0	>130 F		X (N)

Hazardous constituents. Give range of values at right.	lower value	upper value
A. CHROMIUM	5	500
B. LEAD	10	100
C. PIGMENTS/CURING AGENTS	2%	99%
D. PLASTIC/GLASS BLAST MEDIA	1%	99%
E.		

10. Describe how you have **managed** or intend to manage this waste **through final disposition**. Use the Waste Management Method Codes on page 6 of the instructions.

S01,T21,T81

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
1998	0	0	0	0

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

D1	Total Handled OFFsite 0 kg	TSDR handling/Waste management methods	D2	Amount Handled ONsite kg	TSDR handling/Waste management methods
D3	Amount Handled ONsite kg	TSDR handling/Waste management methods	D4	Amount Handled ONsite kg	TSDR handling/Waste management methods

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	Eng Mgr	2/25/99

*** Below is for Department use only. ***

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8), Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name**. Use standard name from regulations whenever possible. SPENT CHROMIC ACID SOLUTION	WASTE STREAM NUMBER 9

3. Give the **years** that this waste has been generated, e.g. 1975, 1982-. 1941	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation Continuous Accidental/ One time Various (V)
4. Circle all appropriate **hazard criteria**. Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). BCE	**EPA waste codes**. (Primary first; six maximum.) D002,D007	**SIC code** for generating process. 3769, 3728

5. **Physical form code**	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Liq-Watr (2)	5.0	.0	10.000	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
400,000.0	4,000,000.0	21,000.0	10

7. **DOT shipping** name	DOT hazard class		DOT ID code
SPENT CHROMIC ACID SOLUTION	Corrosive	08	1755

8. Describe the **generation process**.

SPENT CHROMIC ACID SOLUTION USED IN SURFACE TREATMENT OF ALUMINUM

9. **Chemical Characteristics**. pH	Flash point	Reactive code	**Concentration units**. Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM( ) (V)
<2	0		

Hazardous constituents. Give range of values at right.	lower value	upper value
A. CHROMIC ACID	3.0	5.0
B. SULPHORIC ACID	6.8	27.9
C. AMMONIUM BIFLOURIDE	0.15	10.45
D. TAP WATER	REMAI	NDER
E.		

10. Describe how you have **managed** or intend to manage this waste **through final disposition**. Use the Waste Management Method Codes on page 6 of the instructions.

S01, S02, T23, T24, T31, T40, T37, T21

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year 1998	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
	0	0	0	0

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

	Total Handled OFFsite	TSDR handling/Waste management methods		Amount Handled ONsite	TSDR handling/Waste management methods
D1	0 kg		D2	kg	
	Amount Handled ONsite	**TSDR handling/Waste management methods**		**Amount Handled ONsite**	**TSDR handling/Waste management methods**
D3	kg		D4	kg	

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	Eng Mgr	2/25/99

Below is for Department use only.

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8), Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name.** Use standard name from regulations whenever possible. SPENT 1,1,1-TRICHLORDETHANE	WASTE STREAM NUMBER 10

3. Give the years that this waste has been generated, e.g. 1975, 1982-. 1970	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation Continuous ____ Accidental/ One time ____ Various (C)
4. Circle all appropriate **hazard criteria.** Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). F	EPA **waste codes.** (Primary first; six maximum.) F001	**SIC code** for generating process. 3728, 3769

5. **Physical form code**	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Liq-Othr (3)	5.0	.0	11.000	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
1,200.0	1,500.0	3,600.0	75

7. **DOT shipping name**	DOT hazard class		DOT ID code
METHYLCHLOROFORM	Poisons	6.1 06	2831

8. **Describe the generation process.**

RESULTS FROM HAND WIPING (CLEANING) OF ALUMINUM PARTS. & VAPOR DEGREASING

9. **Chemical Characteristics.** pH	Flash point	Reactive code	**Concentration units.** Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM( )
7			X (W)

Hazardous constituents. Give range of values at right.	lower value	upper value
A. 1,1,1-TRICHLORDETHANE	50	100
B. OIL AND GREASE (NOT HAZARDOUS)	0	5
C. WATER	5	45
D.		
E.		

10. Describe how you have **managed** or intend to manage this waste **through final disposition.** Use the Waste Management Method Codes on page 6 of the instructions.

S01,T63,T06

6(Y)

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year 1998	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
	0	0	0	0

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

D1	Total Handled OFFsite 0 kg	TSDR handling/Waste management methods	D2	Amount Handled ONsite kg	TSDR handling/Waste management methods
D3	Amount Handled ONsite kg	TSDR handling/Waste management methods	D4	Amount Handled ONsite kg	TSDR handling/Waste management methods

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A. Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	Eng Mgr	2/25/99

*** Below is for Department use only. ***

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8), Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name**. Use standard name from regulations whenever possible. WASTE POISON LIQUID NOS POISON B	WASTE STREAM NUMBER 11

3. Give the years that this waste has been generated, e.g. 1975, 1982-. 1940	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation Continuous Accidental/ One time Various ____ (V)
4. Circle all appropriate **hazard criteria**. Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). FEG	EPA **waste codes**. (Primary first; six maximum.) F008, F007, D003, D008	**SIC code** for generating process. 3728, 3769

5. **Physical form** code	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Liq-Watr (2)	5.0	.0	10.000	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
908.0	5,000.0	908.0	75

7. **DOT shipping** name	DOT hazard class		DOT ID code
WASTE POISON LIQUID NOS POISON B	Poisons	6.1 06	2810

8. Describe the **generation process**.

UTILIZED IN THE CADMIUM CYANIDE AND SODIUM CYANIDE PLATING OPERATION OF METAL PARTS.

9. **Chemical Characteristics**. pH	Flash point	Reactive code	**Concentration units**. Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM( ) X (W)
12.0			

Hazardous constituents. Give range of values at right.	lower value	upper value
A. CADMIUM METAL	2.2	3.4
B. SODIUM CYANIDE	6.0	7.5
C. SODIUM HYDROXIDE	1.6	2.2
D. SODIUM CARBONATE	1.5	7.5
E. COPPER CYANIDE	2.0	4.0

10. Describe how you have **managed** or intend to manage this waste **through final disposition**. Use the Waste Management Method Codes on page 6 of the instructions.

S01, S02, T27, T24, T23, T21, D81, D85

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
1998	1,877.6	0	0	1,877.6

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

	Total Handled OFFsite	TSDR handling/Waste management methods		Amount Handled ONsite	TSDR handling/Waste management methods
D1	1,877.6 kg	S01, T27, T31	D2	kg	
	Amount Handled ONsite	**TSDR handling/Waste management methods**		**Amount Handled ONsite**	**TSDR handling/Waste management methods**
D3	kg		D4	kg	

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
1.859	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A. Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: If necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	Eng Mgr	2/25/99

Below is for Department use only.

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8), Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name**. Use standard name from regulations whenever possible. WASTE CORROSIVE LIQUID OTHER THAN CHROMIC, NITRIC, HYDROFLUO	WASTE STREAM NUMBER 12

3. Give the **years** that this waste has been generated, e.g. 1975, 1982-. 1985	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation Continuous Accidental/ One time Various (Y)
4. Circle all appropriate **hazard criteria**. Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). CG	**EPA waste codes**. (Primary first; six maximum.) D002,D007,D003	**SIC code** for generating process. 3769, 3728

5. **Physical form code**	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Liq-Watr (2)	5.0	.0	10.000	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
3,500.0	36,000.0	20,000.0	75

7. **DOT shipping name**	DOT hazard class		DOT ID code
WASTE CORROSIVE LIQUID NOS CORROSIVE MATERIAL	Corrosive	08	1760

8. **Describe the generation process.**

VARIOUS MATERIALS RANGES FROM OUTDATED LABORATORY CHEMICALS TO OUTDATED BULK PROCESS CHEMICALS ARE PERIODICALLY PLACED IN THE HAZARDOUS WASTE DRUM STORAGE YARD. SOMETIMES THESE CHEMICALS ARE BEST DESCRIBED AS "WASTE CORROSIVE LIQUID, NOS, CORROSIVE MATERIAL".

9. **Chemical Characteristics**. pH	Flash point	Reactive code	**Concentration units**.Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM( )

Hazardous constituents. Give range of values at right.	lower value	upper value
A.		
B.		
C.		
D.		
E.		

10. Describe how you have **managed** or intend to manage this waste **through final disposition**. Use the Waste Management Method Codes on page 6 of the instructions.

S01, T24, T23, T31, T40, T21, T37, D81

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year 1998	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
	0	11.3	0	11.3

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

	Total Handled OFFsite	TSDR handling/Waste management methods		Amount Handled ONsite	TSDR handling/Waste management methods
D1	11.3 kg	S01, T31	D2	kg	
	Amount Handled ONsite	**TSDR handling/Waste management methods**		**Amount Handled ONsite**	**TSDR handling/Waste management methods**
D3	kg		D4	kg	

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A. Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	Eng Mgr	2/25/99

Below is for Department use only.

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8), Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility: THE AEROSTRUCTURES CORPORATION
   Installation identification number: TND 00-404-2057

2. **Waste name.** Use standard name from regulations whenever possible.: NITRIC ACID 40% OR LESS STRENGTH
   WASTE STREAM NUMBER: 13

3. Give the **years** that this waste has been generated, e.g. 1975, 1982-.: 1983
   Date no longer generated. (MM/DD/YY):
   Annual **Frequency** of generation: Continuous / Accidental/ One time / Various (V)

4. Circle all appropriate **hazard criteria**. Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g).: CE
   EPA waste codes. (Primary first; six maximum.): D002,D007
   SIC code for generating process.: 3728, 3769

5. **Physical form code**: Liq-Watr (2)
   % Solid: 2.0
   % Water: .0
   Vol. to wt. conversion (pounds/gallon): .11.500
   If used for fuel, chlorine content(PPM): 0.0
   BTU per pound: 0.0

6. **Generation rates** in kilograms.
   Monthly maximum (kg): 15,000.0
   Annual average (kg): 30,410.0
   Maximum stored onsite (kg): 15,000.0
   Maximum days stored: 75

7. **DOT shipping name**: NITRIC ACID 40% OR LESS STRENGTH
   DOT hazard class: Corrosive 08
   DOT ID code: 1796

8. Describe the **generation process**.

   USED IN ANODIZING OF TITANIUM PARTS. PROCESSES INCLUDE DESCALING, PASSIVATING, AND SHOT PEEN RESIDUE REMOVAL OF MATERIAL FROM TITANIUM. THE MAJORITY OF THIS ACID IS TRANSPORTED IN BULK. SOME IS PLACED IN LINED BARRELS PERIODICALLY AND DISPOSED.

9. **Chemical Characteristics.**
   pH: <2.0
   Flash point:
   Reactive code:
   Concentration units. Use PPM for TCLP and EP Toxic wastes
   % volume( ), % weight( ), PPM(X) (W)

Hazardous constituents. Give range of values at right.	lower value	upper value
A. NITRIC ACID	20	40
B. NH4 HF2	3	10.5
C. NA2 CR2O7	2.0	3.0
D.		
E.		

10. Describe how you have **managed** or intend to manage this waste **through final disposition**. Use the Waste Management Method Codes on page 6 of the instructions.

S01, S02, T31, T37, T41, T44, T45, T21, D81

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year 1998	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
	0	0	0	0

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

D1	Total Handled OFFsite 0 kg	TSDR handling/Waste management methods	D2	Amount Handled ONsite kg	TSDR handling/Waste management methods
D3	Amount Handled ONsite kg	TSDR handling/Waste management methods	D4	Amount Handled ONsite kg	TSDR handling/Waste management methods

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A. Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
David Barnett	Eng Mgr	2/25/99

*** Below is for Department use only. ***

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8), Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name at facility** THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name.** Use standard name from regulations whenever possible. WASTE HYDROFLUORIC ACID SOLUTION (NOT OVER 70% ACID) HF	WASTE STREAM NUMBER 14

3. Give the years that this waste has been generated, e.g. 1975, 1982-.	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation
1941		Continuous Accidental/ One time Various (V)
4. Circle all appropriate **hazard criteria.** Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). C	**EPA waste codes.** (Primary first; six maximum.) U134	**SIC code** for generating process. 3728, ~~3469~~ 3769

5. **Physical form code**	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Liq-Watr (2)	2.0	.0	10.000	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
200.0	200.0	200.0	75

7. **DOT shipping name**	DOT hazard class		DOT ID code
WASTE HYDROFLUORIC ACID SOLUTION (NOT OVER 70% HF)	Corrosive	08	1790

8. Describe the **generation process.**

UTILIZED IN DEPARTMENT 432 (ELECTROPLATING) FOR THE CLEANING OF TITANIUM AND TITANIUM ALLOYS AND FOR THE CLEANING OF STAINLESS STEEL FOR BRAZING. THE MAJORITY OF THE WASTE ARISES FROM HYDROFLUORIC ACID WHICH HAS BEEN STORED IN EXCESS OF SPECIFICATION TIME. THE VIRGIN MATERIAL IS THEN PLACED IN THE DRUM YARD FOR DISPOSAL. HYDROFLUORIC ACID IS UTILIZED IN A FEW VERY SMALL CHEMICAL TANKS FOR ALUMINUM PARTS PROCESSING. WHEN THE SOLUTION IS FINALLY CONTAMINATED, THE MATERIAL IS WASTE.

9. **Chemical Characteristics.** pH	Flash point	Reactive code	**Concentration units.** Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM( ) X (W)
1.0	#		

Hazardous constituents. Give range of values at right	lower value	upper value
A. HYDROFLUORIC ACID (PURE) SPECIFIC GRAVITY	1.15	1.18
B. AEROSTRUCTURES		
C. CONSTITUENTS OF TANK AT ~~AVCO~~ IF NOT PURE MATERIAL:		
D. HYDROFLUORIC ACID	3.0	4.5
E. NITRIC ACID	40	43.6

10. Describe how you have **managed** or intend to manage this waste **through final disposition.** Use the Waste Management Method Codes on page 6 of the instructions.

S01, S02, T31, T37, T41, T44, T45, T21, D81

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year 1998	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
	0	0	0	0

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

D1	Total Handled OFFsite 0 kg	TSDR handling/Waste management methods	D2	Amount Handled ONsite kg	TSDR handling/Waste management methods
D3	Amount Handled ONsite kg	TSDR handling/Waste management methods	D4	Amount Handled ONsite kg	TSDR handling/Waste management methods

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A. Training or technical assistance A(No (NA) Yes)
B. Technical feasibility B(No (NA) Yes)
C. Economic practicality C(No (NA) Yes)
D. Measurement/accounting methods D(No (NA) Yes)
E. TN hazardous waste regulations E(No (NA) Yes)
F. Implementation experience F(No (NA) Yes)
G. High costs of haz. waste mgt G(No (NA) Yes)
H. Accidental generation H(No (NA) Yes)
I. Other - describe here: I (No (NA) Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	[illegible]	2/25/99

*** Below is for Department use only. ***

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8), Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name**. Use standard name from regulations whenever possible. WASTE PETROLEUM NAPHTHA	WASTE STREAM NUMBER 15

3. Give the **years** that this waste has been generated, e.g. 1975, 1982-. 1985	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation Continuous Accidental/ One time Various ____ (V)
4. Circle all appropriate **hazard criteria**. Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). A	**EPA waste codes**. (Primary first; six maximum.) D001	**SIC code** for generating process. 3728, 3769

5. **Physical form** code	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Liq-Othr (3)	5.0	.0	5.000	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
800.0	7,000.0	800.0	30

7. **DOT shipping** name	DOT hazard class		DOT ID code
WASTE PETROLEUM NAPHTHA COMBUSTIBLE LIQUID	Flam/Comb Liquids	03	1255

8. Describe the **generation process**.

DEGREASING OF MACHINERY. MATERIAL BECOMES CONTANIMATED WITH OIL AND GREASE AND IS THEN SENT TO SAFETY KLEAN FOR CLEANING (DISTILLATION) AND SUBSEQUENT REUSE VIA SOLVENT RECOVERY

9. **Chemical Characteristics**. pH	Flash point	Reactive code	**Concentration units**. Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM( ) X (W)
	118 F		

Hazardous constituents. Give range of values at right.	lower value	upper value
A. NAPTHA	95	99
B. OILS AND GREASE (NOT HAZARDOUS)	1	5
C.		
D.		
E.		

10. Describe how you have **managed** or intend to manage this waste **through final disposition**. Use the Waste Management Method Codes on page 6 of the instructions.

S01, T63

4(Y)

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
1998	0	0	0	0

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

D1	Total Handled OFFsite 0 kg	TSDR handling/Waste management methods	D2	Amount Handled ONsite kg	TSDR handling/Waste management methods
D3	Amount Handled ONsite kg	TSDR handling/Waste management methods	D4	Amount Handled ONsite kg	TSDR handling/Waste management methods

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	Eng Mgr	2/25/99

*** Below is for Department use only. ***

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8), Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name**. Use standard name from regulations whenever possible. WASTE PHOSPHORIC ACID	WASTE STREAM NUMBER 16

3. Give the **years** that this waste has been generated, e.g. 1975, 1982-.	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation
1983		Continuous Accidental/ One time Various ___ (V)

4. Circle all appropriate **hazard criteria**. Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g).	EPA **waste codes**. (Primary first; six maximum.)	**SIC code** for generating process.
C	D002	3728, 3769

5. **Physical form** code	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Liq-Watr (2)	2.0	.0	10.000	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
7,500.0	11,000.0	7,500.0	75

7. **DOT shipping** name	DOT hazard class		DOT ID code
WASTE PHOSPHORIC ACID RQ CORROSIVE MATERIAL	Corrosive	08	1805

8. Describe the **generation process**.

USED IN THE PHOSPHORIC ACID ANODIZE OF ALUMINUM PARTS.

9. **Chemical Characteristics.** pH	Flash point	Reactive code	**Concentration units**. Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM(X) (W)
<1.0			

Hazardous constituents. Give range of values at right.	lower value	upper value
A. PHOSPHORIC ACID	10	12
B. TAP WATER		
C.		
D.		
E.		

10. Describe how you have **managed** or intend to manage this waste through **final disposition**. Use the Waste Management Method Codes on page 6 of the instructions.

S01, S02, T31

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
1998	0	0	0	0

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

D1	Total Handled OFFsite 0 kg	TSDR handling/Waste management methods	D2	Amount Handled ONsite kg	TSDR handling/Waste management methods
D3	Amount Handled ONsite kg	TSDR handling/Waste management methods	D4	Amount Handled ONsite kg	TSDR handling/Waste management methods

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A. Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
David G Jarrett	Eng Mgr	2/25/99

*** Below is for Department use only. ***

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8), Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name**. Use standard name from regulations whenever possible. WASTEWATER TREATMENT WASTES	WASTE STREAM NUMBER 17

3. Give the years that this waste has been generated, e.g. 1975, 1982-.	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation
1985		Continuous Accidental/ One time Various ____ (V)

4. Circle all appropriate **hazard criteria**. Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g).	**EPA waste codes**. (Primary first; six maximum.)	**SIC code** for generating process.
CFG	F019,D002,D007,D006,D008	3728, 3769

5. **Physical form code**	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Liq-Watr (2)	4.0	.0	8.600	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
600,000.0	4,500,000.0	350,000.0	3

7. **DOT shipping name**	DOT hazard class		DOT ID code
HAZARDOUS WASTE LIQUID OR SOLID NOS ORM-E	Corrosive	08	1760

8. Describe the **generation process**.

VARIOUS TANKS CONTAIN MATERIALS (PRIMARILY ACIDS AND BASES) WHICH ARE USED FOR THE CHEMICAL CONVERSION OF ALUMINUM. THE ALUMINUM PART IS DIPPED INTO THE TANK, FOLLOWED BY IMMERSIONIN A RINSE TANK. WATERS CONTINUALLY OVERFLOW THE RINSE TANKTO MAINTAIN LOW CONDUCTIVITY STANDARDS. THE EXCESS WATERS ARE TRANSFERRED TO THEION-EXCHANGE PLANT WHERE THE POLLUTANTS ARE REMOVED. THE CLEAN WATER IS THEN RECIRCULATEDBACK TO THE MANY RINSE TANKS. THE WASTES ~~SENT TO TRICIL~~ FROMTHE ION-EXCHANGE PLANT RESULT FROM REGENERATION OF THE ION EXCHANGE RESINS AND CARBON FILTERS. SHIPPED OFFSITE

9. **Chemical Characteristics**. pH	Flash point	Reactive code	**Concentration units**. Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM( )
9-11	●		X (W)

Hazardous constituents. Give range of values at right.	lower value	upper value
A. CADMIUM	0	0.36
B. CHROMIUM	0	85
C. COPPER	0	0.91
D. NICKEL	0	0.3
E. LEAD	0	0.3

10. Describe how you have **managed** or intend to manage this waste **through final disposition**. Use the Waste Management Method Codes on page 6 of the instructions.

S01, T21, T23, T31, T40, T44, T45, D81

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
1998	80,562.4	0	0	80,562.4

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

	Total Handled OFFsite	TSDR handling/Waste management methods		Amount Handled ONsite	TSDR handling/Waste management methods
D1	80,562.4 kg	S02, T21, T23, T31, T40, T45, D81, T44	D2	kg	
D3	Amount Handled ONsite kg	TSDR handling/Waste management methods	D4	Amount Handled ONsite kg	TSDR handling/Waste management methods

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0.222	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	Eng Mgr	2/25/99

*** Below is for Department use only. ***

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8), Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name**. Use standard name from regulations whenever possible. WASTE CORROSIVE LIQUID, CORROSIVE MATERIAL	WASTE STREAM NUMBER 18

3. Give the **years** that this waste has been generated, e.g. 1975, 1982-. 1986	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation Continuous Accidental/ One time Various (Y)
4. Circle all appropriate **hazard criteria**. Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). CG	EPA **waste codes**. (Primary first; six maximum.) D002,D007	**SIC code** for generating process. 3728, 3769

5. **Physical form code**	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Liq-Watr (2)	5.0	.0	11.000	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
30,000.0	450,000.0	30,000.0	14

7. **DOT shipping** name	DOT hazard class		DOT ID code
WASTE CORROSIVE LIQUID, CORROSIVE MATERIAL	Corrosive	08	1760

8. **Describe the generation process.**

THIS WASTE RESULTS FROM THE USE OF EXTREMELY ACID OR BASIC SUBSTANCES TO PROCESSMETAL PARTS. AS THE USAGE CONTINUES, THE CHEMICALS ARE CONTAMINATED AND/OR UTILIZED TO AN UNUSABLECONDITION. THE MATERIAL AFTER THIS BECOMES WASTE.

9. **Chemical Characteristics.**

pH	Flash point	Reactive code	**Concentration units**.Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM( ) (W)

Hazardous constituents. Give range of values at right.	lower value	upper value
A. EXTREMELY STRONG ACIDS (CHROMIC, NITRIC, ETC)	20	30
B. EXTREMELY STRONG BASES (SODIUM HYDROXIDE, ETC)	20	30
C. ALUMINUM	2	5
D. WATER		
E.		

10. Describe how you have **managed** or intend to manage this waste **through final disposition**. Use the Waste Management Method Codes on page 6 of the instructions.

S01, S02, T23, T31, T40, T21, T07, D81

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year 1998	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
	0	0	0	0

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

	Total Handled OFFsite	TSDR handling/Waste management methods		Amount Handled ONsite	TSDR handling/Waste management methods
D1	0 kg		D2	kg	
	Amount Handled ONsite	**TSDR handling/Waste management methods**		**Amount Handled ONsite**	**TSDR handling/Waste management methods**
D3	kg		D4	kg	

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	Eng Mgr	2/25/09

*** Below is for Department use only. ***

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8); Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name**. Use standard name from regulations whenever possible. SPENT CHEMICALS	WASTE STREAM NUMBER 19

3. Give the **years** that this waste has been generated, e.g. 1975, 1982-. 1986	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation Continuous Accidental/ One time Various ____ (V)
4. Circle all appropriate **hazard criteria**. Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). ACEF	**EPA waste codes**. (Primary first; six maximum.) D002,D008,LABP	**SIC code** for generating process. 3728, 3769

5. **Physical form code**	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Liq-Othr (3)	100.0	.0	0.000	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
1,000.0	13,000.0	1,500.0	75

7. **DOT shipping** name	DOT hazard class		DOT ID code
WASTE CORROSIVE LIQUIDS NOS AND SOLIDS	Misc Haz. Mat	09	

8. Describe the **generation process**.

GENERATION GENERALLY RESULTS FROM VIRGIN CHEMICALS (BOTH LABORATORY AND PROCESS)EXCEEDING THE EXPIRATION DATES REQUIRED BY CUSTOMER CONTRACTS. THESE EXPIRED CHEMICALS HAVE TO BE DISPOSED OF AS WASTE. USED BATTERIES USED IN PRODUCTION ANDMAINTENANCE EQUIPMENT.

9. **Chemical Characteristics**. pH	Flash point	Reactive code	**Concentration units**.Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM( )	
Hazardous constituents. Give range of values at right.			lower value	upper value
A. VIRGIN ACIDS AND BASES (CONCENTRATED)			100	100
B. VIRGIN SOLVENTS			100	100
C. VIRGIN POISONS			100	100
D. VIRGIN MISCELLANEOUS CHEMICALS			100	100
E. USED BATTERIES WET FILLED WITH ACID			100	100

10. Describe how you have **managed** or intend to manage this waste **through final disposition**. Use the Waste Management Method Codes on page 6 of the instructions.

S01, T07, T21, D81

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
1998	383.3	0	181.4	201.9

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

	Total Handled OFFsite	TSDR handling/Waste management methods		Amount Handled ONsite	TSDR handling/Waste management methods
D1	201.9 kg	S01, T07, T21, D81	D2	kg	
	Amount Handled ONsite	**TSDR handling/Waste management methods**		**Amount Handled ONsite**	**TSDR handling/Waste management methods**
D3	kg		D4	kg	

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0.018	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A. Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	Env Mgr	2/25/99

*** Below is for Department use only. ***

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8), Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name**. Use standard name from regulations whenever possible. SPENT HALOGENATED SOLVENT-TRICHLOROETHYLENE	WASTE STREAM NUMBER 20

3. Give the years that this waste has been generated, e.g. 1975, 1982-.	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation Continuous Accidental/ One time Various ____ (V)
4. Circle all appropriate **hazard criteria**. Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). F	EPA **waste codes**. (Primary first; six maximum.) F001, F002	**SIC code** for generating process. 3728, 3769

5. **Physical form code**	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Liq-Othr (3)	5.0	.0	12.200	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
8,100.0	14,000.0	8,100.0	60

7. **DOT shipping** name	DOT hazard class		DOT ID code
RQ, WASTE TRICHLOROETHYLENE ORMA UN-1710	Poisons	6.1 06	2831

8. Describe the **generation process**.

SPENT TRICHLOROETHYLENE FROM DEGREASERS AND WIPEDOWN

9. **Chemical Characteristics**. pH	Flash point	Reactive code	**Concentration units**. Use PPM for TCLP and EP Toxic wastes % volume( ), % weight(X), PPM( ) (W)

Hazardous constituents. Give range of values at right.	lower value	upper value
A. TRICHLOROETHYLENE	95	100
B. NON HAZARDOUS OIL + GREASE	0	5
C. WATER	5	45
D.		
E.		

10. Describe how you have **managed** or intend to manage this waste **through final disposition**. Use the Waste Management Method Codes on page 6 of the instructions.

S01, T63, T06

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
1998	13,687.1	0	0	13,687.1

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

	Total Handled OFFsite	TSDR handling/Waste management methods		Amount Handled ONsite	TSDR handling/Waste management methods
D1	408.2 kg	S01, T63, T06	D2	13,278.9 kg	H09 (recycled through still)
D3	Amount Handled ONsite kg	TSDR handling/Waste management methods	D4	Amount Handled ONsite kg	TSDR handling/Waste management methods

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
1.269	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	Site Mgr	2/25/99

Below is for Department use only.

17. Date received (MM/DD/YY)

Complete?	Test results?	Reasonable?	Follow-up	Initials
Yes No	Yes No	Yes No	Yes No	

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8), Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name**. Use standard name from regulations whenever possible. CHROMIUM CONTAMINATED DEBRIS	WASTE STREAM NUMBER 21

3. Give the years that this waste has been generated, e.g. 1975, 1982-. 1941-	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation Continuous Accidental/ One time Various (Y)
4. Circle all appropriate **hazard criteria**. Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). CG	**EPA waste codes**. (Primary first; six maximum.) D007,D002,D006,D008	**SIC code** for generating process. 3728, 3769

5. **Physical form** code	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Sld:Othr (9)	50	2-50	10.000	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
5,000.0	10,000.0	8,500.0	75

7. **DOT shipping** name	DOT hazard class		DOT ID code
RQ HAZARDOUS WASTE LIQ OR SOLIDS NOS RQ HAZ WASTE	Misc Haz. Mat	09	3082

8. Describe the **generation process**.

#CHROME CONTAMINATED BUILDING MATERIALS, EQUIPMENT, AND SUPPLIES; CONTAMINATED MATERIALS FROM CLEAN-UP OPERATIONS. CONTAMINATED PAINT STRIPPER SAND BLAST MEDIA; CONTAMINATED PROCESS FILTERS.

9. **Chemical Characteristics**. pH	Flash point	Reactive code	**Concentration units**. Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM(X) (P)
<2.5			

Hazardous constituents. Give range of values at right.	lower value	upper value
A. CHROMIUM	5	5000
B. MIXED SOLIDS (DIRT, DEBRIS, CLOTH, ETC)	50%	99%
C. WATER	50%	99%
D.		
E.		

10. Describe how you have **managed** or intend to manage this waste **through final disposition**. Use the Waste Management Method Codes on page 6 of the instructions.

S01, T07, T23, T31, T40, T21, T18, D81

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
1998	317.5	0	0	317.5

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

D1	Total Handled OFFsite 317.5 kg	TSDR handling/Waste management methods S01, T07, T18	D2	Amount Handled ONsite kg	TSDR handling/Waste management methods
D3	Amount Handled ONsite kg	TSDR handling/Waste management methods	D4	Amount Handled ONsite kg	TSDR handling/Waste management methods

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0.026	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
David Jarrett	Eng Mgr	2/25/99

*** Below is for Department use only. ***

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8), Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name at facility** THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name.** Use standard name from regulations whenever possible. COMPRESSED GAS	WASTE STREAM NUMBER 22

3. Give the years that this waste has been generated, e.g. 1975, 1982-.	Date no longer generated. (MM/DD/YY)	Annual Frequency of generation
1950-		Continuous Accidental/ One time Various ____ (V)

4. Circle all appropriate hazard criteria. Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g).	EPA waste codes. (Primary first; six maximum.)	SIC code for generating process.
AB	D001,D007,D018,D021,D035	3728, 3769

5. Physical form code	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Gas (1)	0-40		1.500	0.0	0.0

6. Generation rates in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
1,000.0	2,500.0	2,000.0	75

7. DOT shipping name	DOT hazard class		DOT ID code
RQ WASTE COMPRESSED GAS N.O.S.	Gases	02	1950

8. Describe the **generation process**.

SPRAY PAINT CANS FROM TOUCH-UP PAINTING OPERATIONS; GAS CYLINDERS FROM ROOFING, PACKAGING, AND MAINTENANCE RELATED ACTIVITIES.

9. Chemical Characteristics. pH	Flash point	Reactive code	Concentration units. Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM( ) (V)
	<100		X

Hazardous constituents. Give range of values at right.	lower value	upper value
A. COMPRESSED GAS	50	99
B. PAINT RESIDUE	50	90
C. METAL/PLASTIC	50	90
D. CHROMIUM	0	54
E.		

10. Describe how you have managed or intend to manage this waste through final disposition. Use the Waste Management Method Codes on page 6 of the instructions.

S01, T07, T63, T16, D81

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
1998	249.5	90.7	136.1	204.1

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

	Total Handled OFFsite	TSDR handling/Waste management methods		Amount Handled ONsite	TSDR handling/Waste management methods
D1	204.1 kg	S01, T07, T63, T16, D81	D2	kg	
D3	Amount Handled ONsite kg	TSDR handling/Waste management methods	D4	Amount Handled ONsite kg	TSDR handling/Waste management methods

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0.122	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	[illegible]	2/23/09

Below is for Department use only.

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8), Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name.** Use standard name from regulations whenever possible. WASTE SODIUM HYDROXIDE SOLUTION D002	WASTE STREAM NUMBER 1

3. Give the **years** that this waste has been generated, e.g. 1975, 1982-. 1965	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation Continuous Accidental/ One time Various ____ (V)
4. Circle all appropriate **hazard criteria.** Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). CFGE	EPA **waste codes.** (Primary first; six maximum.) D002,D007,D003	**SIC code** for generating process. 3728, 3769

5. **Physical form** code	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Liq-Watr (2)	5.0	.0	10.500	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
50,000.0	550,000.0	41,000.0	10

7. **DOT shipping** name	DOT hazard class		DOT ID code
RQ WASTE HYDROXIDE SOLUTION	Corrosive	08	1760

8. Describe the **generation process.**

A. SPENT "ALKALINE ETCH" SOLUTION USED IN SURFACE TREATMENT OF ALUMINUM PARTS. B. SPENT "CHEMICAL MILL" SOLUTION USED IN FINISHING SURFACE OF ALUMINUM PARTS.

9. **Chemical Characteristics.** pH	Flash point	Reactive code	**Concentration units.** Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM(X) (W)
13.5		2	

Hazardous constituents. Give range of values at right.	lower value	upper value
A. ~~ACHEM~~ CHEM MILL": SODIUM HYDROXIDE	12	20
B. SODIUM SULFIDE	.5	1.0
C. SODIUM GLUCONATE (OF NAOH SOLUTION)	1.5	2.0
D. ALUMINUM (DISSOLVED)	10	15
E. TAP WATER		

10. Describe how you have **managed** or intend to manage this waste **through final disposition.** Use the Waste Management Method Codes on page 6 of the instructions.

S01, S02, T23, T24, T31, T40, T37, T21, D81

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
1998	8,616.8	0	0	8,616.8

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

	Total Handled OFFsite	TSDR handling/Waste management methods		Amount Handled ONsite	TSDR handling/Waste management methods
D1	8,616.8 kg	S01, S02, T23, T24, T31, T40, T37, T21, D81	D2	kg	
D3	Amount Handled ONsite kg	TSDR handling/Waste management methods	D4	Amount Handled ONsite kg	TSDR handling/Waste management methods

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0.058	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	[illegible]	2/25/99

*** Below is for Department use only. ***

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8); Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name.** Use standard name from regulations whenever possible. WASTE PAINT/SOLVENT MIX-D001, D007, D008, F002, F003, F005	WASTE STREAM NUMBER 3

3. Give the years that this waste has been generated, e.g. 1975, 1982-. 1941	Date no longer generated. (MM/DD/YY)	Annual Frequency of generation Continuous Accidental/ One time Various ___ (V)
4. Circle all appropriate **hazard criteria.** Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). ABG	**EPA waste codes.** (Primary first; six maximum.) F003, F002, F005, D001, D007, D018	**SIC code** for generating process. 3769, 3728

5. **Physical form code**	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Liq-Othr (3)	80.0	.0	7.200	0.0	12,000.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
4,200.0	55,000.0	15,000.0	75

7. **DOT shipping** name	DOT hazard class		DOT ID code
RQ WASTE PAINT RELATED MATERIAL	Flam/Comb Liquids	03	1993

8. Describe the **generation process.**

GENERATED FROM PAINTING OPERATIONS FROM PAINT EQUIPMENT CLEAN-UP

9. **Chemical Characteristics.** pH	Flash point	Reactive code	**Concentration units.** Use PPM for TCLP and EP Toxic wastes % volume( ), % weight(X), PPM( ) (W)
7.0	<72 F		

Hazardous constituents. Give range of values at right.	lower value	upper value
A. MEK	50	75
B. TOLUENE	5	20
C. MIBK	0	5
D. ACETONE	5	10
E. CHROMIUM	5	54PPM

10. Describe how you have **managed** or intend to manage this waste **through final disposition.** Use the Waste Management Method Codes on page 6 of the instructions.

S01, T16, T50, T63

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
1998	65,405.8	4,807.3	9,138.3	61,074.8

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

	Total Handled OFFsite	TSDR handling/Waste management methods		Amount Handled ONsite	TSDR handling/Waste management methods
D1	61,074.8 kg	S01, T50, T16, T63, D81	D2	kg	
D3	Amount Handled ONsite kg	TSDR handling/Waste management methods	D4	Amount Handled ONsite kg	TSDR handling/Waste management methods

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0.829	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A. Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	Sm Mg	2/25/99

Below is for Department use only.

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8), Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name.** Use standard name from regulations whenever possible. PAINT BOOTH SLUDGE -D007	WASTE STREAM NUMBER 4

3. Give the years that this waste has been generated, e.g. 1975, 1982-.	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation
1941		Continuous Accidental/ One time Various ____ (V)

4. Circle all appropriate **hazard criteria.** Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g).	**EPA waste codes.** (Primary first; six maximum.)	**SIC code** for generating process.
ABG	D007,D001,D006,D008	3728, 3769

5. **Physical form code**	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Slurry (4)	80.0	.0	9.500	0.0	0.0

6. **Generation rates in kilograms.** Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
1,000.0	3,000.0	1,000.0	75

7. **DOT shipping name**	DOT hazard class		DOT ID code
RQ HAZARDOUS WASTE LIQUID, N.O.S.	Misc Haz. Mat	09	NA9189

8. Describe the **generation process.**

SLUDGE GENERATED FROM WATER WASH PAINT BOOTH OPERATIONS.

9. **Chemical Characteristics.** pH	Flash point	Reactive code	**Concentration units.** Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM( )
5-9	130 F		X (W)

Hazardous constituents. Give range of values at right.	lower value	upper value
A. WATER	10	99
B. PAINT SOLIDS	1	90
C. MIXED PAINT SOLVENTS (MEK ACETONE, TOLUENE)		<0.1
D. CHROMIUM	0	100
E.		

10. Describe how you have **managed** or intend to manage this waste **through final disposition.** Use the Waste Management Method Codes on page 6 of the instructions.

S01, T21, D81

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year 1998	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
	0	0	0	0

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

	Total Handled OFFsite	TSDR handling/Waste management methods		Amount Handled ONsite	TSDR handling/Waste management methods
D1	0 kg		D2	kg	
D3	Amount Handled ONsite kg	TSDR handling/Waste management methods	D4	Amount Handled ONsite kg	TSDR handling/Waste management methods

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A. Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	Emp Mgr	2/25/99

*** Below is for Department use only. ***

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8), Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name.** Use standard name from regulations whenever possible. WASTE CYANIDE SLUDGE	WASTE STREAM NUMBER 5

3. Give the **years** that this waste has been generated, e.g. 1975, 1982-.	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation
1941		Continuous Accidental/ One time Various ____ (V)
4. Circle all appropriate **hazard criteria.** Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). BCF	**EPA waste codes.** (Primary first; six maximum.) F007,D008,D003,F008	**SIC code** for generating process. 3728, 3769

5. **Physical form** code	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Slurry (4)	5.0	.0	13.000	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
1,000.0	2,000.0	1,000.0	75

7. **DOT shipping** name	DOT hazard class		DOT ID code
SODIUM CYANIDE, POISON	Poisons	6.1 06	1689

8. Describe the **generation process.**

~~ORIGINAL REC'D 03-02-95/1 CORRECTION REC'D 05-26-95. DLD~~

GENERATED FROM DECARBONIZATION OF CADMIUM CYANIDE PLATING SOLUTION

9. **Chemical Characteristics.** pH	Flash point	Reactive code	**Concentration units.** Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM( )
<2	0	1	X (V)

Hazardous constituents. Give range of values at right.	lower value	upper value
A. COPPER CYANIDE	2.3	3.0
B. SODIUM CYANIDE	3.0	4.5
C. SODIUM CARBONATE	1.5	2.3
D. ROCHELLE SALTS	3.8	4.5
E. TAP WATER		

10. Describe how you have **managed** or intend to manage this waste **through final disposition.** Use the Waste Management Method Codes on page 6 of the instructions.

S01, T07, T31, T50, T25, T27, T23, T37, T21, D81

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year 1998	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
	0	0	0	0

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

	Total Handled OFFsite	TSDR handling/Waste management methods		Amount Handled ONsite	TSDR handling/Waste management methods
D1	0 kg		D2	kg	
	Amount Handled ONsite	**TSDR handling/Waste management methods**		**Amount Handled ONsite**	**TSDR handling/Waste management methods**
D3	kg		D4	kg	

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	Plant Mgr	2/25/99

*** Below is for Department use only. ***

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8), Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name**. Use standard name from regulations whenever possible. SODIUM HYDROXIDE SLUDGE (TANK BOTTOM) -D002	WASTE STREAM NUMBER 6

3. Give the years that this waste has been generated, e.g. 1975, 1982-.	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation
1941		Continuous Accidental/ One time Various (V)

4. Circle all appropriate **hazard criteria**. Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). CG	EPA **waste codes**. (Primary first; six maximum.)	**SIC code** for generating process.
	D002,D006,D007	3728, 3769

5. **Physical form code**	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Slurry (4)	90.0	.0	10.000	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
400.0	1,000.0	500.0	75

7. **DOT shipping** name	DOT hazard class		DOT ID code
WASTE CORROSIVE SOLID, N.O.S.	Poisons	06	1759

8. Describe the **generation process**.

"TANK BOTTOM" SLUDGE FROM SODIUM HYDROXIDE METAL FINISHING PROCESS.

9. **Chemical Characteristics.** pH	Flash point	Reactive code	**Concentration units.** Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM( )
13.5	0		X (W)

Hazardous constituents. Give range of values at right.	lower value	upper value
A. ALUMINUM HYDROXIDE	90	95
B. MIXED SOLIDS (DIRT, ALUMINUM)	5	10
C. CHROMIUM	10	200
D. CADMIUM	5	20
E.		

10. Describe how you have **managed** or intend to manage this waste **through final disposition**. Use the Waste Management Method Codes on page 6 of the instructions.

S01, T23, T31, T40, T67, T44, T45, T21, D81

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year 1998	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
	0	0	0	0

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

	Total Handled OFFsite	TSDR handling/Waste management methods		Amount Handled ONsite	TSDR handling/Waste management methods
D1	0 kg		D2	kg	
	Amount Handled ONsite	TSDR handling/Waste management methods		Amount Handled ONsite	TSDR handling/Waste management methods
D3	kg		D4	kg	

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
Daniel Garrett	2/23/ Engr	2/25/99

*** Below is for Department use only. ***

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8); Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name.** Use standard name from regulations whenever possible. CHROMIC ACID SLUDGE (TANK BOTTOM) D002, D007	WASTE STREAM NUMBER 7

3. Give the years that this waste has been generated, e.g. 1975, 1982-. 1941	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation Continuous Accidental/ One time Various ____ (V)
4. Circle all appropriate **hazard criteria.** Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). CDG	EPA **waste codes.** (Primary first; six maximum.) D002,D007	**SIC code** for generating process. 3728, 3769

5. **Physical form** code	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Slurry (4)	75.0	.0	10.000	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
454.0	2,000.0	900.0	75

7. **DOT shipping** name	DOT hazard class		DOT ID code
WASTE CORROSIVE SOLID, NOS	Corrosive	08	1759

8. Describe the **generation process.**

"TANK BOTTOM" SLUDGE FROM CHROMIC ACID METAL FINISHING PROCESS.

9. **Chemical Characteristics.** pH	Flash point	Reactive code	**Concentration units.** Use PPM for TCLP and EP Toxic wastes % volume( ), % weight(X), PPM( ) W
<2	0		

Hazardous constituents. Give range of values at right.	lower value	upper value
A. CHROMIC ACID	80	85
B. MIXED SOLIDS (DIRT, ALUMINUM)	5	10
C. TAP WATER		
D.		
E.		

10. Describe how you have **managed** or intend to manage this waste **through final disposition.** Use the Waste Management Method Codes on page 6 of the instructions.

S01, T31, T40, T21, D85

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
1998	81,469.4	0	226.8	81,242.6

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

D1	Total Handled OFFsite 81,242.6 kg	TSDR handling/Waste management methods S01, T23, T24, T31, T40, T37, T21	D2	Amount Handled ONsite kg	TSDR handling/Waste management methods
D3	Amount Handled ONsite kg	TSDR handling/Waste management methods	D4	Amount Handled ONsite kg	TSDR handling/Waste management methods

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
17.416	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: If necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	Eng Mgr	2/25/99

*** Below is for Department use only.

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8); Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name at facility** THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name**. Use standard name from regulations whenever possible. PAINT SOLIDS -D007	WASTE STREAM NUMBER: 8

3. Give the years that this waste has been generated, e.g. 1975, 1982-.	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation
1941		Continuous Accidental/ One time Various (N)

4. Circle all appropriate **hazard criteria**. Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g).	**EPA waste codes**. (Primary first; six maximum.)	**SIC code** for generating process.
A8G	D007,D001,D008	3728, 3769

5. **Physical form code**	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Sldg-Othr (6)	70.0	.0	10.000	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
900.0	4,500.0	1,000.0	75

7. **DOT shipping name**	DOT hazard class	DOT ID code
PAINT SOLIDS NOS	Flam Sol/Sp Comb Sol04	1325

8. Describe the **generation process**.

DRY PAINT BUILD-UP CHIPPED FROM HANGERS ON PAINT CONVEYOR LINE, PAINT CHIPS & BLAST MEDIA.

9. **Chemical Characteristics**. pH	Flash point	Reactive code	**Concentration units**. Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM( )
7.0	>130 F		X (N)

Hazardous constituents. Give range of values at right.	lower value	upper value
A. CHROMIUM	5	500
B. LEAD	10	100
C. PIGMENTS/CURING AGENTS	2%	99%
D. PLASTIC/GLASS BLAST MEDIA	1%	99%
E.		

10. Describe how you have **managed** or intend to manage this waste **through final disposition**. Use the Waste Management Method Codes on page 6 of the instructions.

S01, T21, T81

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year 1998	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
	0	0	0	0

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

D1	Total Handled OFFsite 0 kg	TSDR handling/Waste management methods	D2	Amount Handled ONsite kg	TSDR handling/Waste management methods
D3	Amount Handled ONsite kg	TSDR handling/Waste management methods	D4	Amount Handled ONsite kg	TSDR handling/Waste management methods

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (F)
G. No effort (G)
H. Other - briefly explain here (H)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A. Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: If necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	Eng Mgr	2/25/99

*** Below is for Department use only. ***

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8); Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name.** Use standard name from regulations whenever possible. SPENT CHROMIC ACID SOLUTION	WASTE STREAM NUMBER 9

3. Give the years that this waste has been generated, e.g. 1975, 1982-.	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation
1941		Continuous Accidental/ One time Various ____ (V)

4. Circle all appropriate **hazard criteria.** Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g).	**EPA waste codes.** (Primary first; six maximum.)	**SIC code** for generating process.
BCE	D002,D007	3769, 3728

5. **Physical form code**	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Liq-Watr (2)	5.0	.0	10.000	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
400,000.0	4,000,000.0	21,000.0	10

7. **DOT shipping name**	DOT hazard class		DOT ID code
SPENT CHROMIC ACID SOLUTION	Corrosive	08	1755

8. Describe the **generation process.**

SPENT CHROMIC ACID SOLUTION USED IN SURFACE TREATMENT OF ALUMINUM

9. **Chemical Characteristics.** pH	Flash point	Reactive code	**Concentration units.** Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM( ) (V)
<2	0		

Hazardous constituents. Give range of values at right.	lower value	upper value
A. CHROMIC ACID	3.0	5.0
B. SULPHORIC ACID	6.8	27.9
C. AMMONIUM BIFLOURIDE	0.15	10.45
D. TAP WATER	REMAI	NDER
E.		

10. Describe how you have **managed** or intend to manage this waste **through final disposition.** Use the Waste Management Method Codes on page 6 of the instructions.

S01, S02, T23, T24, T31, T40, T37, T21

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
1998	0	0	0	0

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

	Total Handled OFFsite	TSDR handling/Waste management methods		Amount Handled ONsite	TSDR handling/Waste management methods
D1	0 kg		D2	kg	
D3	Amount Handled ONsite kg	TSDR handling/Waste management methods	D4	Amount Handled ONsite kg	TSDR handling/Waste management methods

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0	0.7	1998	

13. Identify the efforts undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	Plant Mgr	2/25/99

*** Below is for Department use only. ***

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8), Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name.** Use standard name from regulations whenever possible. SPENT 1,1,1-TRICHLORDETHANE	WASTE STREAM NUMBER 10

3. Give the years that this waste has been generated, e.g. 1975, 1982-.	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation
1970		Continuous ____ Accidental/ One time ____ Various (C)

4. Circle all appropriate **hazard criteria.** Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g).	**EPA waste codes.** (Primary first; six maximum.)	**SIC code** for generating process.
F	F001	3728, 3769

5. **Physical form code**	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Liq-Othr (3)	5.0	.0	11.000	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
1,200.0	1,500.0	3,600.0	75

7. **DOT shipping name**	DOT hazard class		DOT ID code
METHYLCHLOROFORM	Poisons	6.1 06	2831

8. Describe the **generation process.**

RESULTS FROM HAND WIPING (CLEANING) OF ALUMINUM PARTS. & VAPOR DEGREASING

9. **Chemical Characteristics.** pH	Flash point	Reactive code	**Concentration units.** Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM( )
7			X (W)

Hazardous constituents. Give range of values at right.	lower value	upper value
A. 1,1,1-TRICHLORDETHANE	50	100
B. OIL AND GREASE (NOT HAZARDOUS)	0	5
C. WATER	5	45
D.		
E.		

10. Describe how you have **managed** or intend to manage this waste **through final disposition.** Use the Waste Management Method Codes on page 6 of the instructions.

S01,T63,T06

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
1998	0	0	0	0

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

D1	Total Handled OFFsite 0 kg	TSDR handling/Waste management methods	D2	Amount Handled ONsite kg	TSDR handling/Waste management methods
D3	Amount Handled ONsite kg	TSDR handling/Waste management methods	D4	Amount Handled ONsite kg	TSDR handling/Waste management methods

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A. Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	Emr Mgr	2/25/99

*** Below is for Department use only. ***

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8), Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status | Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name.** Use standard name from regulations whenever possible. WASTE POISON LIQUID NOS POISON B	WASTE STREAM NUMBER 11

3. Give the years that this waste has been generated, e.g. 1975, 1982-. 1940	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation Continuous Accidental/ One time Various ____ (Y)
4. Circle all appropriate **hazard criteria.** Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). FEG	EPA **waste codes.** (Primary first; six maximum.) F008, F007, D003, D008	**SIC code** for generating process. 3728, 3769

5. **Physical form code**	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Liq-Watr (2)	5.0	.0	10.000	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
908.0	5,000.0	908.0	75

7. **DOT shipping name**	DOT hazard class		DOT ID code
WASTE POISON LIQUID NOS POISON B	Poisons	6.1 06	2810

8. Describe the **generation process.**

UTILIZED IN THE CADMIUM CYANIDE AND SODIUM CYANIDE PLATING OPERATION OF METAL PARTS.

9. **Chemical Characteristics.** pH	Flash point	Reactive code	**Concentration units.** Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM( ) X (W)
12.0			

Hazardous constituents. Give range of values at right.	lower value	upper value
A. CADMIUM METAL	2.2	3.4
B. SODIUM CYANIDE	6.0	7.5
C. SODIUM HYDROXIDE	1.6	2.2
D. SODIUM CARBONATE	1.5	7.5
E. COPPER CYANIDE	2.0	4.0

10. Describe how you have **managed** or intend to manage this waste **through final disposition.** Use the Waste Management Method Codes on page 6 of the instructions.

S01, S02, T27, T24, T23, T21, D81, D85

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
1998	1,877.6	0	0	1,877.6

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

	Total Handled OFFsite	TSDR handling/Waste management methods		Amount Handled ONsite	TSDR handling/Waste management methods
D1	1,877.6 kg	S01, T27, T31	D2	kg	
	Amount Handled ONsite	**TSDR handling/Waste management methods**		**Amount Handled ONsite**	**TSDR handling/Waste management methods**
D3	kg		D4	kg	

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
1.859	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: If necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	Eng Mgr	2/25/99

*** Below is for Department use only. ***

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8), Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name.** Use standard name from regulations whenever possible. WASTE CORROSIVE LIQUID OTHER THAN CHROMIC, NITRIC, HYDROFLUO	WASTE STREAM NUMBER 12

3. Give the **years** that this waste has been generated, e.g. 1975, 1982-. 1985	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation Continuous Accidental/ One time Various (Y)
4. Circle all appropriate **hazard criteria.** Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). CG	**EPA waste codes.** (Primary first; six maximum.) D002,D007,D003	**SIC code** for generating process. 3769, 3728

5. **Physical form** code	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Liq-Watr (2)	5.0	.0	10.000	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
3,500.0	36,000.0	20,000.0	75

7. **DOT shipping** name	DOT hazard class		DOT ID code
WASTE CORROSIVE LIQUID NOS CORROSIVE MATERIAL	Corrosive	08	1760

8. **Describe the generation process.**

VARIOUS MATERIALS RANGES FROM OUTDATED LABORATORY CHEMICALS TO OUTDATED BULK PROCESS CHEMICALS ARE PERIODICALLY PLACED IN THE HAZARDOUS WASTE DRUM STORAGE YARD. SOMETIMES THESE CHEMICALS ARE BEST DESCRIBED AS "WASTE CORROSIVE LIQUID, NOS, CORROSIVE MATERIAL".

9. **Chemical Characteristics.** pH	Flash point	Reactive code	**Concentration units.** Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM( )

Hazardous constituents. Give range of values at right.	lower value	upper value
A.		
B.		
C.		
D.		
E.		

10. Describe how you have **managed** or intend to manage this waste **through final disposition.** Use the Waste Management Method Codes on page 6 of the instructions.

S01, T24, T23, T31, T40, T21, T37, D81

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
1998	0	11.3	0	11.3

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

	Total Handled OFFsite	TSDR handling/Waste management methods		Amount Handled ONsite	TSDR handling/Waste management methods
D1	11.3 kg	S01, T31	D2	kg	
	Amount Handled ONsite	**TSDR handling/Waste management methods**		**Amount Handled ONsite**	**TSDR handling/Waste management methods**
D3	kg		D4	kg	

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	Eng Mgr	2/25/99

***** Below is for Department use only. *****

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8), Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name.** Use standard name from regulations whenever possible. NITRIC ACID 40% OR LESS STRENGTH	WASTE STREAM NUMBER 13

3. Give the **years** that this waste has been generated, e.g. 1975, 1982-.	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation
1983		Continuous Accidental/ One time Various ____ (V)
4. Circle all appropriate **hazard criteria.** Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). CE	**EPA waste codes.** (Primary first; six maximum.) D002, D007	**SIC code** for generating process. 3728, 3769

5. **Physical form code**	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Liq-Watr (2)	2.0	.0	11.500	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
15,000.0	30,410.0	15,000.0	75

7. **DOT shipping** name	DOT hazard class		DOT ID code
NITRIC ACID 40% OR LESS STRENGTH	Corrosive	08	1796

8. Describe the **generation process.**

USED IN ANODIZING OF TITANIUM PARTS. PROCESSES INCLUDE DESCALING, PASSIVATING, AND SHOT PEEN RESIDUE REMOVAL OF MATERIAL FROM TITANIUM. THE MAJORITY OF THIS ACID IS TRANSPORTED IN BULK. SOME IS PLACED IN LINED BARRELS PERIODICALLY AND DISPOSED.

9. **Chemical Characteristics.** pH	Flash point	Reactive code	**Concentration units.** Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM(X) (W)
<2.0			

Hazardous constituents. Give range of values at right.	lower value	upper value
A. NITRIC ACID	20	40
B. NH4 HF2	3	10.5
C. NA2 CR2O7	2.0	3.0
D.		
E.		

10. Describe how you have **managed** or intend to manage this waste **through final disposition.** Use the Waste Management Method Codes on page 6 of the instructions.

S01, S02, T31, T37, T41, T44, T45, T21, D81

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year 1998	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
	0	0	0	0

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

	Total Handled OFFsite	TSDR handling/Waste management methods		Amount Handled ONsite	TSDR handling/Waste management methods
D1	0 kg		D2	kg	
	Amount Handled ONsite	**TSDR handling/Waste management methods**		**Amount Handled ONsite**	**TSDR handling/Waste management methods**
D3	kg		D4	kg	

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A. Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	Eng Mgr	2/25/99

***** Below is for Department use only. *****

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8); Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name.** Use standard name from regulations whenever possible. WASTE HYDROFLUORIC ACID SOLUTION (NOT OVER 70% ACID) HF	WASTE STREAM NUMBER 14

3. Give the years that this waste has been generated, e.g. 1975, 1982-.	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation
1941		Continuous Accidental/ One time Various ____ (V)
4. Circle all appropriate **hazard criteria.** Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). C	**EPA waste codes.** (Primary first; six maximum.) U134	**SIC code** for generating process. 3728, ~~3469~~ 3769

5. **Physical form code**	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Liq-Watr (2)	2.0	.0	10.000	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
200.0	200.0	200.0	75

7. **DOT shipping** name	DOT hazard class		DOT ID code
WASTE HYDROFLUORIC ACID SOLUTION (NOT OVER 70% HF)	Corrosive	08	1790

8. Describe the **generation process.**

UTILIZED IN DEPARTMENT 432 (ELECTROPLATING) FOR THE CLEANING OF TITANIUM AND TITANIUM ALLOYS AND FOR THE CLEANING OF STAINLESS STEEL FOR BRAZING. THE MAJORITY OF THE WASTE ARISES FROM HYDROFLUORIC ACID WHICH HAS BEEN STORED IN EXCESS OF SPECIFICATION TIME. THE VIRGIN MATERIAL IS THEN PLACED IN THE DRUM YARD FOR DISPOSAL. HYDROFLUORIC ACID IS UTILIZED IN A FEW VERY SMALL CHEMICAL TANKS FOR ALUMINUM PARTS PROCESSING. WHEN THE SOLUTION IS FINALLY CONTAMINATED, THE MATERIAL IS WASTE.

9. **Chemical Characteristics.** pH	Flash point	Reactive code	**Concentration units.** Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM( ) X (W)
1.0	#		

Hazardous constituents. Give range of values at right.	lower value	upper value
A. HYDROFLUORIC ACID (PURE) SPECIFIC GRAVITY	1.15	1.18
B. AEROSTRUCTURES		
C. CONSTITUENTS OF TANK AT ~~AVCO~~ IF NOT PURE MATERIAL:		
D. HYDROFLUORIC ACID	3.0	4.5
E. NITRIC ACID	40	43.6

10. Describe how you have **managed** or intend to manage this waste through **final disposition.** Use the Waste Management Method Codes on page 6 of the instructions.

S01, S02, T31, T37, T41, T44, T45, T21, D81

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
1998	0	0	0	0

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

	Total Handled OFFsite	TSDR handling/Waste management methods		Amount Handled ONsite	TSDR handling/Waste management methods
D1	0 kg		D2	kg	
	Amount Handled ONsite	TSDR handling/Waste management methods		Amount Handled ONsite	TSDR handling/Waste management methods
D3	kg		D4	kg	

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A. Training or technical assistance A(No (NA) Yes)
B. Technical feasibility B(No (NA) Yes)
C. Economic practicality C(No (NA) Yes)
D. Measurement/accounting methods D(No (NA) Yes)
E. TN hazardous waste regulations E(No (NA) Yes)
F. Implementation experience F(No (NA) Yes)
G. High costs of haz. waste mgt G(No (NA) Yes)
H. Accidental generation H(No (NA) Yes)
I. Other - describe here: I (No (NA) Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	Plant Mgr	2/25/99

*** Below is for Department use only. ***

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8), Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name.** Use standard name from regulations whenever possible. WASTE PETROLEUM NAPHTHA	WASTE STREAM NUMBER 15

3. Give the years that this waste has been generated, e.g. 1975, 1982-. 1985	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation Continuous Accidental/ One time Various ____ (Y)
4. Circle all appropriate **hazard criteria.** Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). A	**EPA waste codes.** (Primary first; six maximum.) D001	**SIC code** for generating process. 3728, 3769

5. **Physical form code**	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Liq-Othr (3)	5.0	.0	5.000	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
800.0	7,000.0	800.0	30

7. **DOT shipping name**	DOT hazard class		DOT ID code
WASTE PETROLEUM NAPHTHA COMBUSTIBLE LIQUID	Flam/Comb Liquids	03	1255

8. Describe the **generation process.**

DEGREASING OF MACHINERY. MATERIAL BECOMES CONTANIMATED WITH OIL AND GREASE AND IS THEN SENT TO SAFETY KLEAN FOR CLEANING (DISTILLATION) AND SUBSEQUENT REUSE VIA SOLVENT RECOVERY

9. **Chemical Characteristics.** pH	Flash point	Reactive code	**Concentration units.** Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM( ) X (W)
	118 F		

Hazardous constituents. Give range of values at right.	lower value	upper value
A. NAPTHA	95	99
B. OILS AND GREASE (NOT HAZARDOUS)	1	5
C.		
D.		
E.		

10. Describe how you have managed or intend to manage this waste through final disposition. Use the Waste Management Method Codes on page 6 of the instructions.

S01, T63

4(Y)

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
1998	0	0	0	0

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

D1	Total Handled OFFsite 0 kg	TSDR handling/Waste management methods	D2	Amount Handled ONsite kg	TSDR handling/Waste management methods
D3	Amount Handled ONsite kg	TSDR handling/Waste management methods	D4	Amount Handled ONsite kg	TSDR handling/Waste management methods

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A. Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	Eng Mgr	2/25/99

*** Below is for Department use only. ***

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8); Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name.** Use standard name from regulations whenever possible. WASTE PHOSPHORIC ACID	WASTE STREAM NUMBER 16

3. Give the years that this waste has been generated, e.g. 1975, 1982-. 1983	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation Continuous Accidental/ One time Various ____ (Y)
4. Circle all appropriate **hazard criteria.** Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). C	**EPA waste codes.** (Primary first; six maximum.) D002	**SIC code** for generating process. 3728, 3769

5. **Physical form code**	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Liq-Watr (2)	2.0	.0	10.000	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
7,500.0	11,000.0	7,500.0	75

7. **DOT shipping name**	DOT hazard class		DOT ID code
WASTE PHOSPHORIC ACID RQ CORROSIVE MATERIAL	Corrosive	08	1805

8. **Describe the generation process.**

USED IN THE PHOSPHORIC ACID ANODIZE OF ALUMINUM PARTS.

9. **Chemical Characteristics.** pH	Flash point	Reactive code	**Concentration units.** Use PPM for TCLP and EP Toxic wastes. % volume( ), % weight( ), PPM( )
<1.0			X (W)

Hazardous constituents. Give range of values at right.	lower value	upper value
A. PHOSPHORIC ACID	10	12
B. TAP WATER		
C.		
D.		
E.		

10. Describe how you have **managed** or intend to manage this waste **through final disposition.** Use the Waste Management Method Codes on page 6 of the instructions.

S01, S02, T31

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year 1998	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
	0	0	0	0

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

D1	Total Handled OFFsite 0 kg	TSDR handling/Waste management methods	D2	Amount Handled ONsite kg	TSDR handling/Waste management methods
D3	Amount Handled ONsite kg	TSDR handling/Waste management methods	D4	Amount Handled ONsite kg	TSDR handling/Waste management methods

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A. Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	Eng Mgr	2/25/99

*** Below is for Department use only. ***

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8), Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name.** Use standard name from regulations whenever possible. WASTEWATER TREATMENT WASTES	WASTE STREAM NUMBER 17

3. Give the years that this waste has been generated, e.g. 1975, 1982-.	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation
1985		Continuous Accidental/ One time Various ____ (V)

4. Circle all appropriate **hazard criteria.** Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g).	**EPA waste codes.** (Primary first; six maximum.)	**SIC code** for generating process.
CFG	F019,D002,D007,D006,D008	3728, 3769

5. **Physical form code**	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Liq-Watr (2)	4.0	.0	8.600	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
600,000.0	4,500,000.0	350,000.0	3

7. **DOT shipping** name	DOT hazard class		DOT ID code
HAZARDOUS WASTE LIQUID OR SOLID NOS ORM-E	Corrosive	08	1760

8. Describe the **generation process.**

VARIOUS TANKS CONTAIN MATERIALS (PRIMARILY ACIDS AND BASES) WHICH ARE USED FOR THE CHEMICAL CONVERSION OF ALUMINUM. THE ALUMINUM PART IS DIPPED INTO THE TANK, FOLLOWED BY IMMERSIONIN A RINSE TANK. WATERS CONTINUALLY OVERFLOW THE RINSE TANKTO MAINTAIN LOW CONDUCTIVITY STANDARDS. THE EXCESS WATERS ARE TRANSFERRED TO THEION-EXCHANGE PLANT WHERE THE POLLUTANTS ARE REMOVED. THE CLEAN WATER IS THEN RECIRCULATEDBACK TO THE MANY RINSE TANKS. THE WASTES ~~SENT TO TAICL~~ FROMTHE ION-EXCHANGE PLANT RESULT FROM REGENERATION OF THE ION EXCHANGE RESINS AND CARBON FILTERS. SHIPPED OFFSITE

9. **Chemical Characteristics.**

pH	Flash point	Reactive code	**Concentration units.** Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM( )
9-11	●		X (W)

Hazardous constituents. Give range of values at right.	lower value	upper value
A. CADMIUM	0	0.36
B. CHROMIUM	0	85
C. COPPER	0	0.91
D. NICKEL	0	0.3
E. LEAD	0	0.3

10. Describe how you have **managed** or intend to manage this waste **through final disposition.** Use the Waste Management Method Codes on page 6 of the instructions.

S01, T21, T23, T31, T40, T44, T45, D81

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
1998	80,562.4	0	0	80,562.4

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

	Total Handled OFFsite	TSDR handling/Waste management methods		Amount Handled ONsite	TSDR handling/Waste management methods
D1	80,562.4 kg	S02, T21, T23, T31, T40, T45, D81, T44	D2	kg	
	Amount Handled ONsite	**TSDR handling/Waste management methods**		**Amount Handled ONsite**	**TSDR handling/Waste management methods**
D3	kg		D4	kg	

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0.222	0.7	1998	

13. Identify the efforts undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	[illegible]	2/25/99

*** Below is for Department use only. ***

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8); Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name**. Use standard name from regulations whenever possible. WASTE CORROSIVE LIQUID, CORROSIVE MATERIAL	WASTE STREAM NUMBER 18

3. Give the **years** that this waste has been generated, e.g. 1975, 1982-.	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation
1986		Continuous Accidental/ One time Various (Y)
4. Circle all appropriate **hazard criteria**. Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). CG	**EPA waste codes**. (Primary first; six maximum.) D002, D007	**SIC code** for generating process. 3728, 3769

5. **Physical form code**	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Liq-Watr (2)	5.0	.0	11.000	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
30,000.0	450,000.0	30,000.0	14

7. **DOT shipping name**	DOT hazard class		DOT ID code
WASTE CORROSIVE LIQUID, CORROSIVE MATERIAL	Corrosive	08	1760

8. Describe the **generation process**.

THIS WASTE RESULTS FROM THE USE OF EXTREMELY ACID OR BASIC SUBSTANCES TO PROCESSMETAL PARTS. AS THE USAGE CONTINUES, THE CHEMICALS ARE CONTAMINATED AND/OR UTILIZED TO AN UNUSABLECONDITION. THE MATERIAL AFTER THIS BECOMES WASTE.

9. **Chemical Characteristics**. pH	Flash point	Reactive code	**Concentration units**. Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM( ) (N)

Hazardous constituents. Give range of values at right.	lower value	upper value
A. EXTREMELY STRONG ACIDS (CHROMIC, NITRIC, ETC)	20	30
B. EXTREMELY STRONG BASES (SODIUM HYDROXIDE, ETC)	20	30
C. ALUMINUM	2	5
D. WATER		
E.		

10. Describe how you have managed or intend to manage this waste through final disposition. Use the Waste Management Method Codes on page 6 of the instructions.

S01, S02, T23, T31, T40, T21, T07, D81

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year 1998	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
	0	0	0	0

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

	Total Handled OFFsite	TSDR handling/Waste management methods		Amount Handled ONsite	TSDR handling/Waste management methods
D1	0 kg		D2	kg	
D3	Amount Handled ONsite kg	TSDR handling/Waste management methods	D4	Amount Handled ONsite kg	TSDR handling/Waste management methods

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	Eng Mgr	2/25/09

***** Below is for Department use only. *****

17. *Date received (MM/DD/YY)*	*Complete?* Yes No	*Test results?* Yes No	*Reasonable?* Yes No	*Follow-up* Yes No	*Initials*

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8); Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name at facility** THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name.** Use standard name from regulations whenever possible. SPENT CHEMICALS	WASTE STREAM NUMBER 19

3. Give the years that this waste has been generated, e.g. 1975, 1982-.	Date no longer generated. (MM/DD/YY)	Annual Frequency of generation
1986		Continuous Accidental/ One time Various ____ (V)
4. Circle all appropriate hazard criteria. Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). ACEF	EPA waste codes. (Primary first; six maximum.) D002, D008, LA8P	SIC code for generating process. 3728, 3769

5. Physical form code	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Liq-Othr (3)	100.0	.0	0.000	0.0	0.0

6. Generation rates in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
1,000.0	13,000.0	1,500.0	75

7. DOT shipping name	DOT hazard class		DOT ID code
WASTE CORROSIVE LIQUIDS NOS AND SOLIDS	Misc Haz. Mat	09	

8. **Describe the generation process.**

GENERATION GENERALLY RESULTS FROM VIRGIN CHEMICALS (BOTH LABORATORY AND PROCESS)EXCEEDING THE EXPIRATION DATES REQUIRED BY CUSTOMER CONTRACTS. THESE EXPIRED CHEMICALS HAVE TO BE DISPOSED OF AS WASTE. USED BATTERIES USED IN PRODUCTION ANDMAINTENANCE EQUIPMENT.

9. Chemical Characteristics. pH	Flash point	Reactive code	Concentration units.Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM( )

Hazardous constituents. Give range of values at right.	lower value	upper value
A. VIRGIN ACIDS AND BASES (CONCENTRATED)	100	100
B. VIRGIN SOLVENTS	100	100
C. VIRGIN POISONS	100	100
D. VIRGIN MISCELLANEOUS CHEMICALS	100	100
E. USED BATTERIES WET FILLED WITH ACID	100	100

10. Describe how you have **managed** or intend to manage this waste **through final disposition.** Use the Waste Management Method Codes on page 6 of the instructions.

S01, T07, T21, D81

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
1998	383.3	0	181.4	201.9

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

	Total Handled OFFsite	TSDR handling/Waste management methods		Amount Handled ONsite	TSDR handling/Waste management methods
D1	201.9 kg	S01, T07, T21, D81	D2	kg	
D3	Amount Handled ONsite kg	TSDR handling/Waste management methods	D4	Amount Handled ONsite kg	TSDR handling/Waste management methods

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0.018	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A. Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	Env Mgr	2/25/99

Below is for Department use only.

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8), Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name.** Use standard name from regulations whenever possible. SPENT HALOGENATED SOLVENT-TRICHLOROETHYLENE	WASTE STREAM NUMBER 20

3. Give the years that this waste has been generated, e.g. 1975, 1982-.	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation Continuous Accidental/ One time Various ____ (V)
4. Circle all appropriate **hazard criteria.** Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). F	EPA **waste codes.** (Primary first; six maximum.) F001, F002	**SIC code** for generating process. 3728, 3769

5. **Physical form** code	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Liq-Othr (3)	5.0	.0	12.200	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
8,100.0	14,000.0	8,100.0	60

7. **DOT shipping** name	DOT hazard class		DOT ID code
RQ, WASTE TRICHLOROETHYLENE ORMA UN-1710	Poisons	6.1 06	2831

8. Describe the **generation process.**

SPENT TRICHLOROETHYLENE FROM DEGREASERS AND WIPEDOWN

9. **Chemical Characteristics.** pH	Flash point	Reactive code	**Concentration units.** Use PPM for TCLP and EP Toxic wastes % volume( ), % weight(X), PPM( ) (W)

Hazardous constituents. Give range of values at right.	lower value	upper value
A. TRICHLOROETHYLENE	95	100
B. NON HAZARDOUS OIL + GREASE	0	5
C. WATER	5	45
D.		
E.		

10. Describe how you have managed or intend to manage this waste **through final disposition.** Use the Waste Management Method Codes on page 6 of the instructions.

S01, T63, T06

6(Y)

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
1998	13,687.1	0	0	13,687.1

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

	Total Handled OFFsite	TSDR handling/Waste management methods		Amount Handled ONsite	TSDR handling/Waste management methods
D1	408.2 kg	S01, T63, T06	D2	13,278.9 kg	H09 (recycled through still)
D3	Amount Handled ONsite kg	TSDR handling/Waste management methods	D4	Amount Handled ONsite kg	TSDR handling/Waste management methods

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to the item, service or intermediary produced in its standard production units.

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
1.269	0.7	1998	

13. Identify the efforts undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (R)
G. No effort (F)
H. Other - briefly explain here (G)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A. Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: If necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	Eng Mgr	2/25/99

*** Below is for Department use only. ***

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8), Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Hazardous Waste Stream Report

Tennessee Department of Environment and Conservation, Division of Solid Waste Management
Fifth Floor, L & C Tower, 401 Church Street, Nashville, TN 37243-1535

Please complete and/or correct, certify and return. Retain a copy for your records.

1. **Organization's full name** at facility THE AEROSTRUCTURES CORPORATION	**Installation identification number** TND 00-404-2057
2. **Waste name.** Use standard name from regulations whenever possible. CHROMIUM CONTAMINATED DEBRIS	WASTE STREAM NUMBER 21

3. Give the years that this waste has been generated, e.g. 1975, 1982-.	Date no longer generated. (MM/DD/YY)	Annual **Frequency** of generation
1941-		Continuous Accidental/ One time Various (Y)
4. Circle all appropriate **hazard criteria.** Ignitable (a), EP toxic (b), Corrosive (c), Reactive (e), Other toxic (f), TCLP (g). CG	**EPA waste codes.** (Primary first; six maximum.) D007,D002,D006,D008	**SIC code** for generating process. 3728, 3769

5. **Physical form code**	% Solid	% Water	Vol. to wt. conversion (pounds/gallon)	If used for fuel, chlorine content(PPM)	BTU per pound
Sld:Othr (9)	50	2-50	10.000	0.0	0.0

6. **Generation rates** in kilograms. Monthly maximum (kg)	Annual average (kg)	Maximum stored onsite (kg)	Maximum days stored
5,000.0	10,000.0	8,500.0	75

7. **DOT shipping** name	DOT hazard class		DOT ID code
RQ HAZARDOUS WASTE LIQ OR SOLIDS NOS RQ HAZ WASTE	Misc Haz. Mat	09	3082

8. **Describe the generation process.**

#CHROME CONTAMINATED BUILDING MATERIALS, EQUIPMENT, AND SUPPLIES; CONTAMINATED MATERIALS FROM CLEAN-UP OPERATIONS. CONTAMINATED PAINT STRIPPER SAND BLAST MEDIA; CONTAMINATED PROCESS FILTERS.

9. **Chemical Characteristics.** pH	Flash point	Reactive code	**Concentration units.** Use PPM for TCLP and EP Toxic wastes % volume( ), % weight( ), PPM(X) (P)
<2.5			

Hazardous constituents. Give range of values at right.	lower value	upper value
A. CHROMIUM	5	5000
B. MIXED SOLIDS (DIRT, DEBRIS, CLOTH, ETC)	50%	99%
C. WATER	50%	99%
D.		
E.		

10. Describe how you have **managed** or intend to manage this waste **through final disposition.** Use the Waste Management Method Codes on page 6 of the instructions.

S01, T07, T23, T31, T40, T21, T18, D81

11. Annual Generation and Handling Data: Complete blocks A to D as the formula A + B - C = D as expressed in kilograms (kg).

Report Year	A. Amount generated during year (kg)	B. Amount onsite Jan. 1 in temp. storage (kg)	C. Amount onsite Dec. 31 in temp. storage (kg)	D. Amount handled (kg)
1998	317.5	0	0	317.5

If the waste was shipped offsite, give total in block D1 and submit an Offsite Shipping Report. Report onsite handling in blocks D2 to D4. For all handling that requires a permit, use "T", "S", or "D" codes from the instructions. For other handling, use "H" codes.

D1	Total Handled OFFsite 317.5 kg	TSDR handling/Waste management methods S01, T07, T18	D2	Amount Handled ONsite kg	TSDR handling/Waste management methods
D3	Amount Handled ONsite kg	TSDR handling/Waste management methods	D4	Amount Handled ONsite kg	TSDR handling/Waste management methods

Hazardous Waste Reduction Data: See the instructions for detail information required for completing lines 12-15 below

12. Specify your actual hazardous waste generation and final reduction goal as ratios of hazardous waste generated to *the item, service or intermediary produced in its standard production units.*

This year's actual ratio	Goal year's ratio	Goal Year	If no numeric goal has been set, describe your efforts to set one in line 15 below.
0.026	0.7	1998	

13. Identify the **efforts** undertaken to reduce the volume and/or toxicity in the generation of this waste during the reported year. This includes the efforts undertaken in previous years that affected the reported year. The reduction effort relates to generation processes and not treatment methods. Circle the code for applicable efforts to the right of each description.

A. Reformulation/redesign of product (A)
B. In process recycling (B)
C. Equipment/technology modification (C)
D. Substituting raw materials (D)
E. Improved operations (E)
F. Reduction research/planning (F)
G. No effort (G)
H. Other - briefly explain here (H)

14. Rate the **helpfulness** of the items below that affected your hazardous waste reduction plan and its results. To the right of each item, circle one code: YES, this item helped reduction; NO, it hurt reduction; or NA, it was not necessary or did not affect reduction. See the instructions for further explanation.

A Training or technical assistance A(No NA Yes)
B. Technical feasibility B(No NA Yes)
C. Economic practicality C(No NA Yes)
D. Measurement/accounting methods D(No NA Yes)
E. TN hazardous waste regulations E(No NA Yes)
F. Implementation experience F(No NA Yes)
G. High costs of haz. waste mgt G(No NA Yes)
H. Accidental generation H(No NA Yes)
I. Other - describe here: I (No NA Yes)

15. Narrative: if necessary, briefly provide more explanation of any of the above data that will show your efforts to reduce the generation of this hazardous waste or describe impediments to its reduction.

16. Certification: I certify that the information given on this form is true, accurate and complete.

SIGNATURE: (Generator or authorized representative)	TITLE:	DATE:
[signature]	Eng Mgr	2/25/99

Below is for Department use only.

17. Date received (MM/DD/YY)	Complete? Yes No	Test results? Yes No	Reasonable? Yes No	Follow-up Yes No	Initials

Status: Not hazardous (1); Demonstrated not hazardous (2); Treatment Residue (3); Resource recovery (4); Partial exemption (5); Hazardous (6); Accidental (7); No longer generated (8), Variance granted (9); Conditionally exempt (A); Mixed radiological wastes(R); Corrective Action (C); Waste water Rx(W); Universal Waste (U)

Status	Further Reporting

18. Comments.

Waste Management Codes

Waste Management Codes

ID	Codetype	Code	Abbrevcode	Codename	Applies to
Onsite Handling					
1	H CODE	H03	OSDISCHPOTW	Released onsite directly to POTW	Non Pen
2	H CODE	H05	OSENCLOSED	On site treatment in enclosed system	Non Pen
3	H CODE	H06	OSWWTU	On site wastewater treatment unit	Non Pen
4	H CODE	H07	OSNEUTRALIZE	On site elementary neutralization	Non Pen
5	H CODE	H09	OSRESREC	On site resource recovery	Non Pen
6	H CODE	H10	OSOTHER	Other on site handling	Non Pen
TSDR Biological Treatment					
73	T CODES	T67	BTACTSLUDG	Activated Sludge	TSDR
74	T CODES	T68	BTAEROLAGOON	Aerobic lagoon	TSDR
75	T CODES	T69	BTAEROTANK	Aerobic tank	TSDR
76	T CODES	T70	BTANAERLAGOON	Anerobic lagoon	TSDR
77	T CODES	T71	BTCOMPOST	Composting	TSDR
78	T CODES	T72	BTSEPTIC	Septic tank	TSDR
79	T CODES	T73	BTSPRAYIRRG	Spray irrigation	TSDR
80	T CODES	T74	BTTHICKFLTR	Thickening filter	TSDR
81	T CODES	T75	BTTRICKFILTR	Trickling filter	TSDR
82	T CODES	T76	BTWASTEPOND	Waste stabilization pond	TSDR
83	T CODES	T77	BTOTHER	Other	TSDR

ID	Codetype	Code	Abbrevcode	Codename	Applies to
TSDR Thermal Treatment					
12	T CODES	T06	TTLIQUIDINJ	Liquid Injection incinerator	TSDR
13	T CODES	T07	TTROTARYKILN	Rotary kiln incinerator	TSDR
14	T CODES	T08	TTFLUIDBED	Fluidized Bed Incinerator	TSDR
15	T CODES	T09	TTMULTIHEARTH	Multiple hearth incinerator	TSDR
16	T CODES	T10	TTINFRARED	Infrared furnace incinerator	TSDR
17	T CODES	T11	TTMOLTENSALT	Molten salt destructor	TSDR
18	T CODES	T12	TTPYROLYSIS	Pyrolysis	TSDR
19	T CODES	T13	TTWETAIR	Wet Air Oxidation	TSDR
20	T CODES	T14	TTCALCIN	Calcination	TSDR
21	T CODES	T15	TTMICROWAVE	Microwave discharge	TSDR
22	T CODES	T16	TTCEMENT	Cement kiln	TSDR
23	T CODES	T17	TTLIMEKILN	Lime kiln	TSDR
24	T CODES	T18	TTOTHER	Other	TSDR

ID	Codetype	Code	Abbrevcode	Codename	Applies to
TSDR Chemical Treatment					
25	T CODES	T19	CTABSMOUND	Absorption mound	TSDR
26	T CODES	T20	CTABSFIELD	Absorption field	TSDR
27	T CODES	T21	CTCHEMFIX	Chemical fixation	TSDR
28	T CODES	T22	CTCHEMOX	Chemical oxidation	TSDR
29	T CODES	T23	CTCHEMPRECIP	Chemical precipitation	TSDR
30	T CODES	T24	CTCHEMREDUX	Chemical reduction	TSDR
31	T CODES	T25	CTCHLOR	Chlorination	TSDR
32	T CODES	T26	CTCHLORINOLYSIS	Chlorinolysis	TSDR
33	T CODES	T27	CTCYANIDE	Cyanide destruction	TSDR
34	T CODES	T28	CTDEGRADE	Degradation	TSDR
35.	T CODES	T29	CTDETOX	Detoxification	TSDR
36	T CODES	T30	CTIONXCHG	Ion exchange	TSDR
37	T CODES	T31	CTNEUTRAL	Neutralization	TSDR
38	T CODES	T32	CTOZONE	Ozonation	TSDR
39	T CODES	T33	CTPHOTO	Photolysis	TSDR
40	T CODES	T34	CTOTHER	Other	TSDR
TSDR Disposal Methods					
84	D CODES	D80	DSPUNDINJECT	Underground Injection	TSDR
85	D CODES	D81	DSPLANDFILL	Landfill	TSDR
86	D CODES	D82	DSPLANDTREAT	Land Treatment	TSDR
87	D CODES	D83	DSPOCEAN	Ocean disposal	TSDR
88	D CODES	D84	DSPSURFIMPOUND	Surface impoundment to be closed as a landfill	TSDR
89	D CODES	D85	DSPOTHER	Other	TSDR

ID	Codetype	Code	Abbrevcode	Codename	Applies to
TSDR Physical Treatment by Sep					
41	T CODES	T35	PTSEPCENTFG	Centrifugation	TSDR
42	T CODES	T36	PTSEPCLAR	Clarification	TSDR
43	T CODES	T37	PTSEPCOAG	Coagulation	TSDR
44	T CODES	T38	PTSEPDECANT	Decanting	TSDR
45	T CODES	T39	PTSEPENCAP	Encapsulation	TSDR
46	T CODES	T40	PTSEPFILTRATE	Filtration	TSDR
47	T CODES	T41	PTSEPFLOC	Flocculation	TSDR
48	T CODES	T42	PTSEPFLOAT	Flotation	TSDR
49	T CODES	T43	PTSEPFOAM	Foaming	TSDR
50	T CODES	T44	PTSEPSEDIMENT	Sedimentation	TSDR
51	T CODES	T45	PTSEPTHICK	Thickening	TSDR
52	T CODES	T46	PTSEPULTRA	Ultrafiltration	TSDR
53	T CODES	T47	PTSEPOTHER	Other	TSDR
TSDR Storage Methods					
7	S CODE	S01	STORGCNTNR	Storage in a container, barrel, drum etc	TSDR
8	S CODE	S02	STORGTANK	Storage in a tank	TSDR
9	S CODE	S03	STORGPILE	Storage in a waste pile	TSDR
10	S CODE	S04	STORGSURF	Storage in a surface impoundment	TSDR
11	S CODE	S05	STORGOTHER	Other Method of waste storage	TSDR

ID	Codetype	Code	Abbrevcode	Codename	Applies to
TSDR Physical Treatment by Rem					
54	T CODES	T48	PTREMABS	Absorption molecular sieve	TSDR
55	T CODES	T49	PTREMCARBON	Activated Carbon	TSDR
56	T CODES	T50	PTREMBLEND	Blending	TSDR
57	T CODES	T51	PTREMCATALYS	Catalysis	TSDR
58	T CODES	T52	PTREMCRYSTAL	Crystallization	TSDR
59	T CODES	T53	PTREMDIALYS	Dialysis	TSDR
60	T CODES	T54	PTREMDISTIL	Distillation	TSDR
61	T CODES	T55	PTREMELECDIAL	Electrodialysis	TSDR
62	T CODES	T56	PTREMELECTROL	Electrolysis	TSDR
63	T CODES	T57	PTREMEVAP	Evaporation	TSDR
64	T CODES	T58	PTREMMAGSEP	High gradient magnetic separation	TSDR
65	T CODES	T59	PTREMLEACH	Leaching	TSDR
66	T CODES	T60	PTREMIONEXCG	Liquid ion exchange	TSDR
67	T CODES	T61	PTREMEXTRACT	Liquid liquid extraction	TSDR
68	T CODES	T62	PTREMREVOSMOS	Reverse osmosis	TSDR
69	T CODES	T63	PTREMSOLVREC	Solvent recovery	TSDR
70	T CODES	T64	PTREMSTRIP	Stripping	TSDR
71	T CODES	T65	PTREMSANDFLTR	Sand filter	TSDR
72	T CODES	T66	PTREMOTHER	Other	TSDR

THE AEROSTRUCTURES CORPORATION

1431 Vultee Boulevard
Nashville, Tennessee 37217
Tel: (615) 361-2000
Fax: (615) 360-5779

History

The Aerostructures Corporation's origins in Nashville can be traced back to 1939 when it was known as Stinson Aircraft Company. As a division of the Aviation Company, the third largest producer of war materials during World War II, it was merged with Vultee in 1940 and merged again to form Consolidated Vultee Aircraft in 1943. In 1959, the Aviation Company became Avco Corporation. In 1966, the Nashville divison was renamed Avco Aerostructures. In 1985, Avco Aerostructures became part of Textron Inc., as a result of their acquisition of Avco Corporation, and in 1987, the name changed to Textron Aerostructures. The Nashville plant was purchased, September 1996, by The Carlyle Group, a Washington, DC, investment firm and renamed **The Aerostructures Corporation**. In March 1998, the businesses of Contour Aerospace and The Aerostructures Corporation were merged into a single corporation doing business as The Aerostructures Corporation.

Headquarters

1431 Vultee Boulevard
Nashville, Tennessee 37217

Operating Units

Two machining facilities. Contour Aerospace located in Brea, California, and Contour Washington located in Everett, Washington.

Employees

Total employment of approximately 2200 plus at the Nashville facility. Hourly employees are represented by the International Association of Machinists and Aerospace Workers, Local 735. Contour Aerospace employs approximately 600.

Products

Design and production of complex aerospace structures using metal, advanced metal, and composite technologies with emphasis on wings, wing components, and tail sections. Products in current production are GIV wing; BAe RJ (146) wing components; Airbus 330/340 upper wing skins, mid and outer leading edge, center and mid-rear spars, outer flaps, spoilers, and flap track fairings; Airbus A319/320 wing components; wing detail parts for Boeing Commercial Aircraft; Citation X wing panel assemblies; C-130 empennage; and V-22 Tiltrotor empennage and cargo ramp door.

Customers

Bell Helicopter Textron, The Boeing Company, British Aerospace, Cessna Aircraft Company; DaimlerChrylser Aerospace Airbus, Gulfstream Aerospace Corporation, and Lockheed Martin Aeronautical Systems Company.

DSWM files (1982 -) (- copy ; • note)

• Operation began in 1941

- Final Grading Plan (w/proposed final contours in red) 9/12/1982

- Letter on Arco Landfill Closure (8/4/82)
- copy haz. waste notification form (1982)
- Letter about NES substation in NW corner of landfill (layout plan in SW file); small portion of the area excavated, but the majority of the substation raised by adding fill material, no pilings (thus cap integrity preserved.
- copy pages from emergency plan booklets (locations of storage identified, as well as materials/substances used) 1985, 1986, 1991

• 1981 SW Extraction letter (3/20/81); paint waste extraction sample, chromium close to the 5.0 mg/l max. conc. (@ 4.5 mg/l) further sampling & analysis suggested to verify whether or not the waste material in question is a haz. substance.

(1982 section) Haz Waste Description sheet(s) (no dates) • paint solids (D007) (Cancel solid Nos), 100% solids, leachate toxicity,

5454 — 454 kg (avg. generated monthly), (max) 1364 kg, (ann. avg.) 5454 kg, frequency generated varied, stored 60-90 days (1364 kg), road transported & disposed of

Triangle Resource Ind. (Greenbrier, Tn)

1983 2727 — Chromic acid sludge (D002) (Sludge H2O base) (75% solid tank bottom), corrosivity, 227 kg, 454 kg, 2727, 60-90 (908 kg), TRI

2727 — Sodium hydroxide sludge (D002) (sludge H2O base) 90% solid, corrosivity, 227, 454, 2727, 60-90 days (908 kg), TRI

Spent chromic acid solution (D002) (Liquid/H2O base) 5% solid, corrosivity, 56800 kg, 136360 kg, 681800 kg, 10 days (136360 kg)

Systech Liquid Treatment Corp. (trans & treat.)

2272 — Waste cyanide sludge (F007) (Sludge H2O base) 80% solids poison B, leachate toxicity, 189 kg, 682 kg, 2272 kg, 60-90 days (682 kg) TRI (treat & dispose)

13600 — paint booth sludge (D007) (Sludge H2O base) 50-80% solids (waste flammable liquid Nos), leachate toxicity, 1136 kg, 2272 kg, 13600, 60-90 days (3408 kg), TRI

27300 — Waste paint solvent mixture (D001) (liquid other base) 10-80% solids (waste flammable liquid Nos), ignitability, 2273, 4000, 27300, 60-90 days (6819), TRI

8200 — Spent TCE (F001) (liquid other base) 10% solids (waste TCE), acute toxicity, 680, 1360, 8200, 60-90 days (2040), TRI (variance from classification as a waste in 87, see 1986 section)

Spent sodium hydroxide (D002) solution (liquid H2O base solution) max. 5% solids, corrosivity, 37900, 22700, 455000, 10 days (none?), Systech (Nashville) & Resource Recycling Technologies (madison) transport & treat

• 9/24/82 inspection personnel record keep & notification to local authorities (non-compliance)

- Generator's Waste Material Profile Summary

Recycl

• Avco - manufacturer of aero. struct. components; wastes generated include thinners, solvents & paint sludges; metal finishing process wastes are pumped directly from process tanks into trucks and removed for disposal. Chromic acid and sodium hydroxide are stored temporarily in two open fiberglass lined tanks located outside of one of the process bldgs. These tanks are used because trucks are unable to enter the bldg and empty the process tanks directly.

(1984 section)

Nov. 19, 1984 inspection report: Avco generated 1,000,000 kg of waste in 1983

(1985 section)

- haz waste shipping report
- waste H2O treatment system brief description
- Haz. waste facility description w/ types of permits held

(1986 section)

(add to 1984 section)

• letter requesting variance for classifying TCE recycled for 3 vapor degreasers as a waste 9/29/86; TCE is recycled (distilled & reused); tentative approval 11/3/86 letter, final approval 11/12/87.

• 10/16/86 (1) chrome/sulfuric acid waste stream (ruptured valve) spill 150-200 gallons (L-1011 Bldg. (employee) affecting south gravel lot and adjacent parking lot) 10/13/86 spill of sulfuric acid (e holding pond) and chromic acid, 200-300 gal land, @ Clermont Station, report states no pollutants reached sewer or surface stream 10/20/86 chemical vapors, problem w/sprinkler system and air vent system, Fire dept called and hosed down area, material runoff into or storm sewer another spill 55 gallon drum of caustic material, material entered storm sewer reportedly diverted to sanitary sewer before entering surface H2O.

• 10/31/86 report indicates completion of a new haz. waste temp storage bldg.

(1987 section)

• leak occurred from a storage tank; reportedly contained w/ no threat to public (no other info given on document)

(1988 section) (nothing important)

(1989 section)

- fee audits & notices about failure to pay fees/fined; commission order issued for payment of fees & assessment of late payment penalty 7/13/89

(1990 section ? missing)

(1991 section)

• 1990 offsite shipping report

• 8/1/91 roofing material spill 15 to 20 gallons on the asphalt alleyway to the north of Bldg 25, main constituent of the foam is diphenylmethane diisocyanate (50%)

• 9/11 & 12/91 inspection report indicates Avco produced 5% less haz. waste than the previous 3 yrs.

• 9/29/91 NOV for drum storage/markings contingency plan update etc.

(1992 section)

- classify caustic soda waste as a ~~hazardous waste~~ solid waste, OK material will be reused as an effective substitute by Reynolds Metals

(1993 section)

- Haz waste stream report w/ dates ~~[illegible]~~ most began being used.
- August 2 letter gives add. info about what the co. manufactures (wings, missile)

— 1993 ~~contingency plan~~ Contingency plan (thrust through letter)

~~[illegible]~~ spill, ethylene glycol onto pavement and possibly a small amount into the ~~south~~ NPDES outfall (002).

(1994 section)

Inspection report; no violations

(1995 section)

- new or revised regs, previous variances received are not valid after eff. date must reapply
- based on revised regs, ~~the spent~~ TCE (waste stream #2) did not need variance because it was excluded as a solid waste

(YR. 1996)

- 10/24/96 memo: Tom Yates reports investigating ~~[illegible]~~ reoccurring ~~[illegible]~~ oil spill between buildings 33 and 45 (discrepancy over bldg ~~[illegible]~~ may be # 38, not 45, ~~[illegible]~~ that's involved) (rcvd complaint 9/30/96)

(YR. 1999)

— History & Co. facts document

— Contingency plan (maps, process technical descriptions)

(YR 2001)

- letter about release of hexavalent chromium in the North storm sewer system discharging to outfall D001 is discovered by aero. during routine monitoring, Repeatedly diverted to sanitary sewer, etc. (copy letter)

36.0114
36r #36

TENNESSEE DEPARTMENT OF HEALTH AND ENVIRONMENT

OFFICE CORRESPONDENCE

FROM	TO	DATE
	JGH	8/22
	MRT	8-25

DATE: August 17, 1989

TO: Textron File

FROM: VMS

SUBJECT: OSCO, Inc.
Work at Textron during the time period of 8/12/88 spill

On 8/16/89 I spoke with Jasper Parsons of OSCO to obtain information on their work at Textron during July and August, 1988. During the 1988 spill investigation, Kevin Songer at Textron stated that OSCO had been doing some work at the waste pits. Below is a summary of information provided by Mr. Parsons.

Date of Work	Description
7/29/88	Clean CA5 tank. Furnish labor only, no disposal. Was to be placed in drums furnished by Textron.
8/18 & 19/88	Clean B1 acid pit and dispose of rinse water. Tank is 24 X 24 X 8. Contains chrome and pH of 9.0. Two loads 4,800 gallons and 4,000 gallons.
8/31/89	Sulfuric Acid Sludge - Building 38.
8/30/89	Cleaned paint pit.

VMS/A3049229

FROM	DATE

10

PH-0001
SR 3/77

Metropolitan Clerk's Office
205 Metropolitan Courthouse
Nashville TN 37201-5026
Phone (615) 862-6770
Fax (615) 862-6774
e-mail: metro_clerk@nashville.org
www.nashville.org/mc/

Fax

To: Nashville Room Louise Cox

From: Marilyn Swing

Fax: -5884

Date: 7-7-99

Phone:

Pages: 5

Re: Council Resolution No. 1896 for Vultee

CC:

☐ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

RESOLUTION NO. 1896.

WHEREAS, by Chapter 10 of the Public Acts of 1935 and particularly by Section 18 thereof action by resolution is authorized upon all actions required to be taken in regard to the construction of any public works project within or without the City as provided for in said Chapter 10 of the Public Acts of the Extraordinary Session of 1935, and

WHEREAS, by previous Initial Resolution the City Council of Nashville, Tennessee, has authorized the issuance of One Hundred Thousand ($100,000.00) Dollars of bonds to purchase land and to construct hangars and other necessary incidentals to the operation of an airport, and

WHEREAS, the Aviation Manufacturing Corporation has submitted a proposition to the City of Nashville containing the terms upon which the City of Nashville will lease to said corporation thirty-six acres of the property to be acquired by the City of Nashville adjoining its present airport, which proposition in words and figures is as follows:

To the City of Nashville
Nashville, Tennessee

Aviation Manufacturing Corporation proposes to enter into an Agreement, subject to the approval of the War Department, with the City of Nashville to construct and equip a modern airplane manufacturing plant to be located on a thirty-six acre tract, adjacent to the Nashville Municipal Airport.

Construction of this manufacturing plant, which is to contain approximately 125,000 square feet of floor space, is to commence immediately, and in consideration of

the undertaking of Aviation Manufacturing Corporation so to construct and operate a plant for one of its divisions, the City of Nashville is to agree as follows:

(1) To make available to Aviation Manufacturing Corporation, within four days after the acceptance of this proposal, approximately thirty-six acres of land adjoining the Nashville Municipal Airport, fronting on the Couchville Pike, and known as the "Morgan Property". These thirty-six acres are to be in the shape of an approximately square tract, with a longer side, if any, fronting on the Couchville pike, but with sufficient frontage on the Airport to serve all reasonable purposes of the Company.

The City of Nashville is to lease this land to Aviation Manufacturing Corporation for thirty-five years, at a rental of $500.00 per year, and to grant an option to the corporation, exercisable at any time during the period of the lease, to purchase said land with all improvements thereon, at a price of $410.00 per acre. While the land is owned by the City, subject to said option, both land and all improvements thereon are exempt from all city, county, state and other property taxes. If the Corporation exercises its option, the City is to furnish a merchantable abstract of title, or guarantee policy, andto convey merchantable title to said property to Aviation Manufacturing Corporation, or its nominee, by Warranty Deed.

(2) To grade and level the above site to the level of the adjoining Airport, suitable for the plant to be constructed thereon, at no cost to the Corporation and in a manner to be approved by the Corporation's Engineers, said work as far as factory site is concerned to be completed within thirty days after a firm agreement has been reached between the City and the Corporation with respect to this proposal, and entire thirty-six acre tract is to be graded and leveled in sixty days.

(3) To construct, or have constructed, concrete or macadam roadways, giving convenient access to the factory buildings, and connecting with the main highways in the vicinity of the Airport, and switch or spur tracks of the principal railroads. These new concrete or macadam roadways are to be of sufficient width and strength to take care of all reasonable traffic to and from the Corporations' plant, and heavy enough to carry the load of ten ton trucks; and are to be constructed and maintained without cost to the Corporation, and completed not later than the date of completion of the new factory building.

(4) A taxi strip is to be extended and paved from the North-West runway on the Airport to the new buildings to be located on the factory site, and concrete aprons are to be constructed theron of size and location conforming to the Corporation's plans for its new factory and connected with the runways, all without any cost to the Corporation, the construction to be completed not later than the completion of the Corporation's new factory.

(5) To construct of steel, brick, or smooth concrete block and glass, two new fireproof hangars on the factory site, each of which hangars is to be 100 feet by 125

feet in area, and have a clear over-all height of not less than 25 feet, and doors 125 feet wide on Airport side. The hangars are to have concrete floors, heating equipment connected with the Corporation's own heating plant in its main factory building, and sprinkling systems, and are to conform to the general type of construction of the factory building to be erected by the Corporation, and are to be located on the thirty-six acre factory site, at locations specified by the Corporation, and at no cost to the Corporation. Plans and specifications for said hangars are to be prepared by the City and submitted to the Corporation for approval within fifteen days after the acceptance of this proposal. Construction of the hangars is to be commenced not later than ter days after the approval of the plans by the Corporation, and the hangars are to be completed not later than 120 days thereafter. Upon completion of the hangars, the Corporation is to have the exclusive right to use said hangars during the term of its lease, and thereafter if it purchases said land.

(6) To provide without cost to the Corporation City watermains connecting the factory building and hangar with the City water supply, said watermains, at the option of the Corporation, to be either 6" or 8" size. Temporary water service is to be ready within ten days; and permanent water mains completed within sixty days after the acceptance of this proposal, and water is thereafter to be supplied by the City to the corporation at its regularly established rates to other customers using water in comparable quantities, and said rates are not to be loaded in order to absorb the cost of said watermains. Water pressure at the Corporation's properties is to be maintained sufficient to meet all reasonable requirements, and furnish protection against fire hazards.

(7) To Maintain at the City's expense the Nashville Municipal Airport, its landing field, runways and all equipment and appurtenances in proper and safe condition for use as a public airport, and to grant to the Corporation the unrestricted right to use the same and all facilities in connection therewith for the business of the Corporation, and for all purposes other than the operation of aircraft for hire or reward, free of any operating or maintenance costs, or other charges of any kind or nature whatsoever, subject to the rules and regulations of the Civil Aeronautics Authority, or other Government authority now in force, or hereafter promulgated. The Corporation is to have free access to and egress from said landing field and runways at all times, and no City or Municipal taxes or impositions of any kind or nature whatsoever are to be levied on the Corporation in connection with its use of said Airport, or the facilities thereof, or in connection with the purchase of any property or supplies used by the Corporation in and about said Airport, except gasoline inspection tax at present rates which Corporation agrees to pay. The rights to be vested in the Corporation are to extend to the Corporation in perpetuity, and to its invitees, successors and assigns, and any future owner or lessees of the thirt -six acre tract and the buildings erected thereon; provided, said site and airplane factory are actively used for the manufacture of aircraft and related products.

(8) To arrange for the extension of power lines and installation of transformers in the Corporation's factory and in the hangars to be located on said factory site, without

expense to the Corporation. Temporary power is to be made available at the factory site within ten days after the acceptance of this proposal, and the permanent power installations completed not later than the date of the completion of the Corporation's new factory. The City undertakes that power will be supplied to the Corporation under an appropriate agreement at rates conforming to regular industrial rates in Nashville, without added or special charges intended to cover the cost of the extension of the power lines to the Corporation's factories, or for any other special reasons; and further guarantees that the industrial rates will not be increased for a period of five years from the acceptance of this proposal.

(9) To obtain firm commitments from the officials of the two railroads, whose rights-of-way run nearest the proposed factory site, that if desired by the Corporation, they will construct spur tracks to the Corporation's property, under terms and conditions prescribed by the Interstate Commerce Commission, any part of the cost of the same imposed upon the Corporation to be refunded by the railroads, at the rate of $2.00 for each car of freight moved over said spur tracks.

(10) To foster regular courses of instruction in the vocational schools in Nashville and vicinity for the training of workers in the various trades engaged in the airplane manufacturing operations.

(11) To make available to the Corporation, the facilities of the Municipal Fire Department and Police Department, when required for the protection of the Corporation's property.

(12) To permit the Corporation to have free use of any vacant or available space in the hangars owned by the City and now located on the Nashville Municipal Airport, until such time as the new hangars to be constructed on the thirty-six acre tract are completed.

The foregoing proposal of the Aviation Manufacturing Corporation is subject to acceptance by the City of Nashville within two days from this date, and when so accepted by the Mayor and Board of Public Works pursuant to resolution by the City Council of Nashville shall constitute a binding contract between Aviation Manufacturing Corporation and the City of Nashville, in accordance with the terms and conditions hereinabove set forth.

Dated at Nashville, Tennessee, October 4, 1929.

AVIATION MANUFACTURING CORPORATION

By Harold Kondolf (Signed)
Vice President

and

WHEREAS, said proposition has been approved by the Mayor and Board of Public Works as evidenced by the resolution of the Board of Public Works embodied herein approving in full said proposed offer of the Aviation Manufacturing Corporation, now, therefore,

BE IT RESOLVED BY THE MAYOR AND CITY COUNCIL OF NASHVILLE:

SECTION 1. That this proposition of the Aviation Manufacturing Corporation be and the same is hereby accepted and when approved by the Mayor and Board of Public Works, the same shall constitute a binding contract between the City of Nashville and the Aviation Manufacturing Corporation.

SECTION 2. That the Mayor and Board of Public Works are authorized to execute any other papers and do any other things necessary or required to carry into effect the agreements and purposes of this contract.

SECTION 3. Be it further resolved, that this resolution take effect from and after its adoption, the welfare of the City of Nashville requiring it.

ATTEST:

City Clerk

Introduced and adopted October 4, 1939

Approved October 5, 1939, Thos. L. Cummings, Mayor

the welfare of the City requiring it.

NASHVILLE BANNER

by the State of Tennessee or any county or municipality thereof.

In witness whereof, the Mayor of the City of Nashville and the Treasurer of said City have signed this bond and the seal of the City has been affixed thereto, attested by the City Clerk of the said City, and the interest coupons hereto attached have been signed with the facsimile signatures of said Mayor and said City Treasurer, this the —— day of —————— 1939.

Resolution Authorizing Contract for Plane Plant

City Council Resolution No. 1896 authorizing the Mayor and Board of Public Works to execute contract for the City, with the Aviation Manufacturing Corporation follows:

Whereas, by Chapter 10 of the Public Acts of 1935 and particularly by Section 18 thereof, action by resolution is authorized upon all actions required to be taken in regard to the construction of any public works project within or without the City as provided for in said Chapter 10 of the Public Acts of the Extraordinary Session of 1935, and

Whereas, by previous Initial Resolution the City Council of Nashville, Tennessee, has authorized the issuance of One Hundred Thousand ($100,000.00) Dollars of bonds to purchase land and to construct hangars and other necessary incidentals to the operation of an airport, and

Whereas, the Aviation Manufacturing Corporation has submitted [illegible] of Nashville [illegible] terms upon which the City of Nashville will lease to said corporation thirty-six acres of the property to be acquired by the City of Nashville adjoining its present airport, which proposition in words and figures is as follows:

To the
City of Nashville,
Nashville, Tennessee.

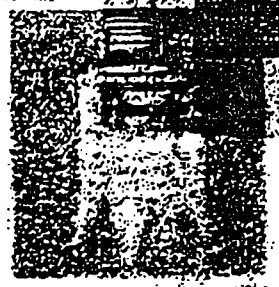
Aviation Manufacturing Corporation proposes to enter into an Agreement, subject to the approval of the War Department, with the City of Nashville to construct and equip a modern airplane manufacturing plant to be located on a thirty-six acre tract, adjacent to the Nashville Municipal Airport.

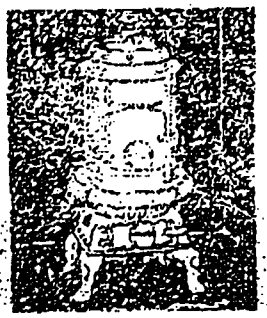
Construction of this manufacturing plant, which is to contain approximately 125,000 square feet of floor space, is to commence immediately, and in consideration of the undertaking of Aviation Manufacturing Corporation so to construct and operate a plant for one of its divisions, the City of Nashville is to agree as follows:

1. To make available to Aviation Manufacturing Corporation, within four days after the acceptance of this approval, approximately thirty-six acres of land adjoining the Nashville Municipal Airport, fronting on the Couchville Pike, and known as the "Morgan Property." These thirty-six acres are to be in the shape of an approximately square tract, with a longer side, if any, fronting on the Couchville Pike, but with sufficient frontage on the Airport to serve all reasonable purposes of the Company.

The City of Nashville is to lease this land to Aviation Manufacturing Corporation for thirty-five years, at a rental of $500 per year, and to grant an option to the corporation, exercisable at any time during the period of the lease, to purchase said land with all improvements thereon, at a price of $410 per acre. While the land is owned by the City, subject to said option, both land and all improvements thereon are exempt from all city, county, state and other property taxes. If the corporation exercises its option, the City is to furnish a merchantable abstract of title, or guarantee policy, and to convey merchantable title to said property to Aviation Manufacturing Corporation, or its nominee, by warranty deed.

2. To grade and level the above site to the level of the adjoining airport, suitable for the plant to be constructed thereon, at no cost to the corporation and in a manner to be approved by the corporation's engineers, said work as far as factory site is concerned to be completed within thirty days after a firm agreement has been [illegible]





METROPOLITAN ... DAVIDSON COUNTY ARCHIVES

21

1939

3. To construct, [illegible] concrete or macadam roadways, [illegible] to the factory [illegible] and [illegible] main highways in the vicinity of the airport, and switch or spur tracks of the principal railroads. These new concrete or macadam roadways are to be of sufficient width and strength to take care of all reasonable traffic to and from the corporation's plant, and heavy enough to carry the load of ten-ton trucks; and are to be constructed and maintained without cost to the corporation, and completed not later than the date of completion of the new factory building.

4. Taxi strip is to be extended and paved from the East-West runway on the airport to the new buildings to be located on the factory site, and concrete aprons are to be constructed thereon of size and location conforming to the corporation's plans for its new factory and connected with the runways, all without any cost to the corporation, the construction to be completed not later than the completion of the corporation's new factory.

5. To construct of steel, brick, or smooth concrete block and glass, two new fireproof hangars on the factory site, each of which hangars is to be 100 feet by 125 feet in area, and have a clear over-all height of not less than twenty-five feet, and doors 125 feet wide on Airport side. The hangars are to have concrete floors, heating equipment connected with the corporation's own heating plant in its main factory building, and sprinkling systems, and are to conform to the general type of construction of the factory building to be erected by the corporation, and are to be located on the thirty-six-acre factory site, at locations specified by the corporation, and at no cost to the corporation. Plans and specifications for said hangars are to be prepared by the City and submitted to the corporation for approval within fifteen days after the acceptance of this proposal. Construction of the hangars is to be commenced not later than ten days after the approval of the plans by the corporation, and the hangars are to be completed not later than 120 days thereafter. Upon completion of the hangars, the corporation is to have the exclusive right to use said hangars during the term of its lease, and thereafter if it purchases said land.

6. To provide without cost to the corporation city watermains connecting the factory building and hangar with the city water supply, said watermains, at the option of the corporation, to be either 6-inch or 8-inch size. Temporary water service is to be ready within ten days; and permanent watermains completed within sixty days after the acceptance of this proposal, and water is thereafter to be supplied by the City to the corporation at its regularly established rates to other customers using water in comparable quantities, and said rates are not to be loaded in order to absorb the cost of said watermains. Water pressure at the corporation's properties is to be maintained sufficient to meet all reasonable requirements and furnish protection against fire hazards.

7. To maintain at the City's expense the Nashville Municipal Airport, its landing fields, runways and all equipment and appurtenances in proper and safe condition for use as a public airport, and to grant to the corporation the unrestricted right to use the same and all facilities in connection therewith for the business of the corporation, and for all purposes other than the operation of aircraft for hire or reward, free of any operating or maintenance costs, or other charges of any kind or nature whatsoever, subject to the rules and regulations of the Civil Aeronautics Authority, or other government authority now in force, or hereafter promulgated. The corporation is to have free access to and egress from said landing field and runways at all times, and no city or municipal taxes or impositions of any kind or nature whatsoever are to be levied on the corporation in connection with its use of said airport, or the facilities thereof, or in connection with the purchase of any property or supplies used by the corporation in and about said airport, except gasoline inspection tax at present rates which corporation agrees to pay. The rights to be vested in the corporation are to extend to the corporation in perpetuity, and to its invitees, successors and assigns, and any future owner or lessees of the thirty-six-acre tract and the buildings erected thereon; provided, said site and airplane factory are actively used for the manufacture of aircraft and related products.

8. To arrange for the extension of power lines and installation of transformers in the corporation's factory and in the hangars to be located on said factory site, without expense to the corporation. Temporary power is to be made available at the factory site within ten days after the acceptance of this proposal, and the permanent power installations completed not later than the date of the completion of the corporation's new factory. The City undertakes that power will be supplied to the corporation under an appropriate agreement at rates conforming to regular industrial rates in Nashville, without added or special charges intended to cover the cost of the extension of the powers lines to the corporation's factories, or for any other special reasons; and further guarantees that the industrial rates will not be increased for a period of five years from the acceptance of this proposal.

9. To obtain firm commitments from the officials of the two railroads, whose rights-of-way run nearest the proposed factory site, that if desired by the corporation, they will construct spur tracks on the corporation's property, under terms and conditions prescribed by the Interstate Commerce Commission, any part of the cost of the same imposed upon the corporation to be refunded by the railroads at the rate of $2 for each car of freight moved over said spur tracks [illegible]

10. [illegible] Nashville [illegible] stability [illegible] various [illegible]

[illegible] protection of the [illegible] property.

12. To permit the corporation to have free use of any vacant or available space in the hangars owned by the City and now located on the Nashville Municipal Airport, until such time as the new hangars to be constructed on the thirty-six-acre tract are completed.

The foregoing proposal of the Aviation Manufacturing Corporation is subject to acceptance by the City of Nashville within two days from this date, and when so accepted by the Mayor and Board of Public Works pursuant to resolution by the City Council of Nashville, shall constitute a binding contract between Aviation Manufacturing Corporation and the City of Nashville, in accordance with the terms and conditions hereinabove set forth.

Dated at Nashville, Tenn., October 4, 1939.

AVIATION MANUFACTURING CORPORATION,
By Harold Kondolf,
Vice-President.

and

Whereas, said proposition has been approved by the Mayor and Board of Public Works as evidenced by the resolution of the Board of Public Works embodied herein approving in full said proposed offer of the Aviation Manufacturing Corporation, now therefore,

Be it resolved by the Mayor and City Council of Nashville:

Section 1. That this proposition of the Aviation Manufacturing Corporation be and the same is hereby accepted and when approved by the Mayor and Board of Public Works, the same shall constitute a binding contract between the City of Nashville and the Aviation Manufacturing Corporation.

Section 2. That the Mayor and Board of Public Works are authorized to execute any other papers and do any other things necessary or required to carry into effect the agreements and purposes of this contract.

Section 3. Be it further resolved, that this resolution take effect from and after its adoption, the welfare of [illegible] requiring it.

[illegible] Council

METROPOLITAN NASHVILLE - DAVIDSON COUNTY ARCHIVES

Bonds for Plant Site Authorized

City Council resolution No. 1891 authorizing $100,000 bond issue to finance City's purchase of ground for airplane factory follows:

Initial Resolution for the purpose of the issuance of bonds in the sum of One Hundred Thousand ($100,000.00) Dollars to secure the purchase of ninety-six acres of ground in the Second Civil District known as the Calvin Morgan Property, for the purpose of extension to the airport grounds adjoining the Municipal Airport.

Whereas, the Aviation Manufacturing Corporation of New York, a concern engaged in the manufacture of airplanes upon a large scale, desires to locate a plant in Nashville, which will employ a great number of men and will produce a large number of planes, and

Whereas, it is necessary, to induce said corporation to locate in the City of Nashville, that there be leased to said corporation property adjoining the property of the City of Nashville at its Municipal Airport, and

Whereas, there is available for such purpose ninety-six acres south of the Couchville Pike and west of the property recently purchased by the City of Nashville from Mrs. Dempsey Weaver, which said property so available is more particularly described as follows:

Bounded on the north by the Couchville Pike, on the west by the property formerly known as the Colley estate, and deeded to the City of Nashville on the ..... day of [illegible] 1939, by Mrs. Dempsey Weaver, which deed is of record in Book ..... Page ..... in R. O. of R. C. [illegible] on the south by the [illegible] Pike, and on the east by the property of ..... Smith, containing in all 96 acres, more or less, and

Whereas, said Aviation Manufacturing Corporation will only require a part of this property and the remainder may be used by the City of Nashville for necessary extension of said airport, and

Whereas, an option for said property has been executed and lodged with the Mayor and Board of Public Works to sell to the City of Nashville the said ninety-six acres for the sum of thirty-nine thousand ($39,000) dollars.

Whereas, said sum is the lowest price for which said land can be obtained and the same is worth said sum for the purposes contemplated, now, therefore, under and by authority of Chapter 10 of the Private Acts of the First Extra Session of 1926, as an initial resolution therein provided for,

Be it resolved by the Mayor and City Council of Nashville:

Section 1. That there be issued bonds for financing the purchase of said property, the erection of two hangars, and the extension of runways and water pipes at the Municipal Airport, in the aggregate sum of one hundred thousand ($100,000) dollars.

The maturity of said bonds shall be as follows:

$5,000.00 in 1940	$5,000.00 in 1950
$5,000.00 in 1941	$5,000.00 in 1951
$5,000.00 in 1942	$5,000.00 in 1952
$5,000.00 in 1943	$5,000.00 in 1953
$5,000.00 in 1944	$5,000.00 in 1954
$5,000.00 in 1945	$5,000.00 in 1955
$5,000.00 in 1946	$5,000.00 in 1956
$5,000.00 in 1947	$5,000.00 in 1957
$5,000.00 in 1948	$5,000.00 in 1958
$5,000.00 in 1949	$5,000.00 in 1959

Each of said bonds shall bear the date of October 15, 1939, and shall bear interest at a rate not to exceed 4 per cent per annum, payable annually on the first day of January each year.

Said bonds shall be sold in such manner and for such prices as the Mayor and City Council of Nashville may determine [illegible] less than par, nor shall they be sold other than to the Sinking Fund of the City of Nashville unless and until they shall be first advertised at least once in some newspaper of general circulation in Nashville, Tenn., said advertisement to be published at least five days before the sale of said bonds.

The proceeds of the sale of said bonds, when issued and sold as determined hereafter by the Mayor and City Council of Nashville, shall be paid into the Treasury of the City of Nashville to the credit of a fund to be designated as "Airport Extension Bonds of 1939" and shall be used exclusively for the purposes above recited.

Said bonds shall be the absolute, direct and general obligations of the City of Nashville, Tenn.

The principal and interest of any of said bonds falling due before the proceeds of the first special tax levy becomes available, shall be paid from the ordinary fund of the City of Nashville, and in each year during the life of said bonds, the Mayor and City Council of Nashville may include in the annual tax levy [illegible] all other [illegible] City levy, a special tax levy sufficient to meet bond [illegible] year [illegible] sufficient [illegible] the ordinary fund [illegible] appropriation made therefrom for the payment of any such interest and principal.

Said bonds shall mature in the order of their numbers on the first day of January of each year.

Section 2. Be it further resolved, that said bonds shall be signed by the Mayor and City Treasurer, and the corporate seal of the City of Nashville shall be affixed thereto, attested by the City Clerk, and the said interest coupons shall be signed by the Mayor and the said City Treasurer, whose signatures upon said coupons may be facsimiles of the originals. Said bonds and coupons shall be substantially [illegible]

UNITED STATES OF AMERICA
[illegible] OF TENNESSEE
CITY OF NASHVILLE
Airport Extension Bonds of 1939
No. [illegible] $1,000.00

The City of Nashville, a municipal corporation organized and existing under the laws of the State of Tennessee, for value received, hereby acknowledges itself indebted and promises to pay to the bearer, or if registered, to the registered holder thereof, the sum of

ONE THOUSAND DOLLARS

in lawful money of the United States, on the first day of January, 19—, with interest thereon at the rate of —— per centum per annum, payable annually on the first day of January in each year until this bond is paid, upon presentation and surrender of the annexed coupons as they severally fall due, both principal and interest being payable at the office of the City Treasurer in Nashville, Tenn.

This bond is issued under and in pursuance of and in strict conformity with the Constitution of the State of Tennessee, the Charter of the City of Nashville, the same being Chapter 125 of the Private Acts of 1935, First Extraordinary Session of the Legislature of the State of Tennessee.

Any of said bonds subject to call after January 1, 1943, at any interest date.

Any excess over the purchase price and the cost of issuance of said bonds shall be paid into the General Fund of the City of Nashville.

It is hereby certified, recited and declared that all acts, conditions and things required to be done, exist and be performed, precedent to and in the issuance of this bond in order to make this bond a legal, valid and binding obligation of the City of Nashville, have been done, existed and been performed, in regular and due time, form and manner, as required by law; that provision has been made by law and ordinance for the levy and collection of a direct annual tax upon all taxable property within said City sufficient to pay the principal and interest hereof as the same shall fall due; and that the indebtedness represented by this bond, together with all other indebtedness of said City, does not exceed any limit prescribed by the constitution or statutes of said State or the Charter of said City. The full faith and credit of the City of Nashville are hereby pledged to the prompt payment of principal and interest of this bond as the same shall become due.

METROPOLITAN NASHVILLE - DAVIDSON COUNTY ARCHIVES

Nashville Business Journal

LATEST NEWS

July 2, 2003

Vought completes Aerostructures purchase

Vought Aircraft Industries Inc. has completed its purchase of The Aerostructures Corp. of Nashville, creating a single company with $1.4 billion in annual revenue and more than 6,000 employees.

Both companies are owned by the Carlyle Group, a Washington, D.C., investment firm that focuses on aerospace and defense, automotive, energy, health care and information technology. Aerostructures Chairman Ed Ewing also owned part of Aerostructures.

Following the purchase, Aerostructures is operating as a wholly owned subsidiary of Dallas-based Vought.

"The completion of this sales agreement marks the official beginning of our combined entity," says Vought President and CEO Tom Risley. "We'll now move forward to leverage the complementary skills and strengths of our two companies."

© 2003 American City Business Journals Inc.

→Web reprint information

All contents of this site © American City Business Journals Inc. All rights reserved.

Nashville Business Journal - May 14, 2003
http://nashville.bizjournals.com/nashville/stories/2003/05/12/daily19.html

Nashville Business Journal

LATEST NEWS

May 14, 2003

Aerostructures to merge with Dallas firm

After two years of slumping sales amid the hurting aerospace sector, the Aerostructures Corp. of Nashville has agreed to merge with a larger aircraft component supplier based in Dallas.

Aerostructures, the area's 10th largest privately held company with revenue of more than $300 million, is expected to be acquired by Vought Aircraft Industries Inc. by July 1. Both companies are owned by the Carlyle Group, a Washington, D.C., investment firm that focuses on aerospace and defense, automotive, energy, health care and information technology. Aerostructures Chairman Ed Ewing also owns part of Aerostructures.

Financial terms of the agreement haven't been disclosed. The combined company will operate as Vought.

"Our largest customer is Boeing and their largest is Airbus, so I think this is complementary and this is a way for both of us to broaden our customer base," says Lynne Warne, a Vought spokeswoman.

A transition team that includes Aerostructures Vice President and Chief Financial Officer Diane Lockhart has been created to evaluate what form the combination of businesses will take.

Vought President and CEO Tom Risely said the transition team would share information about plans to integrate, Warne says. "He thinks each of our various sites around the country are going to continue to follow their various business plans for the current year," she says.

In Nashville, Aerostructures has trimmed its employee base to roughly 1,100 workers at its Vultee Boulevard site. That's down from 1,380 in February 2002 and 1,656 in 2001. At its manufacturing sites in Brea, Calif., and Everett, Wash., the company employs another 300.

In addition to its employee count declining, Aerostructures saw its revenue fall from $413 million in 2000 to $370 million in 2001. For 2002, a company release said it had revenue "exceeding $300 million."

"Our strengths will complement the Vought team," says David Walker, Aerostructures vice president and general manager. "This combination provides synergies that we will be able to leverage in the global marketplace."

Vought provides wings, nacelles, thrust reversers, fuselage subassemblies, empennages and other components. The Texas company has sales of more than $1 billion per year.

With former Secretary of Defense Frank Carlucci as its chairman emeritus, the Carlyle Group investment firm counts former President George Bush, former Secretary of State and Treasury James Baker, former Securities and Exchange Commission Chairman Arthur Levitt and former British Prime Minister John Major among its advisors and officials.

Carlyle Group officials could not be reached to discuss the transaction.

© 2003 American City Business Journals Inc.

→Web reprint information

All contents of this site © American City Business Journals Inc. All rights reserved.

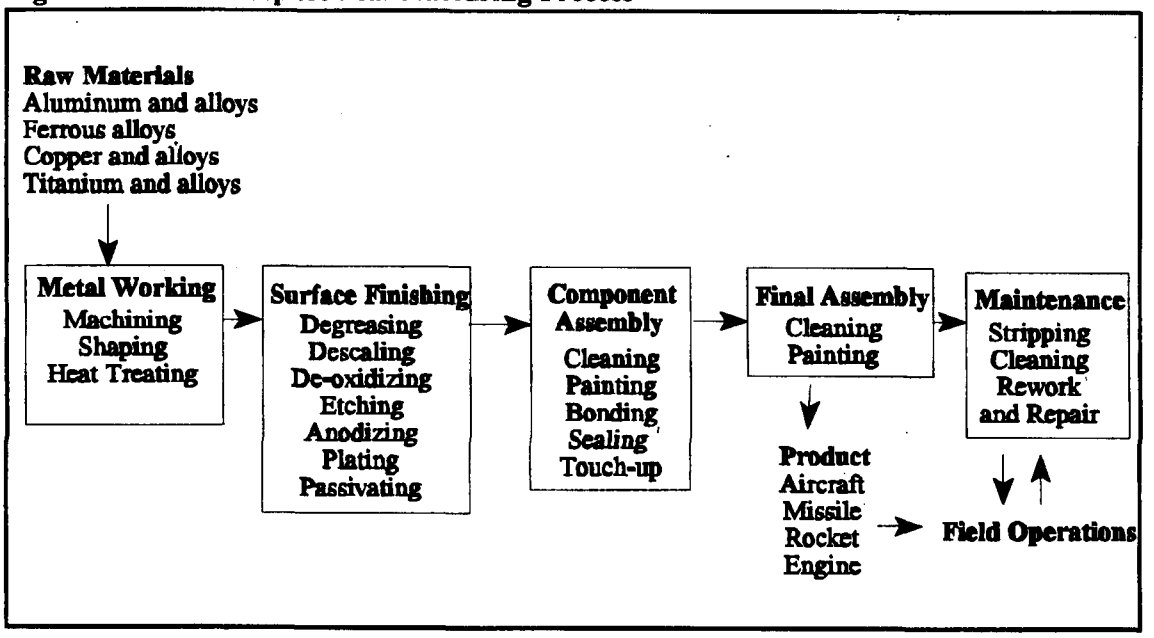
III. INDUSTRIAL PROCESS DESCRIPTION

This section describes the major industrial processes within the aerospace industry, including the materials and equipment used, and the processes employed. The section is designed for those interested in gaining a general understanding of the industry, and for those interested in the inter-relationship between the industrial process and the topics described in subsequent sections of this profile -- pollutant outputs, pollution prevention opportunities, and Federal regulations. This section does not attempt to replicate published engineering information that is available for this industry. Refer to Section IX for a list of resource materials and contacts that are available.

It is important to note that the FAA places very strict "airworthiness" guidelines on manufacturing and rework facilities for safety and quality control purposes, thus new pollution prevention alternatives may require a full evaluation and permitting process before they may be used.

This section contains a description of commonly used production processes, associated raw materials, by-products produced or released, and materials either recycled or transferred off-site. This discussion, coupled with schematic drawings of the identified processes, provide a concise description of where wastes may be produced in the process. This section also describes the potential fate (via air, water, and soil pathways) of these waste products. Figure 6 shows a general aerospace manufacturing process diagram.

Figure 6: The Aerospace Manufacturing Process



Source: Aerospace Industries Association Newsletter, October 1994.

Table 6: Material Input and Pollutant Outputs

Process	Material Input	Air Emissions	Wastewater	Solid/Hazardous/ Residual Wastes
Metal Shaping	Cutting oils, degreasing and cleaning solvents, acids, metals	Solvent wastes (e.g., 1,1,1-trichloroethane, acetone, xylene, toluene, etc.)	Acid/alkaline wastes (e.g., hydrochloric, sulfuric, and nitric acids), waste coolant water with oils, grease, and metals	Scrap metal, waste solvents
Grinding/ Polishing	Metals, abrasive materials, machining oils	Metal shavings/ particulates, dust from abrasive materials	Wastewaters with oil, grease, and metal from machining	Abrasive waste (e.g., aluminum oxide, silica, metal), metal shavings, dust
Plating	Acid/alkaline solutions, metal bearing and cyanide bearing solutions	Volatized solvents and cleaners	Waste rinse water containing acids/alkalines cyanides, and solvents	Metal wastes, solvent wastes, filter sludges (silica, carbides) wasted plating material (copper, chromium, and cadmium)
Painting	Solvent based or water based paints	Paint overspray, solvents	Cleaning water containing paint and stripping solutions	Waste paint, empty containers, spent paint application equipment
Cleaning, depainting, and vapor degreasing	Acid/alkaline cleaners and solvents	Solvent wastes, acid aerosols, paint chips and particulates	Wastewater containing acids/alkalines, spent solvents	Spent solvents, paint/solvent sludges, equipment and abrasive materials, paint chips

Source: *Pollution Prevention Assessment for a Manufacturer of Aircraft Landing Gear*, EPA, August 1995 and *Guides to Pollution Prevention, The Fabricated Metal Products Industry*, EPA, July 1990.

FACILITY REPORT (RCRIS DATA)

search used- Handler Name: ALL
City : NASHVILLE
State : TN
EPA ID : TND004042057
Violations : Handlers with and without violations
Handler Type: All Generators
All Treatment/Storage/Disposal facilities
Transporters
Level of Detail: LOW

This search was taken from RTK NET's (the Right-To-Know Network)'s copy of EPA's RCRIS database. RTK NET is run by OMB Watch at 1742 Connecticut Ave., NW, Washington DC, 20009 - Phone: 202-234-8494
The search was done on 02/10/2003.
This copy of the database was last updated on 03/10/2000.

If you don't see the words *END OF REPORT* at the end of your search, then your Web search didn't complete -- back up and try it again.

Results:

Handler Name : THE AEROSTRUCTURES CORPORATION
Street : #1431 VULTEE BOULEVARD
City : NASHVILLE State: TN Zip: 37217
County : DAVIDSON Handler ID: TND004042057
Mailing Addr.: 1434 VULTEE BOULEVARD
Mailing City : NASHVILLE State: TN Zip: 37217
SIC Code(s) : 3728 3769
1st Contact : L LEE Phone: 6153612193 Title: W SENIOR PLANT
1st Current Owner: TA ACQUISTION HOLDINGS INC Phone: 6153612000
Owner Street : #1431 VULTEE BOULEVARD
Owner City : NASHVILLE State: TN Zip: 37217
1st Operator : DAVID P JARRETT Phone: 6153612000
Operator Street : #1431 VULTEE BOULEVARD
Operator City : NASHVILLE State: TN Zip: 37217
Generator Status : Large Quantity Generator (LQG)
TSD Status : None
Type of Land Disposal: PRIVATE
Latitude: 3609300 Longitude: 08647060
Number of permits : 0 Number of recorded violations to date: 1
Number of penalties: 0 Total Dollars: $0
Enforcement actions to date: 1
First date information received for handler: 08/18/1980 Last date: 02/28/1997

END OF REPORT

File Date: 06/01/1982 Conclusion Date: 08/02/1982
Defendant: L & N RAILROAD
Law(s): CWA 301
First Facility (in alphabetical order): LOUISVILLE & NASHVILLE RR
  Address: 1250 LOUISVILLE ST
           MONTGOMERY, AL 36104
(There were 11 other facilities; use a HIGH detail search to list them.)
Penalty ($): 150,000 Superfund Cost Awarded ($):
Judicial District: NDAL Docket Number: 82-0558-C-B
Result: Consent instrument with penalty

Civil Court Case 04-1980-0023 Case Name: AVCO AEROSTRCTRS DIV
File Date: 05/29/1980 Conclusion Date: 12/15/1980
Defendant: AVCO AEROSTRCTRS DIV
Law(s): CWA 301
Facility: TEXTRON AEROSTRUCTURES INC
  Address: VOULTEE BLVD
            NASHVILLE, TN 37202
Penalty ($): 6,000 Superfund Cost Awarded ($):
Judicial District: MDTN Docket Number: 80-3245
Result: Consent instrument with penalty

Civil Court Case 04-1987-0005 Case Name: AVCO AEROSTRUCTURES - DIV OF T
File Date: 08/06/1987 Conclusion Date: 07/18/1989
Defendant: AVCO AEROSTRUCTURES DIV OF TEXTRON, INC.
Law(s): CAA 110
Violation(s): New Source Performance Standard
Pollutant(s): Volatile organic compound
Facility: TEXTRON AEROSTRUCTURES INC
  Address: VOULTEE BLVD
            NASHVILLE, TN 37202
Penalty ($): 377,777 Superfund Cost Awarded ($):
Judicial District: MDTN Docket Number: 3-87-0631
Result: Consent instrument with penalty

Civil Court Case 04-1994-0182 Case Name: SAAD SITE - ACCESS
File Date: 01/04/1994 Conclusion Date: 05/23/1994
First Defendant (in alphabetical order): SAAD, ELLIS
(There were 1 others; use a HIGH detail search to list them.)
Law(s): CERCLA 104E3
Facility: SAAD JOHN P & SON INC
  Address: 3655 TROUSDALE DR
            NASHVILLE, TN 37204
Penalty ($): 0 Superfund Cost Awarded ($): 0
Judicial District: MDTN Docket Number: 3-94-0014
Result: Litigated no penalty

Administrative Action 04-1994-0285 Case Name: PURITY DAIRIES, INC.
File Date: 03/01/1995 Conclusion Date: 04/13/1995
Defendant: PURITY DAIRIES
Law(s): EPCRA 311 EPCRA 312 EPCRA 313

SEH 1/9
DJE 1/13
DTI 1/13
File

January 8, 2003

Mr. David P. Jarrett
The Aerostructures Corporation
1431 Vultee Boulevard
Nashville, Tennessee 37217

Re: Compliance Evaluation Inspection
The Aerostructures Corporation (TN0001597)
Davidson County

Dear Mr. Jarrett:

On December 6, 2002, I visited The Aerostructures Corporation to verify the installation of pollution control equipment and also conducted a Compliance Evaluation Inspection of the permitted outfalls. The following comments and recommendations are for your consideration:

1. Records of calibration are now being maintained for the various monitoring instruments. The name or initials of the person performing the calibration should be included in the records. Additionally, the checks of the continuous recording pH meter with the portable pH meter should also be recorded.

2. At the time of the inspection outfall 002 was clear. Outfall 001 is still being routed to the Metro sanitary sewer.

3. The closed loop cooling tower and pump and the demister were all in place and operating.

If you have any questions or if I can be of further assistance, please contact me at 615/687-7127 or by e-mail at *Mike.Thornton@state.tn.us*.

Sincerely,

Michael R. Thornton
Division Of Water Pollution Control

cc: WPC - Enforcement and Compliance
EPA - Clean Water Act Enforcement Section

United States Environmental Protection Agency
Washington, D. C. 20460

Water Compliance Inspection Report

Form Approved.
OMB No. 2040-0057
Approval Expires
10-31-95

Section A: National Data Coding (i.e., PCS)

Transaction	Code	NPDES	yr / mo / dy	Inspection Type	Inspector	Facility Type
N	5	TN0001597	021206	C	S	2

Remarks

Inspection Work Days	Facility Self - Monitoring Rating	BI	QA	Reserved
	5	N	N	

Section B: Facility Data

Name and Location of Facility Inspected (*For industrial users discharging to POTW, also include POTW name and NPDES permit number*)
The Aerostructures Corporation
Davidson County

Entry Time / Date:
Exit Time / Date:
Permit Effective Date: 1/1/03
Permit Expiration Date: 3/31/05

Name(s) of Onsite Representative(s) / Title(s) / Phone and Fax Number(s)
David Jarrett, Mgr Facilities & Envir 361-2697

Other Facility Data

Name, Address of Responsible Official / Title / Phone and Fax Number
David Jarrett 361-2697
The Aerostructures Corporation
1431 Vultee Boulevard
Nashville, TN 37217

Contacted: ☒ Yes ☐ No

Section C: Areas Evaluated During Inspection *(Check only those areas evaluated)*

☒ Permit	☒ Flow Measurement	☒ Operation & Maintenance	☐ CSO / SSO (Sewer Overflow)
☒ Records / Reports	☒ Self-monitoring Program	☐ Sludge Handling	☐ Pollution Prevention
☒ Facility Site Review	☐ Compliance Schedule	☐ Pretreatment Program	☐ Multimedia
☒ Effluent / Receiving Waters	☐ Laboratory	☒ Storm Water	☐ Other:

Section D: Summary of Findings / Comments (Attach additional sheets of narrative and checklists as necessary)

- Outfall 002 effluent was clear, no apparent solids; Outfall 001 directed to sanitary sewer
- Calibration records now being kept - need to include initials of person doing calibration
- Keep records of checks of continuous pH meter with portable pH meter

Name (s) and Signature(s) of Inspector(s)	Agency / Office / Phone and Fax Numbers	Date
Michael R. Thornton	Tennessee Division of Water Pollution Control Nashville Environmental Assistance Center 615/687-7127 / 615/687-7078 (FAX)	1/7/03
Signature of Management Q A Reviewer	Agency / Office / Phone and Fax Numbers	Date
	Tennessee Division of Water Pollution Control Nashville Environmental Assistance Center 615/687-7000 / 615/687-7078 (FAX)	1/8/03

STATE OF TENNESSEE

NPDES PERMIT

No. TN0001597

Authorization to discharge under the
National Pollutant Discharge Elimination System (NPDES)

Issued By

Tennessee Department of Environment and Conservation
Division of Water Pollution Control
401 Church Street
6th Floor, L & C Annex
Nashville, Tennessee 37243-1534

Under authority of the Tennessee Water Quality Control Act of 1977 (T.C.A. 69-3-101 et seq.) and the delegation of authority from the United States Environmental Protection Agency under the Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977 (33 U.S.C. 1251, et seq.)

Discharger:	**The Aerostructures Corporation**
is authorized to discharge:	**non-contact cooling water, storm water runoff, and boiler blowdown from Outfalls 001, 002, SW1, and SW2**
from a facility located:	**in Nashville, Davidson County, Tennessee**
to receiving waters named:	**unnamed tributary at mile 1.5 to Mill Creek at mile 4.6 for Outfall 001 and SW1, and Finley Branch at mile 1.3 to Mill Creek at mile 7.2 for Outfall 002 and SW2**

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on:	**January 1, 2003**
This permit shall expire on:	**March 31, 2005**
Issuance date:	**November 27, 2002**

Robert L. Haley III for SAQ

Paul E. Davis, Director
Division of Water Pollution Control

CN-0759

RDAs 2352 and 2366

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The Aerostructures Corporation is authorized to discharge non-contact cooling water, storm water runoff, and boiler blowdown through Outfalls 001 and SW1 to mile 1.5 of unnamed tributary confluent to Mill Creek at mile 4.6, and through Outfall 002 and SW2 to mile 1.3 of Finley Branch to Mill Creek at mile 7.2.

These discharges shall be limited and monitored by the permittee as specified below:

PERMIT LIMITS

The Aerostructures Corporation
Outfalls 001 & 002
Dry Weather Discharges
Non-contact Cooling Water and Boiler Blowdown

EFFLUENT CHARACTERISTIC	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
	MONTHLY		DAILY			
	AVG. CONC. (mg/l)	AVG. AMNT. (lb/day)	MAX. CONC. (mg/l)	MAX. AMNT. (lb/day)	MSRMNT. FRQNCY.	SAMPLE TYPE
FLOW	Report (MGD) *		Report (MGD) *		Continuous	Recorder
pH**	Range 6.0 - 9.0				Continuous	Recorder
TOTAL SUSPENDED SOLIDS (TSS)	30.0	--	40.0	--	2/Month	Composite
OIL & GREASE	--	--	30.0	--	1/Month	Grab
FLOATING MATERIAL, COLOR, FOAM & OIL SHEEN	Report				2/month	Visual
TEMPERATURE, Effluent	Report Effluent Temperature				1/Week	Grab
CHLORINE, TOTAL RESIDUAL (TRC) ***	--	--	0.019	--	1/Week	Grab **
COPPER (T)	0.08	--	0.12	--	2/Month	Composite
IRON (T)	--	--	10.0	--	1/Month	Composite
CHROMIUM (Hexavalent)	0.011	--	0.016	--	1/Quarter	Composite
IC25	Survival, Reproduction, & Growth in 100% Effluent				Semi-annual	****

* Flow shall be reported in Million Gallons per Day (MGD).

** pH and TRC analyses shall be performed within fifteen (15) minutes of sample collection.

*** The acceptable methods for detection of total residual chlorine are any methods specified in 40 CFR Part 136 that reach a detection level allowing accurate evaluation of compliance with the permit limits. The required analytical quantitation level for TRC is the permit limit or 0.05 mg/L, whichever is lower. In cases where there appears to be matrix interferences, and the permit limit is less than 0.05, the permittee may request approval for using 0.05 mg/L as the analytical quantitation level that shall be used for compliance evaluations. A quantitation level other than 0.05 mg/L may be appropriate, but the permittee will not be approved to use it without supporting data for the wastewater in question. A request to use 0.05 mg/L or an alternate compliance evaluation detection level must be submitted to the regional TN Environmental Assistance Center and to the Enforcement and Compliance Section. Use of any detection level higher than the permit limits for evaluating compliance shall not be done without prior approval from the Division.

**** See Part III, D for specific requirements and conditions

APPENDIX 1

FACILITY DISCHARGES AND RECEIVING WATERS

FACILITY DISCHARGES AND RECEIVING WATERS

OUTFALL 001/SW1	
LONGITUDE	LATITUDE
86-41-47	36-07-12

FLOW (MGD)	DISCHARGE SOURCE
0.3670	non-contact cooling water (165 GPM)
	storm water runoff (85 GPM)
	boiler blowdown (5 GPM)
0.3670	TOTAL DISCHARGE

Treatment: Dechlorination

RECEIVING STREAM
DISCHARGE ROUTE
unnamed tributary at mile 1.5 confluent to Mill Creek at mile 4.6

STREAM LOW FLOW (CFS)	7Q10	1Q10	30Q2
	0.0	0.0	0.0
(MGD)	0.0	0.0	0.0

STREAM USE CLASSIFICATIONS (WATER QUALITY)

FISH	RECREATION	IRRIGATION	LW&W	DOMESTIC
X	X	X	X	
INDUSTRIAL	NAVIGATION			

FACILITY DISCHARGES AND RECEIVING WATERS

OUTFALL 002/SW2	
LONGITUDE	LATITUDE
86-41-36	36-07-02

FLOW (MGD)	DISCHARGE SOURCE
0.2100	non-contact cooling water (90 GPM)
	storm water runoff (50 GPM)
	boiler blowdown (5 GPM)
0.2100	TOTAL DISCHARGE

Treatment: Dechlorination, pre-aeration

RECEIVING STREAM
DISCHARGE ROUTE
unnamed tributary at mile 1.3 confluent to Mill Creek at mile 7.2

STREAM LOW FLOW (CFS)	7Q10	1Q10	30Q2
	0.0	0.0	0.0
(MGD)	0.0	0.0	0.0

STREAM USE CLASSIFICATIONS (WATER QUALITY)

FISH	RECREATION	IRRIGATION	LW&W	DOMESTIC
X	X	X	X	
INDUSTRIAL	NAVIGATION			

Please print or type in the unshaded areas only (fill-in areas are spaced for elite type, i.e., 12 char/inch).

Form Approved OMB No. 2040-0086. Approval expires 5-31-92.

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

F TND004042057 D

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all Items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge** to **waters of the U.S.**? (FORM 2A)		X		B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge** to **waters of the U.S.**? (FORM 2B)		X	
C. Is this a facility which currently results in **discharges** to **waters of the U.S.** other than those described in A or B above? (FORM 2C)	X		X	D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge** to **waters of the U.S.**? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)		X		F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X		J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP THE AEROSTRUCTURES CORPORATION

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 JARRETT DAVID ENVIR. MGR.	615 361 2697

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX	B. CITY OR TOWN	C. STATE	D. ZIP CODE
3 1431 VULTEE BLVD.	4 NASHVILLE	TN	37217

Received 5-4-2000

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER	B. COUNTY NAME	C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
5 1431 VULTEE BLVD.	DAVIDSON	6 NASHVILLE	TN	37217	

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

VII. SIC CODES *(4-digit, in order of priority)*

A. FIRST	B. SECOND
3728 (specify) AIRCRAFT PARTS AND AUXILIARY EQUIPMENT	3769 (specify) GUIDED MISSLE AND SPACE VEHICLE PARTS

C. THIRD	D. FOURTH
(specify) NA	(specify)

VIII. OPERATOR INFORMATION

A. NAME: THE AEROSTRUCTURES CORPORATION

B. Is the name listed in Item VIII-A also the owner? ☒ YES ☐ NO

C. STATUS OF OPERATOR *(Enter the appropriate letter into the answer box; if "Other", specify.)*
F = FEDERAL
S = STATE
P = PRIVATE
M = PUBLIC *(other than federal or state)*
O = OTHER *(specify)*

P (specify) NA

D. PHONE *(area code & no.)*: A 615 361 2697

E. STREET OR P.O. BOX: 1431 VULTEE BLVD.

F. CITY OR TOWN: NASHVILLE

G. STATE: TN

H. ZIP CODE: 37217

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☒ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES *(Discharges to Surface Water)*	N	TN0001597	
D. PSD *(Air Emissions from Proposed Sources)*	P	NA	
B. UIC *(Underground Injection of Fluids)*	U	NA	
E. OTHER *(specify)*		CP0005	(specify) METRO NASHVILLE INDUSTRIAL USERS PERMIT
C. RCRA *(Hazardous Wastes)*	R	TND004042057	
E. OTHER *(specify)*		70-0042	(specify) METRO NASHVILLE PAR 70 OPERATING PERMIT (AIR)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS *(provide a brief description)*

SUPPLIER OF AEROSPACE COMPONENTS TO MAJOR AIRCRAFT COMPANIES. PRODUCTS RANGE FROM SINGLE PARTS TO COMPLETE EMPENNAGE, FUSELAGE, AND WING ASSEMBLIES. STRUCTURAL MATERIALS INCLUDE ALUMINUM, STEELS, TITANIUM, GRAPHITE, KEVLAR & FIBERGLASS. OPERATIONS INCLUDE MILLING, MACHINING, GRINDING, FORMING, AUTOCLAVE CURING, CHEMICAL PROCESSING, PAINTING, ASSEMBLY AND RELATED FUNCTIONS.

XIII. CERTIFICATION *(see instructions)*

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

A. NAME & OFFICIAL TITLE *(type or print)*	B. SIGNATURE	C. DATE SIGNED
ELMER W. HILL, VICE PRESIDENT PRODUCTION OPERATIONS	Elmer W. Hill 5/2/00	5/2/00

COMMENTS FOR OFFICIAL USE ONLY

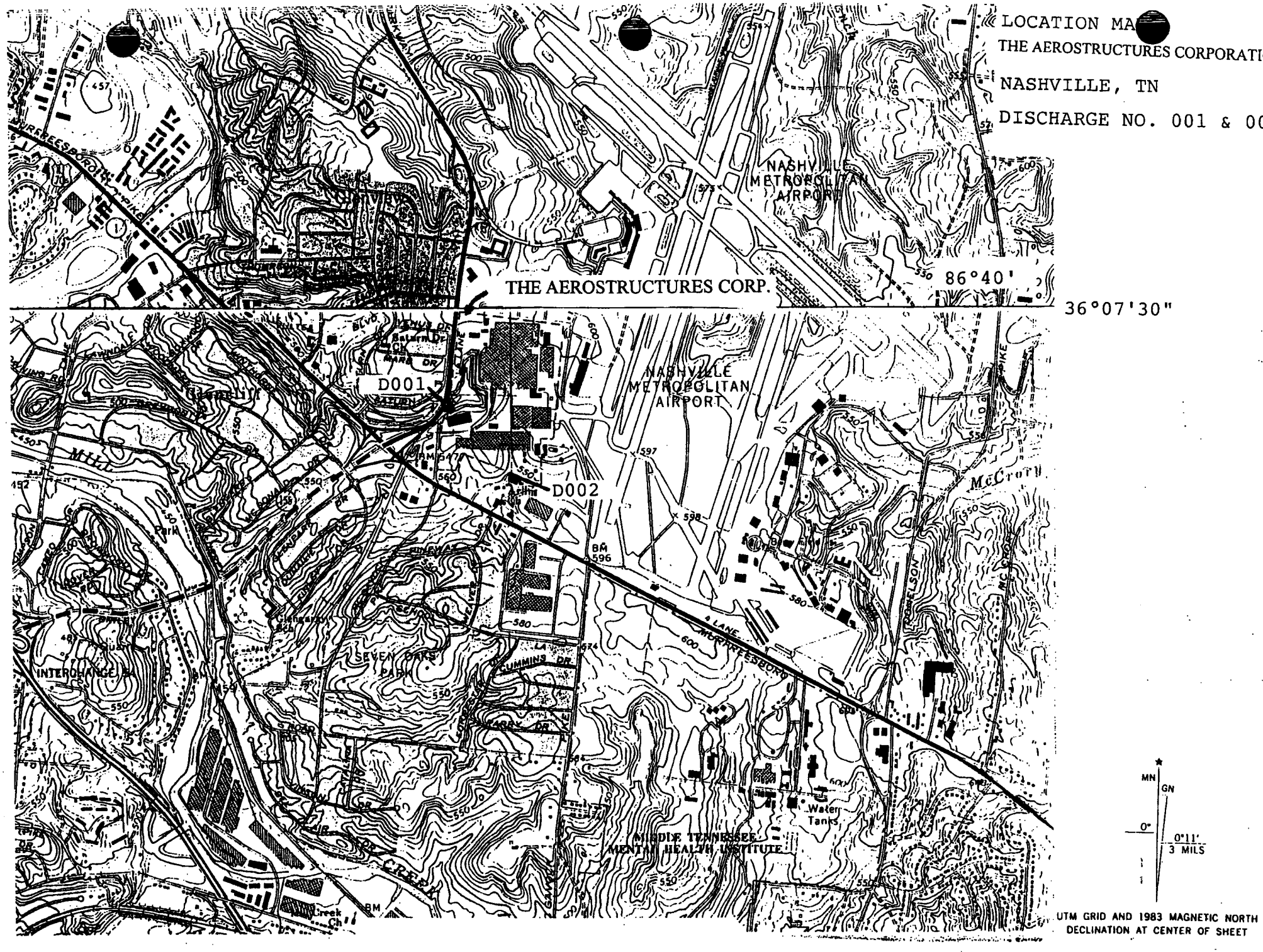
C

LOCATION MAP

THE AEROSTRUCTURES CORPORATION

NASHVILLE, TN

DISCHARGE NO. 001 & 002



From U.S.G.S. Map 311NW & 311SW

Please print or type in the unshaded areas only.

EPA I.D. NUMBER (copy from Item 1 of Form 1) TND004042057

Form Approved
OMB No. 2040-0086
Approval expires 5-31-92

FORM 2C NPDES

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURAL OPERATIONS
Consolidated Permits Program

I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. OUTFALL NUMBER (list)	B. LATITUDE 1. DEG.	2. MIN.	3. SEC.	C. LONGITUDE 1. DEG.	2. MIN.	3. SEC.	D. RECEIVING WATER (name)
001	36	07	12	86	41	47	UNNAMED TRIBUTARY @ MILE 1.5 CONFLUENT TO MILL CRK. @ MILE 4.6
002	36	07	02	86	41	36	UNNAMED TRIBUTARY @ MILE 1.3 CONFLUENT TO MILL CRK @ MILE 7.2

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL NO. (list)	2. OPERATION(S) CONTRIBUTING FLOW a. OPERATION (list)	b. AVERAGE FLOW (include units)	3. TREATMENT a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1	
001	NON CONTACT COOLING WATER	165 GPM	DECHLORINATION	2-E	
	STORM WATER RUNOFF	85 GPM	DISCHARGE TO SURFACE WATER	4-A	
	BOILER BLOWDOWN	5 GPM			
	TOTAL FLOW	255 GPM			
002	NON CONTACT COOLING WATER	90 GPM	DECHLORINATION	2-E	
	STORM WATER RUNOFF	50 GPM	PRE-AERATION	3-E	
	BOILER BLOWDOWN	5 GPM	DISCHARGE TO SURFACE WATER	4-A	
	TOTAL FLOW	145 GPM			

OFFICIAL USE ONLY (effluent guidelines sub-categories)

CONTINUED FROM THE FRONT

C. Except for storm runoff, leaks, or spills, are any of the discharges described in Items II-A or B intermittent or seasonal?

☐ YES *(complete the following table)* ☒ NO *(go to Section III)*

1. OUTFALL NUMBER *(list)*	2. OPERATION(s) CONTRIBUTING FLOW *(list)*	3. FREQUENCY a. DAYS PER WEEK *(specify average)*	3. FREQUENCY b. MONTHS PER YEAR *(specify average)*	4. FLOW a. FLOW RATE *(in mgd)* 1. LONG TERM AVERAGE	4. FLOW a. FLOW RATE *(in mgd)* 2. MAXIMUM DAILY	4. FLOW b. TOTAL VOLUME *(specify with units)* 1. LONG TERM AVERAGE	4. FLOW b. TOTAL VOLUME *(specify with units)* 2. MAXIMUM DAILY	4. FLOW c. DURATION *(in days)*

III. PRODUCTION

A. Does an effluent guideline limitation promulgated by EPA under Section 304 of the Clean Water Act apply to your facility?

☒ YES *(complete Item III-B)* ☐ NO *(to to Section IV)*

B. Are the limitations in the applicable effluent guideline expressed in terms of production *(or other measure of operation)*?

☐ YES *(complete Item III-C)* ☒ NO *(go to Section IV)*

C. If you answered "yes" to Item III-B, list the quantity which represents an actual measurement of your level of production, expressed in the terms and units used in the applicable effluent guideline, and indicate the affected outfalls.

1. AVERAGE DAILY PRODUCTION a. QUANTITY PER DAY	b. UNITS OF MEASURE	c. OPERATION, PRODUCT, MATERIAL, ETC. *(specify)*	2. AFFECTED OUTFALLS *(list outfall numbers)*
NA			

IV. IMPROVEMENTS

A. Are you now required by any Federal, State or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

☐ YES *(complete the following table)* ☒ NO *(go to Item IV-B)*

1. IDENTIFICATION OF CONDITION, AGREEMENT, ETC.	2. AFFECTED OUTFALLS a. No.	2. AFFECTED OUTFALLS b. SOURCE OF DISCHARGE	3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE a. REQUIRED	4. FINAL COMPLIANCE DATE b. PROJECTED
NA					

B. OPTIONAL: You may attach additional sheets describing any additional water pollution control programs *(or other environmental projects which may affect your discharges)* you now have underway or which you plan. Indicate whether each program is now underway or planned, and indicate your actual or planned schedules for construction. ☐ MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED

 CONTINUE ON PAGE 3

CONTINUED FROM PAGE 2

EPA NUMBER (copy from Item 1 of Form 1) IND004042057

V. INTAKE AND EFFLUENT CHARACTERISTICS

A, B, & C: See instructions before proceeding – Complete one set of tables for each outfall – Annotate the outfall number in the space provided.
NOTE: Tables V-A, V-B, and V-C are included on separate sheets numbered V-1 through V-9.

D. Use the space below to list any of the pollutants listed in Table 2c-3 of the instructions, which you know or have reason to believe is discharged or may be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

1. POLLUTANT	2. SOURCE	1. POLLUTANT	2. SOURCE
SEE ATTACHMENTS			

VI. POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

Is any pollutant listed in Item V-C a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

☒ YES *(list all such pollutants below)* ☐ NO *(go to Item VI-B)*

SEE ATTACHMENTS

CONTINUED FROM THE FRONT

VII. BIOLOGICAL TOXICITY TESTING DATA

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☒ YES *(identify the test(s) and describe their purposes below)* ☐ NO *(go to Section VIII)*

IN ACCORDANCE WITH THE CURRENT NPDES PERMIT, ACUTE AND CHRONIC BIOMONITORING IS PERFORMED EVERY SIX MONTHS ON BOTH DISCHARGES, D001 & D002, USING THE TEST SPECIES CERIODAPANIA AND PIMEPHALES PROMELAS,

VIII. CONTRACT ANALYSIS INFORMATION

Were any of the analyses reported in Item V performed by a contract laboratory or consulting firm?

☒ YES *(list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below)* ☐ NO *(go to Section IX)*

A. NAME	B. ADDRESS	C. TELEPHONE (area code & no.)	D. POLLUTANTS ANALYZED (list)
ENVIRONMENTAL SCIENCE CORP.	12065 LEBANON RD. MT. JULIET, TN 37122	615-758-5858	TEMPERATURE CHLORINE OIL & GREASE SUSPENDED SOLIDS COPPER IRON CHROMIUM BOD COD TOC AMMONIA ALUMINUM BIOMONITORING

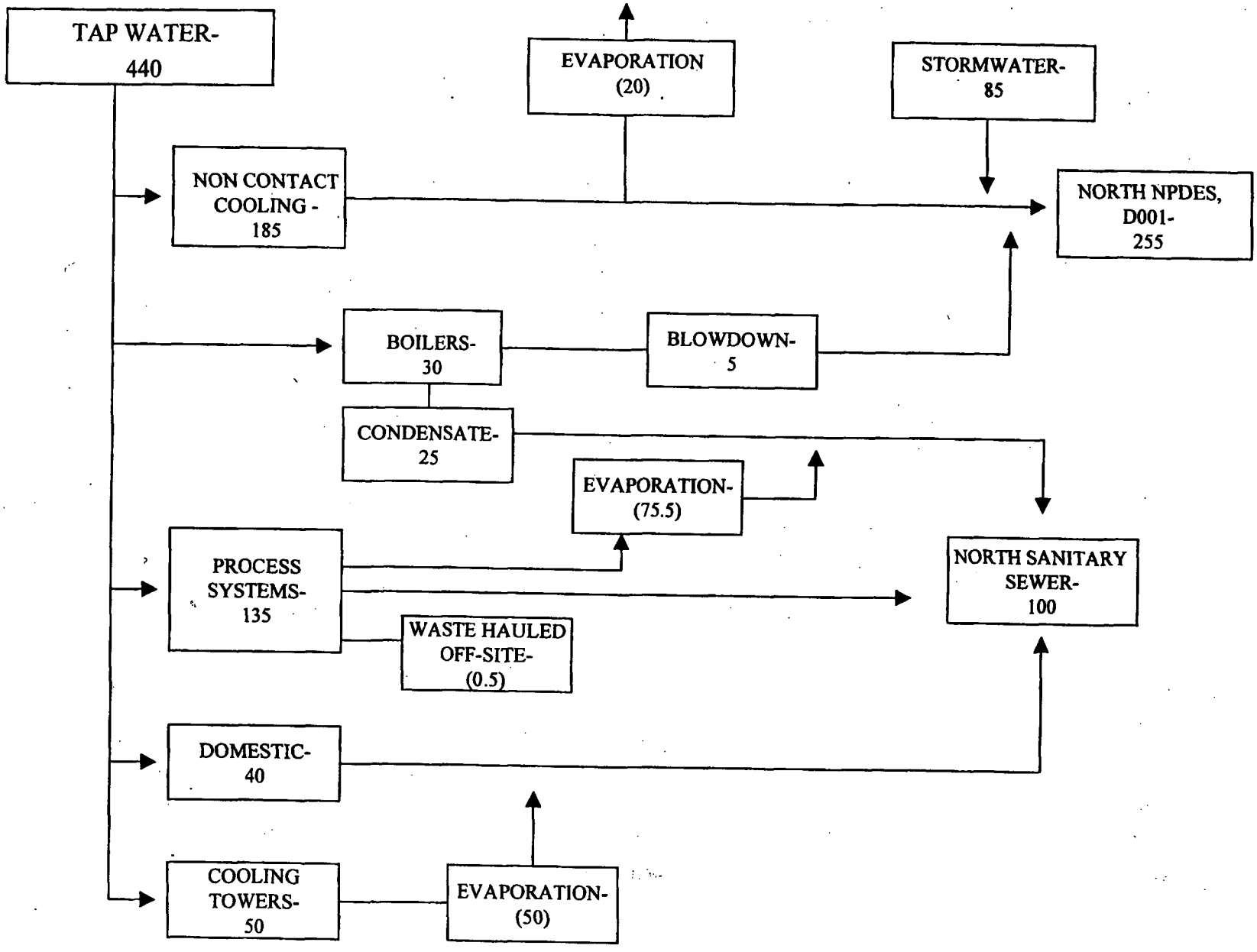
IX. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. NAME & OFFICIAL TITLE (type or print)	B. PHONE NO. (area code & no.)
ELMER W. HILL, VICE PRESIDENT PRODUCTION OPERATIONS	615-361-2335
C. SIGNATURE	**D. DATE SIGNED**
Elmer W. Hill	5/2/00

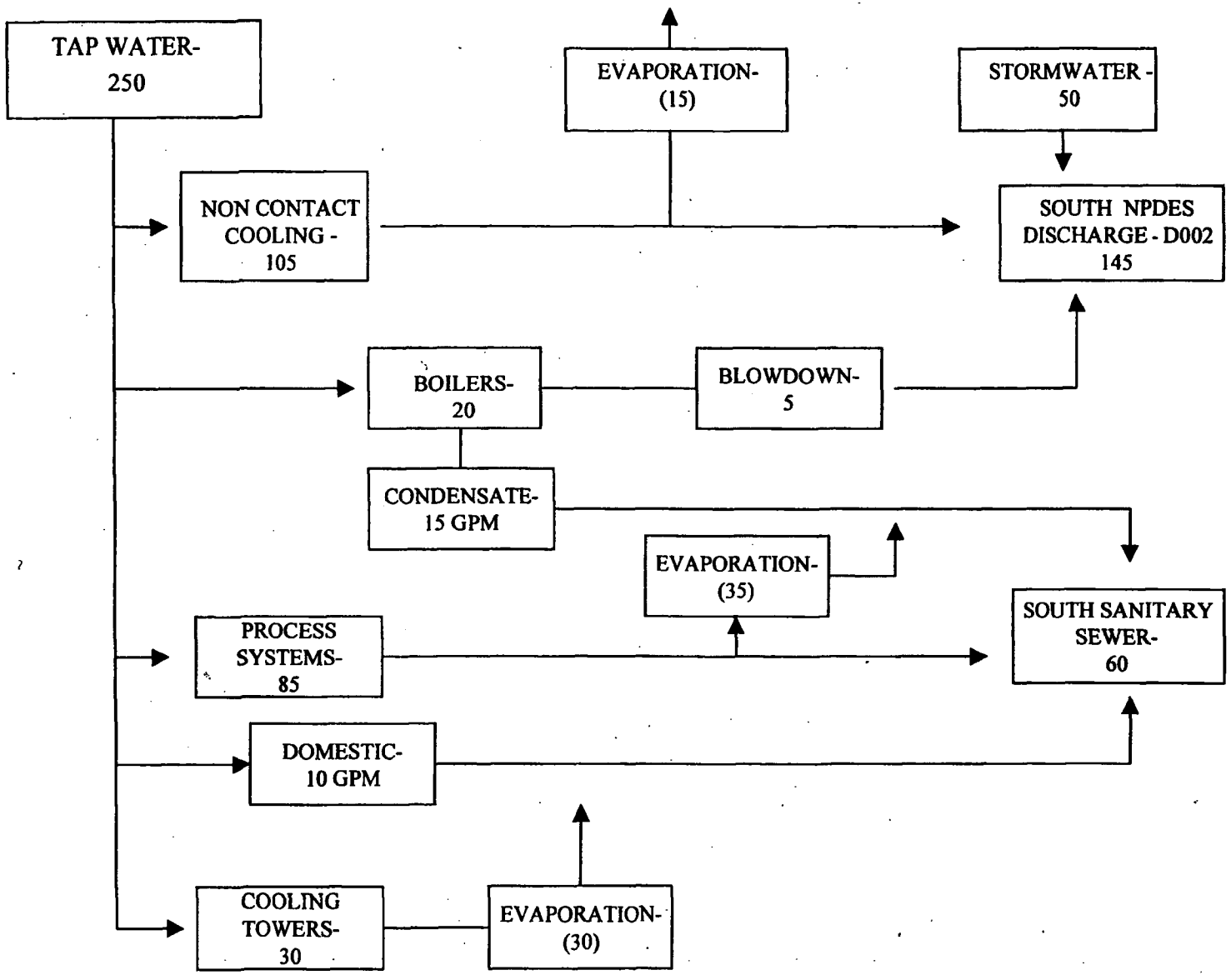
EPA Form 3510-2C (8-90)

WATER BALANCE - NORTH NPDES DISCHARGE, D001
(AVERAGE DAILY FLOW IN GALLONS PER MINUTE)



G:\USER\D336AF\JARRETT\050100.ppt

WATER BALANCE - SOUTH NPDES DISCHARGE, D002
(AVERAGE DAILY FLOW IN GALLONS/MINUTE)



G:\USER\D336AF\JARRETT\050100.ppt

The Aerostructures Corporation
NPDES Permit Renewal
Attachment to V. D.
Priority Pollutants Used Onsite
(From Table 2C-3)

Priority Pollutant	Materials/Chemicals Containing
Asbestos	R+D Activities Only
Aniline #	Adhesive Films (some)
Butyl Acetate * #	Coatings * (some)
Cyclohexane * #	3M Spray Adhesive; Gasoline *
Dichlorvos *	Bee, Wasp, & Hornet Killer * (if sprayed outside)
Dimethylamine *	ChemTreat CL-216 * (boilers)
Diuron #	Adhesive Films (some)
Epichlorohydrin (ECH) #	Epoxy Resins (very small amount, if any)
Ethylenediamine * #	Cadmium Plating Solutions; ChemTreat CL-216 * (boilers)
Formaldehyde #	Coatings (some; trace amount)
Malathion *	Bee, Wasp, & Hornet Killer * (if sprayed outside)
Methyl Methacrylate #	Adhesives (some)
Pyrethrins *	Raid Commercial Insect Killer * (if sprayed outside)
Styrene #	Epoxy Resins (small amounts in composites)
Vanadium Pentoxide #	Tool + Carbon Steels (some)
Xylene * #	Chem Mill Maskant *; Xylene *; Coatings *; Spray Paints; Maintenance Paints; Gasoline *

NOTES:

(1) Dimethylamine and ethylenediamine could be present in boiler blowdown at very low concentrations (less than 10 ppb), if at all.

(2) None of the chemicals are directly discharged but those marked by an asterisk (*) could be present in stormwater runoff or be washed from the atmosphere by rain. Concentrations would be less than 5 ppb, if at all. Chemicals marked by a "#" sign are currently used in the manufacturing process. (See Section VI.)

The Aerostructures Corporation
NPDES Permit Renewal
Attachment to V. D.
Additional Hazardous Substances Used Onsite
(From Table 2C-4)

Hazardous Substance	Materials/Chemicals Containing
Ammonia *	Ammonia (aqueous) *
Ammonium Bichromate (Dichromate)	Ammonium Dichromate
Ammonium Bifluoride	Ammonium Bifluoride
Ammonium Chloride *	Industrial Batteries *; Scott Gentle Lotion Cleanser * (janitorial)
Ammonium Hydroxide *	Videojet Ink * (Graphics – no longer used); Health Care Disinfectant * (janitorial)
Antimony Trioxide	Adhesive Films (some); Lubri-Bond 220 Aerosol (maintenance)
Benzene *	Gasoline *
Calcium Chromate	Coatings (some); Sealants (some)
Chlorine *	Mobil Motor Oils (trace) *; Non-Contact Cooling Water * (residual)
Chromic Acid	Alodine 600/1000/1200/1500; Iridite 8P
Cupric Nitrate *	ChemTreat CL-2150 *
Ethylbenzene	Coatings; Spray Paints; Maintenance Paints *; Xylene; Gasoline *
Ethylene Dichloride	Redux 120 (Bond Shop adhesive)
Hydrochloric Acid	Hydrochloric Acid 20 BE (31.5%)
Hydrofluoric Acid	Hydrofluoric Acid (70%)
Hydrogen Sulfide *	Natural Gas *
Naphthalene *	Gasoline *
Nickel Chloride	Nickel Chloride
Nitric Acid	Nitric Acid (70%)
Phenol	Epoxy Resins; Sealants (some)
Phosphoric Acid	Phosphoric Acid (85%); Turco W.O. #1
Phosphorus	Drill Bits; Brass/Bronze Welding Rods; Bandsaws; Welding Wire
Potassium Bichromate (Dichromate)	Potassium Dichromate; Deoxidizer 7/17
Potassium Hydroxide *	Batteries *; ChemTreat CL-1486 *
Sodium Bichromate (Dichromate)	Sodium Dichromate; Sifco Dalic Solution (chromate conversion coating)
Sodium Bifluoride	Deoxidizer 7/17
Sodium Bisulfite	Sodium Bisulfite (30%)
Sodium Chromate	Turco 5351
Sodium Cyanide	Sodium Cyanide
Sodium Fluoride	Alodine 1200

Hazardous Substance	Materials/Chemicals Containing
Sodium Hydroxide	Caustic Soda (DI Plant); Aluminux; Caustic Soda Beads; Nuvat; Sifco Dalic Solution (chromate conversion coating); ChemTreat CL-1416 *; ChemTreat CL-4385 *
Sodium Hypochlorite *	Chlorox Bleach *; Tilex * (janitorial)
Sodium Nitrite *	ChemTreat BL-1821 *
Strontium Chromate	Coatings and Sealants
Sulfuric Acid	Sulfuric Acid 66 BE (93%); Lead-Acid Batteries *; Sifco Dalic Solution (chromate conversion coating)
Toluene	Coatings; Sealants; 3M Spray Adhesive; Eze-Peel; Spray Paints; Maintenance Paints *; Chem Mill Maskant; Xylene; Gasoline *
Trichloroethylene (TCE)	Trichloroethylene
Zinc Chloride	Soldering Wire

NOTES:

(1) None of the above chemicals are anticipated to be in the discharge. The possibility exists that some could be washed out of exhaust streams during a rain.

(2) All of the above chemicals are currently used in the manufacturing process except those marked by an asterisk (*). (See Section VI.)

CN-0886

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER *(copy from Item I of Form 1)*: TND004042057

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO: 001

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE *(if available)* (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE *(if available)* (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	3. UNITS *(specify if blank)* a. CONCENTRATION	b. MASS	4. INTAKE *(optional)* a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	<5						1	MG/L				
b. Chemical Oxygen Demand *(COD)*	<20						1	MG/L				
c. Total Organic Carbon *(TOC)*	<2						1	MG/L				
d. Total Suspended Solids *(TSS)*	6	23.1	5	19.3	2.4	7.3	1	MG/L	lbs			
e. Ammonia *(as N)*	<0.10						1	MG/L				
f. Flow	VALUE 1.01		VALUE 0.487		VALUE 0.367		CONT. REC.	MGD		VALUE		
g. Temperature *(winter)*	VALUE 24		VALUE		VALUE 24		1	°C		VALUE		
h. Temperature *(summer)*	VALUE 29		VALUE		VALUE 24		1	°C		VALUE		
i. pH	MINIMUM 6.2	MAXIMUM 7.9	MINIMUM 6.4	MAXIMUM 7.4			CONT. REC.	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK 'X' a. BELIEVED PRESENT	b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE *(if available)* (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE *(if available)* (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE *(optional)* a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Bromide (24959-67-9)		X												
b. Chlorine, Total Residual	X		<0.10		<0.10		<0.10		1	MG/L		X		
c. Color	X											X		
d. Fecal Coliform		X												
e. Fluoride (16984-48-8)	X											X		
f. Nitrate-Nitrite *(as N)*	X											X		

RDAs 2352 and 2366

CONTINUE ON REVERSE

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X' a. BELIEVED PRESENT	b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
g. Nitrogen, Total Organic (as N)		X												
h. Oil and Grease	X		1.0	33.7			1.9	5.8	1	MG/L	lbs			
i. Phosphorus (as P), Total (7723-14-0)		X												
j. Radioactivity														
(1) Alpha, Total	X											X		
(2) Beta, Total	X											X		
(3) Radium, Total		X												
(4) Radium 226, Total		X												
k. Sulfate (as SO_4) (14808-79-8)	X											X		
l. Sulfide (as S)		X												
m. Sulfite (as SO_3) (14265-45-3)		X												
n. Surfactants		X												
o. Aluminum, Total (7429-90-5)	X		STORMWATER											
p. Barium, Total (7440-39-3)	X											X		
q. Boron, Total (7440-42-8)		X												
r. Cobalt, Total (7440-48-4)		X												
s. Iron, Total (7439-89-6)	X		1.4	5.4			0.89	2.7	1	MG/L		X		
t. Magnesium, Total (7439-95-4)		X												
u. Molybdenum, Total (7439-98-7)		X												
v. Manganese, Total (7439-96-5)	X											X		
w. Tin, Total (7440-31-5)		X												
x. Titanium, Total (7440-32-6)		X												

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
TND004042057	001

CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a *(secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions)*, mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table *(all 7 pages)* for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (If available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)			X												
2M. Arsenic, Total (7440-38-2)			X												
3M. Beryllium, Total, 7440-41-7)			X												
4M. Cadmium, Total (7440-43-9)			X												
5M. Chromium, Total (7440-47-3)		X		0.018	0.04			<0.010			MG/L	lbs	X		
6M. Copper, Total (7440-50-8)		X		0.014	0.05			0.0022	0.007		MG/L	lbs	X		
7M. Lead, Total (7439-92-1)		X											X		
8M. Mercury, Total (7439-97-6)			X												
9M. Nickel, Total (7440-02-0)			X												
10M. Selenium, Total (7782-49-2)			X												
11M. Silver, Total (7440-22-4)			X												
12M. Thallium, Total (7440-28-0)			X												
13M. Zinc, Total (7440-66-6)		X											X		
14M. Cyanide, Total (57-12-5)			X												
15M. Phenols, Total			X												
DIOXIN															
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

CN-0886

RDAs 2352 and 2366

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)			X												
2V. Acrylonitrile (107-13-1)			X												
3V. Benzene (71-43-2)			X												
4V. Bis (Chloromethyl) Ether (542-88-1)			X												
5V. Bromoform (75-25-2)			X												
6V. Carbon Tetrachloride (56-23-5)			X												
7V. Chlorobenzene (108-90-7)			X												
8V. Chlorodibromomethane (124-48-1)			X												
9V. Chloroethane (75-00-3)			X												
10V. 2-Chloroethylvinyl Ether (110-75-8)			X												
11V. Chloroform (67-66-3)			X												
12V. Dichlorobromomethane (75-27-4)			X												
13V. Dichlorodifluoromethane (75-71-8)			X												
14V. 1,1-Dichloroethane (75-34-3)			X												
15V. 1,2-Dichloroethane (107-06-2)			X												
16V. 1,1-Dichloroethylene (75-35-4)			X												
17V. 1,2-Dichloropropane (78-87-5)			X												
18V. 1,3-Dichloropropylene (542-75-6)			X												
19V. Ethylbenzene (100-41-4)			X												
20V. Methyl Bromide (74-83-9)			X												
21V. Methyl Chloride (74-87-3)			X												

CONTINUE ON PAGE V-5

CN-0886

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
TND004042057	001

CONTINUED FROM PAGE V-4

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)			X												
23V. 1,1,2,2-Tetrachloroethane (79-34-5)			X												
24V. Tetrachloroethylene (127-18-4)			X												
25V. Toluene (108-88-3)			X												
26V. 1,2-Trans-Dichloroethylene (156-60-5)			X												
27V. 1,1,1-Trichloroethane (71-55-6)			X												
28V. 1,1,2-Trichloroethane (79-00-5)			X												
29V. Trichloroethylene (79-01-6)			X												
30V. Trichlorofluoromethane (75-69-4)			X												
31V. Vinyl Chloride (75-01-4)			X												
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)			X												
2A. 2,4-Dichlorophenol (120-83-2)			X												
3A. 2,4-Dimethylphenol (105-67-9)			X												
4A. 4,6-Dinitro-O-Cresol (534-52-1)			X												
5A. 2,4-Dinitrophenol (51-28-5)			X												
6A. 2-Nitrophenol (88-75-5)			X												
7A. 4-Nitrophenol (100-02-7)			X												
8A. P-Chloro-M-Cresol (59-50-7)			X												
9A. Pentachlorophenol (87-86-5)			X												
10A. Phenol (108-95-2)			X												
11A. 2,4,6-Trichlorophenol (88-06-2)			X												

RDAs 2352 and 2366

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)			X												
2B. Acenaphtylene (208-96-8)			X												
3B. Anthracene (120-12-7)			X												
4B. Benzidine (92-87-5)			X												
5B. Benzo *(a)* Anthracene (56-55-3)			X												
6B. Benzo *(a)* Pyrene (50-32-8)			X												
7B. 3,4-Benzo-fluoranthene (205-99-2)			X												
8B. Benzo *(ghi)* Perylene (191-24-2)			X												
9B. Benzo *(k)* Fluoranthene (207-08-9)			X												
10B. Bis *(2-Chloro-ethoxy)* Methane (111-91-1)			X												
11B. Bis *(2-Chloro-ethyl)* Ether (111-44-4)			X												
12B. Bis *(2-Chloroiso-propyl)* Ether (102-60-1)			X												
13B. Bis *(2-Ethyl-hexyl)* Phthalate (117-81-7)			X												
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)			X												
15B. Butyl Benzyl Phthalate (85-68-7)			X												
16B. 2-Chloro-naphthalene (91-58-7)			X												
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)			X												
18B. Chrysene (218-01-9)			X												
19B. Dibenzo *(a,h)* Anthracene (53-70-3)			X												
20B. 1,2-Dichloro-benzene (95-50-1)			X												
21B. 1,3-Dichloro-benzene (541-73-1)			X												

CONTINUE ON PAGE V-7

EPA I.D. NUMBER (copy from Item 1 of Form 1): TND004042057

OUTFALL NUMBER: 001

CONTINUED FROM PAGE V-6

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichlorobenzene (106-46-7)			X												
23B. 3,3'-Dichlorobenzidine (91-94-1)			X												
24B. Diethyl Phthalate (84-66-2)			X												
25B. Dimethyl Phthalate (131-11-3)			X												
26B. Di-N-Butyl Phthalate (84-74-2)			X												
27B. 2,4-Dinitrotoluene (121-14-2)			X												
28B. 2,6-Dinitrotoluene (606-20-2)			X												
29B. Di-N-Octyl Phthalate (117-84-0)			X												
30B. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)			X												
31B. Fluoranthene (206-44-0)			X												
32B. Fluorene (86-73-7)			X												
33B. Hexachlorobenzene (118-74-1)			X												
34B. Hexachlorobutadiene (87-68-3)			X												
35B. Hexachlorocyclopentadiene (77-47-4)			X												
36B. Hexachloroethane (67-72-1)			X												
37B. Indeno (1,2,3-cd) Pyrene (193-39-5)			X												
38B. Isophorone (78-59-1)			X												
39B. Naphthalene (91-20-3)			X												
40B. Nitrobenzene (98-95-3)			X												
41B. N-Nitrosodimethylamine (62-75-9)			X												
42B. N-Nitrosodi-N-Propylamine (621-64-7)			X												

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitrosodiphenylamine (86-30-6)			X												
44B. Phenanthrene (85-01-8)			X												
45B. Pyrene (129-00-0)			X												
46B. 1,2,4-Trichlorobenzene (120-82-1)			X												
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)			X												
2P. α-BHC (319-84-6)			X												
3P. β-BHC (319-85-7)			X												
4P. γ-BHC (58-89-9)			X												
5P. δ-BHC (319-86-8)			X												
6P. Chlordane (57-74-9)			X												
7P. 4,4'-DDT (50-29-3)			X												
8P. 4,4'-DDE (72-55-9)			X												
9P. 4,4'-DDD (72-54-8)			X												
10P. Dieldrin (60-57-1)			X												
11P. α-Endosulfan (115-29-7)			X												
12P. β-Endosulfan (115-29-7)			X												
13P. Endosulfan Sulfate (1031-07-8)			X												
14P. Endrin (72-20-8)			X												
15P. Endrin Aldehyde (7421-93-4)			X												
16P. Heptachlor (76-44-8)			X												

CN-0886

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
TND004042057	001

CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – PESTICIDES (continued)															
17P. Heptachlor Epoxide (1024-57-3)			X												
18P. PCB-1242 (53469-21-9)			X												
19P. PCB-1254 (11097-69-1)			X												
20P. PCB-1221 (11104-28-2)			X												
21P. PCB-1232 (11141-16-5)			X												
22P. PCB-1248 (12672-29-6)			X												
23P. PCB-1260 (11096-82-5)			X												
24P. PCB-1016 (12674-11-2)			X												
25P. Toxaphene (8001-35-2)			X												

* U.S. G.P.O.:1992-312-020:63176

RDAs 2352 and 2366

CN-0886

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER *(copy from Item I of Form 1)*: TND004042057

OUTFALL NO. 002

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	3. UNITS (specify if blank) a. CONCENTRATION	b. MASS	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	<5						1	MG/L				
b. Chemical Oxygen Demand *(COD)*	<20						1	MG/L				
c. Total Organic Carbon *(TOC)*	<2						1	MG/L				
d. Total Suspended Solids *(TSS)*	4	7.2	3.5	6.3	0.75	1.3	1	MG/L	lbs			
e. Ammonia *(as N)*	<0.10						1	MG/L				
f. Flow	VALUE 1.01		VALUE 0.252		VALUE 0.210		CONT. REC.	MGD		VALUE		
g. Temperature *(winter)*	VALUE 28		VALUE		VALUE 27		1	°C		VALUE		
h. Temperature *(summer)*	VALUE 30		VALUE		VALUE 27		1	°C		VALUE		
i. pH	MINIMUM 6.5	MAXIMUM 8.6	MINIMUM 6.8	MAXIMUM 8.1			CONT. REC.	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK 'X' a. BELIEVED PRESENT	b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Bromide (24959-67-9)		X												
b. Chlorine, Total Residual	X		<0.10		<0.10		<0.10		1	MG/L		X		
c. Color	X											X		
d. Fecal Coliform		X												
e. Fluoride (16984-48-8)	X											X		
f. Nitrate-Nitrite *(as N)*	X											X		

RDAs 2352 and 2366

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (If available)	2. MARK 'X' a. BELIEVED PRESENT	b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
g. Nitrogen, Total Organic (as N)		X												
h. Oil and Grease	X		7	12.4			2.1	3.7	1	MG/L	lbs			
i. Phosphorus (as P), Total (7723-14-0)		X												
j. Radioactivity														
(1) Alpha, Total	X											X		
(2) Beta, Total	X											X		
(3) Radium, Total		X												
(4) Radium 226, Total		X												
k. Sulfate (as SO_4) (14808-79-8)	X											X		
l. Sulfide (as S)		X												
m. Sulfite (as SO_3) (14265-45-3)		X												
n. Surfactants		X												
o. Aluminum, Total (7429-90-5)	X		STORMWATER											
p. Barium, Total (7440-39-3)		X												
q. Boron, Total (7440-42-8)		X												
r. Cobalt, Total (7440-48-4)		X												
s. Iron, Total (7439-89-6)	X		1.4	1.7			0.68	1.2	1	MG/L	lbs	X		
t. Magnesium, Total (7439-95-4)		X												
u. Molybdenum, Total (7439-98-7)		X												
v. Manganese, Total (7439-96-5)	X											X		
w. Tin, Total (7440-31-5)		X												
x. Titanium, Total (7440-32-[illegible])		X												

CONTINUE ON PAGE V-3

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
TND004042057	002

CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a *(secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions)*, mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table *(all 7 pages)* for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)			X												
2M. Arsenic, Total (7440-38-2)			X												
3M. Beryllium, Total, 7440-41-7)			X												
4M. Cadmium, Total (7440-43-9)			X												
5M. Chromium, Total (7440-47-3)		X		0.017	0.03			<0.010		1	MG/L	lbs	X		
6M. Copper, Total (7440-50-8)		X		0.025	0.04			0.005	0.009	1	MG/L	lbs	X		
7M. Lead, Total (7439-92-1)		X											X		
8M. Mercury, Total (7439-97-6)			X												
9M. Nickel, Total (7440-02-0)			X												
10M. Selenium, Total (7782-49-2)			X												
11M. Silver, Total (7440-22-4)			X												
12M. Thallium, Total (7440-28-0)			X												
13M. Zinc, Total (7440-66-6)		X											X		
14M. Cyanide, Total (57-12-5)			X												
15M. Phenols, Total			X												
DIOXIN															
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

CN-0886

RDAs 2352 and 2366

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION — VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)			X												
2V. Acrylonitrile (107-13-1)			X												
3V. Benzene (71-43-2)			X												
4V. Bis (Chloromethyl) Ether (542-88-1)			X												
5V. Bromoform (75-25-2)			X												
6V. Carbon Tetrachloride (56-23-5)			X												
7V. Chlorobenzene (108-90-7)			X												
8V. Chlorodibromomethane (124-48-1)			X												
9V. Chloroethane (75-00-3)			X												
10V. 2-Chloroethylvinyl Ether (110-75-8)			X												
11V. Chloroform (67-66-3)			X												
12V. Dichlorobromomethane (75-27-4)			X												
13V. Dichlorodifluoromethane (75-71-8)			X												
14V. 1,1-Dichloroethane (75-34-3)			X												
15V. 1,2-Dichloroethane (107-06-2)			X												
16V. 1,1-Dichloroethylene (75-35-4)			X												
17V. 1,2-Dichloropropane (78-87-5)			X												
18V. 1,3-Dichloropropylene (542-75-6)			X												
19V. Ethylbenzene (100-41-4)			X												
20V. Methyl Bromide (74-83-9)			X												
21V. Methyl Chloride (74-87-3)			X												

CONTINUE ON PAGE V-5

CONTINUED FROM PAGE V-4

EPA I.D. NUMBER (copy from Item 1 Form 1): TND004042057 | OUTFALL NUMBER: 002

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)			X												
23V. 1,1,2,2-Tetrachloroethane (79-34-5)			X												
24V. Tetrachloroethylene (127-18-4)			X												
25V. Toluene (108-88-3)			X												
26V. 1,2-Trans-Dichloroethylene (156-60-5)			X												
27V. 1,1,1-Trichloroethane (71-55-6)			X												
28V. 1,1,2-Trichloroethane (79-00-5)			X												
29V. Trichloroethylene (79-01-6)			X												
30V. Trichlorofluoromethane (75-69-4)			X												
31V. Vinyl Chloride (75-01-4)			X												
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)			X												
2A. 2,4-Dichlorophenol (120-83-2)			X												
3A. 2,4-Dimethylphenol (105-67-9)			X												
4A. 4,6-Dinitro-O-Cresol (534-52-1)			X												
5A. 2,4-Dinitrophenol (51-28-5)			X												
6A. 2-Nitrophenol (88-75-5)			X												
7A. 4-Nitrophenol (100-02-7)			X												
8A. P-Chloro-M-Cresol (59-50-7)			X												
9A. Pentachlorophenol (87-86-5)			X												
10A. Phenol (108-95-2)			X												
11A. 2,4,6-Trichlorophenol (88-06-2)			X												

CONTINUE ON REVERSE

CN-0886
RDAS 2352 and 2366

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)			X												
2B. Acenaphtylene (208-96-8)			X												
3B. Anthracene (120-12-7)			X												
4B. Benzidine (92-87-5)			X												
5B. Benzo *(a)* Anthracene (56-55-3)			X												
6B. Benzo *(a)* Pyrene (50-32-8)			X												
7B. 3,4-Benzo-fluoranthene (205-99-2)			X												
8B. Benzo *(ghi)* Perylene (191-24-2)			X												
9B. Benzo *(k)* Fluoranthene (207-08-9)			X												
10B. Bis *(2-Chloro-ethoxy)* Methane (111-91-1)			X												
11B. Bis *(2-Chloro-ethyl)* Ether (111-44-4)			X												
12B. Bis *(2-Chloroiso-propyl)* Ether (102-60-1)			X												
13B. Bis *(2-Ethyl-hexyl)* Phthalate (117-81-7)			X												
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)			X												
15B. Butyl Benzyl Phthalate (85-68-7)			X												
16B. 2-Chloro-naphthalene (91-58-7)			X												
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)			X												
18B. Chrysene (218-01-9)			X												
19B. Dibenzo *(a,h)* Anthracene (53-70-3)			X												
20B. 1,2-Dichloro-benzene (95-50-1)			X												
21B. 1,3-Dichloro-benzene (541-73-1)			X												

CONTINUE ON PAGE V-7

CONTINUED FROM PAGE V-6

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
TND004042057	002

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TEST-ING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichlorobenzene (106-46-7)			X												
23B. 3,3'-Dichlorobenzidine (91-94-1)			X												
24B. Diethyl Phthalate (84-66-2)			X												
25B. Dimethyl Phthalate (131-11-3)			X												
26B. Di-N-Butyl Phthalate (84-74-2)			X												
27B. 2,4-Dinitrotoluene (121-14-2)			X												
28B. 2,6-Dinitrotoluene (606-20-2)			X												
29B. Di-N-Octyl Phthalate (117-84-0)			X												
30B. 1,2-Diphenylhydrazine *(as Azobenzene)* (122-66-7)			X												
31B. Fluoranthene (206-44-0)			X												
32B. Fluorene (86-73-7)			X												
33B. Hexachlorobenzene (118-74-1)			X												
34B. Hexachlorobutadiene (87-68-3)			X												
35B. Hexachlorocyclopentadiene (77-47-4)			X												
36B. Hexachloroethane (67-72-1)			X												
37B. Indeno *(1,2,3-cd)* Pyrene (193-39-5)			X												
38B. Isophorone (78-59-1)			X												
39B. Naphthalene (91-20-3)			X												
40B. Nitrobenzene (98-95-3)			X												
41B. N-Nitrosodimethylamine (62-75-9)			X												
42B. N-Nitrosodi-N-Propylamine (621-64-7)			X												

CN-0880

RDAS 2352 and 2366

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitrosodiphenylamine (86-30-6)			X												
44B. Phenanthrene (85-01-8)			X												
45B. Pyrene (129-00-0)			X												
46B. 1,2,4-Trichlorobenzene (120-82-1)			X												
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)			X												
2P. α-BHC (319-84-6)			X												
3P. β-BHC (319-85-7)			X												
4P. γ-BHC (58-89-9)			X												
5P. δ-BHC (319-86-8)			X												
6P. Chlordane (57-74-9)			X												
7P. 4,4'-DDT (50-29-3)			X												
8P. 4,4'-DDE (72-55-9)			X												
9P. 4,4'-DDD (72-54-8)			X												
10P. Dieldrin (60-57-1)			X												
11P. α-Endosulfan (115-29-7)			X												
12P. β-Endosulfan (115-29-7)			X												
13P. Endosulfan Sulfate (1031-07-8)			X												
14P. Endrin (72-20-8)			X												
15P. Endrin Aldehyde (7421-93-4)			X												
16P. Heptachlor (76-44-8)			X												

CONTINUED FROM PAGE V-8

EPA I.D. NUMBER (copy from Item 1 of Form 1): TND004042057 | OUTFALL NUMBER: 002

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – PESTICIDES (continued)															
17P. Heptachlor Epoxide (1024-57-3)			X												
18P. PCB-1242 (53469-21-9)			X												
19P. PCB-1254 (11097-69-1)			X												
20P. PCB-1221 (11104-28-2)			X												
21P. PCB-1232 (11141-16-5)			X												
22P. PCB-1248 (12672-29-6)			X												
23P. PCB-1260 (11096-82-5)			X												
24P. PCB-1016 (12674-11-2)			X												
25P. Toxaphene (8001-35-2)			X												

CN-0886

RDAs 2352 and 2366

DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER POLLUTION CONTROL

NPDES PERMIT APPLICATION ADDRESSES

All addresses must be completed even if the same address is used:

NPDES PERMIT NUMBER: TN0001597

CORPORATE HEADQUARTERS (where permit should be sent):

CONTACT PERSON: DAVID P. JARRETT, ENV. MGR. TELEPHONE: (615) 361-2697
Name Title

COMPANY NAME: THE AEROSTRUCTURES CORPORATION

STREET AND/OR P.O. BOX: 1431 VULTEE BLVD.

CITY: NASHVILLE STATE: TN ZIP CODE: 37217

PERMIT BILLING ADDRESS (where invoices should be sent):

CONTACT PERSON: DAVID P. JARRETT, ENV. MGR. TELEPHONE: (615) 361-2697
Name Title

FACILITY NAME: THE AEROSTRUCTURES CORP.

STREET AND/OR P.O. BOX: 1431 VULTEE BLVD.

CITY: NASHVILLE STATE: TN ZIP CODE: 37217

FACILITY LOCATION (actual location of permit site):

CONTACT PERSON: DAVID P. JARRETT
Name Title

FACILITY NAME: THE AEROSTRUCTURES CORP.

STREET AND/OR P.O. BOX: 1431 VULTEE BLVD.

CITY: NASHVILLE STATE: TN ZIP CODE: 37217

COUNTY: DAVIDSON TELEPHONE: (615) 361-2697

DMR MAILING ADDRESS (where preprinted Discharge Monitoring Reports should be sent):

CONTACT PERSON: DAVID P. JARRETT TELEPHONE: (615) 361-2697
Name Title

FACILITY NAME: THE AEROSTRUCTURES CORP.

STREET AND/OR P.O. BOX: 1431 VULTEE BLVD.

CITY: NASHVILLE STATE: TN ZIP CODE: 37217

TEXTRON Aerostructures

Textron Aerostructures/
Subsidiary of Textron Inc.

P.O. Box 210
Nashville, TN 37202
615/361-2000

October 1, 1992

Mr. Robert L. Hailey, III
Tennessee Division of Water Pollution Control
Department of Environment & Conservation
401 Church Street
Nashville, TN 37243-1534

RE: GROUP STORMWATER PERMIT APPLICATION

Dear Mr. Hailey:

Enclosed is a copy of EPA Form 3510-2F, Application for Permit to Discharge Stormwater Discharges Associated with Industrial Activity, submitted in accordance with the EPA group application procedure. Aerostructures is already permitted for stormwater discharge by NPDES Permit No. TN0001597. It is our understanding that once EPA has finished their review, your Division will be modifying our permit. Therefore, we are submitting the application with the request for an individual permit.

Should you have any questions or comments, please advise.

Sincerely,

David P. Jarrett
Staff Engineer

DPJ:js

Enclosure

NASHVILLE ENVIRONMENTAL
RECEIVED
APR 3 1995
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
FIELD OFFICE

Please print or type in the unshaded areas only

EPA ID Number (copy from Item I of Form 1): TND004042057

Form Approved. OMB No. 2040-0086
Approval expires 5-31-92

Form 2F NPDES

United States Environmental Protection Agency
Washington, DC 20460

Application for Permit To Discharge Stormwater Discharges Associated with Industrial Activity

Paperwork Reduction Act Notice

Public reporting burden for this application is estimated to average 28.6 hours per application, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate, any other aspect of this collection of information, or suggestions for improving this form, including suggestions which may increase or reduce this burden to: Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., SW, Washington, DC 20460, or Director, Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

I. Outfall Location

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. Outfall Number (list)	B. Latitude			C. Longitude			D. Receiving Water (name)
001	36	07	12	86	41	47	UNNAMED TRIBUTARY AT MILE 1.5 CONFLUENT TO MILL CRK. AT MILE 4.6
002	36	07	02	86	41	36	UNNAMED TRIBUTARY AT MILE 1.3 CONFLUENT TO MILL CRK. AT MILE 7.2

NOTE: TESTING REQUIREMENT FOR 003 & 004 WAIVED BY THE TENNESSEE DIVISION OF WATER POLLUTION CONTROL

II. Improvements

A. Are you now required by any Federal, State, or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

1. Identification of Conditions, Agreements, Etc.	2. Affected Outfalls		3. Brief Description of Project	4. Final Compliance Date	
	number	source of discharge		a. req.	b. proj.
N/A					

NASHVILLE ENVIRONMENTAL RECEIVED APR 3 1995 TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION FIELD OFFICE

B. You may attach additional sheets describing any additional water pollution (or other environmental projects which may affect your discharges) you now have under way or which you plan. Indicate whether each program is now under way or planned, and indicate your actual or planned schedules for construction.

III. Site Drainage Map

Attach a site map showing topography (or indicating the outline of drainage areas served by the outfall(s) covered in the application if a topographic map is unavailable) depicting the facility including: each of its intake and discharge structures; the drainage area of each storm water outfall; paved areas and buildings within the drainage area of each storm water outfall, each known past or present areas used for outdoor storage or disposal of significant materials, each existing structural control measure to reduce pollutants in storm water runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied; each of its hazardous waste treatment, storage or disposal units (including each area not required to have a RCRA permit which is used for accumulating hazardous waste under 40 CFR 262.34); each well where fluids from the facility are injected underground; springs, and other surface water bodies which receive storm water discharges from the facility.

 Continue on Page 2

IV. Narrative Description of Pollutant Sources

A. For each outfall, provide an estimate of the area (include units) of impervious surfaces (including paved areas and building roofs) drained to the outfall, and an estimate of the total surface area drained by the outfall.

Outfall Number	Area of Impervious Surface (provide units)	Total Area Drained (provide units)	Outfall Number	Area of Impervious Surface (provide units)	Total Area Drained (provide units)
001	60 ACRES	70 ACRES	002	20 ACRES	38 ACRES

B. Provide a narrative description of significant materials that are currently or in the past three years have been treated, stored or disposed in a manner to allow exposure to storm water; method of treatment, storage, or disposal; past and present materials management practices employed, in the last three years, to minimize contact by these materials with storm water runoff; materials loading and access areas; and the location, manner, and frequency in which pesticides, herbicides, soil conditioners, and fertilizers are applied.

1) CONTAINMENT STRUCTURE AROUND NO. 2 FUEL OIL STORAGE TANK MODIFIED. 2) WASTE OIL DRUM ACCUMULATION VOLUME REDUCED AND EMPTY DRUMS REMOVED MORE OFTEN 3) SYSTEMIC WEED KILLER USED ON PERIMETER FENCE IN LATE SPRING & SUMMER; HERBICIDES, PESTICIDES, SOIL CONDITIONERS, AND FERTILIZERS USED DURING ENTIRE YEAR ON FRONT LAWN WITH METHODS & PROCEDURES STRICTLY CONTROLLED 4) METAL SCRAP PUT IN CONTAINERS AND FREQUENTLY REMOVED; MILL COOLANT CONTAINED/COLLECTED FROM CHIPS AND DISPOSED OF OR REUSED 5) OPEN-TOP TRASH CONTAINERS AND PREPREG GRAPHITE/FIBERGLASS SPECIAL WASTE CONTAINER 6) WOOD WASTE PLACED IN 100 YARD OPEN TOP TRAILERS FOR OFF-SITE ENERGY UTILIZATION 7) INDEPENDENT CONTRACTOR RETAINED TO MONITOR SITE ACTIVITIES

C. For each outfall, provide the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of the treatment the storm water receives, including the schedule and type of maintenance for control and treatment measures and the ultimate disposal of any solid or fluid wastes other than by discharge.

Outfall Number	Treatment	List Codes from Table 2F-1
001 & 002	EACH OUTFALL IS BOOMED TO REMOVE OIL & GREASE; pH MONITORS ARE IN PLACE FOR DIVERSION TO SANITARY SEWERS; CONTRACTOR MONITORING AND AN ACTIVE SPCC AND EMPLOYEE TRAINING PROGRAM; REFER TO ITEM IV B ALSO	2E, 3E, 4A

V. Nonstormwater Discharges

A. I certify under penalty of law that the outfall(s) covered by this application have been tested or evaluated for the presence of nonstormwater discharges, and that all nonstormwater discharges from these outfall(s) are identified in either an accompanying Form 2C or Form 2E application for the outfall.

Name and Official Title (type or print)	Signature	Date Signed
DAVID P. JARRETT STAFF ENGINEER	David P. Jarrett	9/30/92

B. Provide a description of the method used, the date of any testing, and the onsite drainage points that were directly observed during a test.

NON-STORMWATER DISCHARGES ARE PERMITTED BY NPDES PERMIT NO. TN 0001597. TESTING OF DISCHARGES 003 & 004 WAS WAIVED BY THE TN DIVISION OF WATER POLLUTION CONTROL. FACILITY PLANS ARE ANALYZED AND CONFIRMED BY RHODAMINE DYE TESTS PRIOR TO CONNECTION & ON AN AS NEEDED BASIS TO VERIFY UNLABELED DRAINS. BOTH THE NPDES OUTFALL & SANITARY SEWERS ARE MONITORED, MOST RECENT TEST: 9/3/92.

VI. Significant Leaks or Spills

Provide existing information regarding the history of significant leaks or spills of toxic or hazardous pollutants at the facility in the last three years, including the approximate date and location of the spill or leak, and the type and amount of material released.

SEPT. 2, 1992 : RELEASE OF 0.8 TO 2.6 POUNDS OF CHROMIUM TO D001 FROM BLDG. 2 HEAT TREAT SYSTEM CAUSED BY MAIN FIRE LINE RUPTURE

AUG. 2, 1991 : RELEASE OF 15 TO 20 GALLONS OF POLYURETHANE ROOFING MATERIAL WITH A DIISOCYANATE COMPONENT ONTO PAVED DRIVE WAS CONTAINED, DEACTIVATED, & CLEANED UP WITH NO ENTRY TO SEWERS AT BLDG. 18

AUG. 25, 1990 : RELEASE OF SEVERAL GALLONS OF CHROMIC/SULFURIC ACID FROM EXHAUST EQUIPMENT AT BLDG. 38 ONTO SURROUNDING GROUNDS. AREA WAS IMMEDIATELY DECONTAMINATED WITH NO RELEASE TO STORM SEWER.

 Continue on Page 3

Continued from Page 2

EPA ID Number (copy from Item I of Form 1)
TND004042057

VII. Discharge Information

A,B,C, & D: See instructions before proceeding. Complete one set of tables for each outfall. Annotate the outfall number in the space provided. Tables VII-A, VII-B, and VII-C are included on separate sheets numbered VII-1 and VII-2.

E: Potential discharges not covered by analysis - Is any pollutant listed in Table 2F-2 a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

☑ Yes (list all such pollutants below) ☐ No (go to Section IX)

NITRATE-NITRITE
OIL & GREASE
ALUMINUM
MAGNESIUM
TIN
CADMIUM
CHROMIUM
COPPER
LEAD
NICKEL
ZINC
CYANIDE
PHENOLS
BENZENE
METHYLENE CHLORIDE
TOLUENE
1,1,1-TRICHLOROETHANE
TRICHLOROETHYLENE
TRIETHYLAMINE
XYLENE

VIII. Biological Toxicity Testing Data

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☑ Yes (list all such pollutants below) ☐ No (go to Section IX)

BIOMONITORING OF BOTH OUTFALLS ARE CONDUCTED ON A REGULAR BASIS AS REQUIRED BY AN EXISTING NPDES PERMIT. A 96 HOUR ACUTE AND SEVEN DAY CHRONIC TEST ON BOTH FATHEAD MINNOWS (PIMEPHALES) AND WATER FLEAS (CERIODAPHNIA) IN 100 PERCENT EFFLUENT WITH 100 PERCENT SURVIVAL, GROWTH, AND REPRODUCTION IS REQUIRED. SEVERAL TESTS HAVE BEEN CONDUCTED DURING STORMWATER EVENTS AND PASSED.

IX. Contract Analysis Information

Were any of the analyses reported in Item V performed by a contract laboratory or consulting firm?

☑ Yes (list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below) ☐ No (go to Section X)

A. Name	B. Address	C. Area Code & Phone No.	D. Pollutants Analyzed
ENVIRONMENTAL SCIENCE CORP.	1910 MAY'S CHAPEL RD. MT. JULIET, TN 37122	615/758-5858	AL, BA, CD, CR, CU, PB, FE, MG, NI, ZN, CN, BOD, COD, FL, MBAS, O&G, SULFAT, NH_3, P, TKN, TON, TDS, SS, TOLUEN, TCA, TCE, pH (BOTH OUTFALLS)

X. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

A. Name & Official Title (type or print)	B. Area Code and Phone No.
GARY L. SMITH, VICE PRESIDENT PRODUCTION OPERATIONS, PLANT MANAGER	615/361-5332
C. Signature	D. Date Signed
	SEPT. 30, 1992

Approval expires 5-31-92

VII. Discharge Information (Continued from page 3 of Form 2F)

Part A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number (if available)	Maximum Values (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite		
Oil and Grease	<1 mg/l	—	—	—	1	Parking Vechiles, Tow Motors/Carts
Biological Oxygen Demand (BOD5)	<3 mg/l	5 mg/l	—	—	1	Vehicle Leaks & Grease, Dirt etc
Chemical Oxygen Demand (COD)	<10 mg/l	31 mg/l	—	—	1	Same As BOD
Total Suspended Solids (TSS)	14 mg/l	84 mg/l	—	—	1	Dust/Erosion/Lawn Clipping/Bldg Material
Total Kjeldahl Nitrogen	<0.5 mg/l	<0.5 mg/l	—	—	1	Vegetation
Nitrate plus Nitrite Nitrogen	<0.5 mg/l	<0.5 mg/l	—	—	1	Vegetation/Tap Water
Total Phosphorus	0.51 mg/l	0.93 mg/l	—	—	1	Fertilizer
pH	Minimum 6.85	Maximum 7.48	Minimum	Maximum		N/A Normal

Part B - List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (if available)	Maximum Values (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite		
Al	0.32 mg/l	2.1 mg/l	—	—	1	Chips From Mills
Ba	<0.25 mg/l	<0.25 mg/l			1	NA - BDL
Ca	<0.010 mg/l	<0.010 mg/l			1	NA - BDL
Cr (total)	0.032 mg/l	<0.025 mg/l			1	Stack Gases
Cu	<0.025 mg/l	<0.025 mg/l			1	NA - BDL
Mg	0.21 mg/l	0.11 mg/l			1	Chips From Mills
Ni	<0.025 mg/l	<0.025 mg/l			1	NA - BDL
Zn	0.035 mg/l	0.066 mg/l			1	NA - BDL
Cd	0.001 mg/l	—			1	Plating Exhaust / Pol. Boo
Fl	0.88 mg/l	0.22 mg/l			1	Tap Water/Cooling Water
Pb	<0.005 mg/l	0.013 mg/l			1	Exhaust/ Lead Joint in Drains / Bld mat
Surfactants	<0.15 mg/l	0.15 mg/l			1	NA - BDL
Sulfate	46 mg/l	14 mg/l			1	Tap Water
NH_3	<0.10 mg/l	<0.10 mg/l			1	NA - BDL
TKN	<0.5 mg/l	<0.50 mg/l			1	NA - BDL
TON	<0.5 mg/l	<0.50 mg/l			1	NA - BDL
111 - TCA	0.0013 mg/l	—			1	Vapor Degreasers
Toluene	<0.0005 mg/l	—			1	NA - BDL
TCE	0.0024 mg/l	—			1	Vapor Degreasers
Fe	1.5 mg/l	2.4 mg/l			1	Tap Water/Exposed Met
pH	6.85 su	7.22 su			1	Normal
Cl (residual)	<0.01 mg/l	<0.01 mg/l			1	Tap Water/Cooling Water
Temp.	26.3				1	Normal
Dis. Solids	170 mg/l	75 mg/l			1	Erosion/Parking Lots/etc
S.S.	14 mg/l	84 mg/l			1	Parking Lots/Drives/etc
P (total)	0.51 mg/l	0.93 mg/l			1	Fertilizer

Continue on Rev

additional details and requirements. Complete one table for each outfall.

Pollutant and CAS Number (if available)	Maximum Values (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite		
SEE DATA IN SECTION VII A & B						

Part D - Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm (in minutes)	3. Total rainfall during storm event (in inches)	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event (gallons/minute or specify units)	6. Total flow from rain event (gallons or specify units)	7. Season sample was taken	8. Form of Precipitation (rainfall, snowmelt)
8/27/92	600+	1.60	98	10,000	700,000	Summer	RAIN

9. Provide a description of the method of flow measurement or estimate.

SHARP CRESTED RECTANGULAR WEIR W/ ULTRA SONIC LEVEL SENSOR, AND DEPTH GAUGE IN PIPE WITH FLOW CALCULATED USING MANNINGS EQUATION. DEPTH USED WHEN ULTRA-SONIC UNIT EXCEEDED 100% of SCALE. FLOW READING TAKEN EVERY FIFTEEN MINUTES.

VII. Discharge Information (Continued from page 3 of Form 2F)

Part A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number (if available)	Maximum Values (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite		
Oil and Grease	<1.0 mg/l				1	Parked Vehicles/Town Mot Carts/etc
Biological Oxygen Demand (BOD5)	4.0 mg/l	4 mg/l			1	Vehicle Leaks & Grease Dirt, etc
Chemical Oxygen Demand (COD)	<10 mg/l	<10 mg/l			1	Same As BOD
Total Suspended Solids (TSS)	6.0 mg/l	13 mg/l			1	Dust/Erosion/Lawn Clippings/Bldg Materi
Total Kjeldahl Nitrogen	<0.5 mg/l	<0.5 mg/l			1	Vegetation
Nitrate plus Nitrite Nitrogen	<0.5 mg/l	<0.5 mg/l			1	Vegetation/Tap W
Total Phosphorus	0.25 mg/l	0.22 mg/l			1	Fertilizer
pH	Minimum 7.14	Maximum 7.49	Minimum	Maximum		N/A - Normal

Part B - List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (if available)	Maximum Values (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite		
Al	0.26 mg/l	0.46 mg/l			1	Chips From Mill
Ba	<0.25 mg/l	<0.25 mg/l			1	NA - BDL
Ca	<0.010 mg/l	<0.010 mg/l			1	NA - BDL
Cr (total)	<0.025 mg/l	<0.025 mg/l			1	NA - BDL
Cu	<0.025 mg/l	<0.025 mg/l			1	NA - BDL
Mg	0.31 mg/l	0.065 mg/l			1	Chips From Mills
Ni	<0.025 mg/l	<0.025 mg/l			1	NA - BDL
Zn	0.10 mg/l	0.12 mg/l			1	Chips From Mill/Galv Pipe/
Cn	<0.001 mg/l	—			1	NA - BDL
Fl	0.72 mg/l	0.14 mg/l			1	Tap Water
Pb	<0.0050 mg/l	0.010 mg/l			1	Exhaust/Lead Joint in Pipes/Bld mat
Surfactants	<0.15 mg/l	<0.15 mg/l			1	NA - BDL
Sulfate	50 mg/l	13 mg/l			1	Tap Water/Cooling Water
NH_3	<0.10 mg/l	<0.10 mg/l			1	NA - BDL
TKN	<0.50 mg/l	<0.50 mg/l			1	NA - BDL
TON	<0.50 mg/l	<0.50 mg/l			1	NA - BDL
111-TCA	<0.0005 mg/l	—			1	NA - BDL
Toluene	<0.0005 mg/l	—			1	NA - BDL
TCE	<0.0005 mg/l	—			1	NA - BDL
Fe	0.85 mg/l	0.54 mg/l			1	Tap Water/Boiling Water
pH	7.23 su	7.32			1	Tap Water (Normal)
Cl (residual)	<0.01 mg/l	<0.01 mg/l			1	Tap Water (Normal)/Cooling
Temp	27.5				1	Normal
Dis. Solids	150 mg/l	46 mg/l			1	Erosion/Parking Lots/E
S. Solids	6 mg/l	13 mg/l			1	Parking Lots/Drives/Et
P (total)	0.25 mg/l	0.27 mg/l			1	Fertilizer

Continue on Reve

additional details and requirements. Complete one table for each outfall.

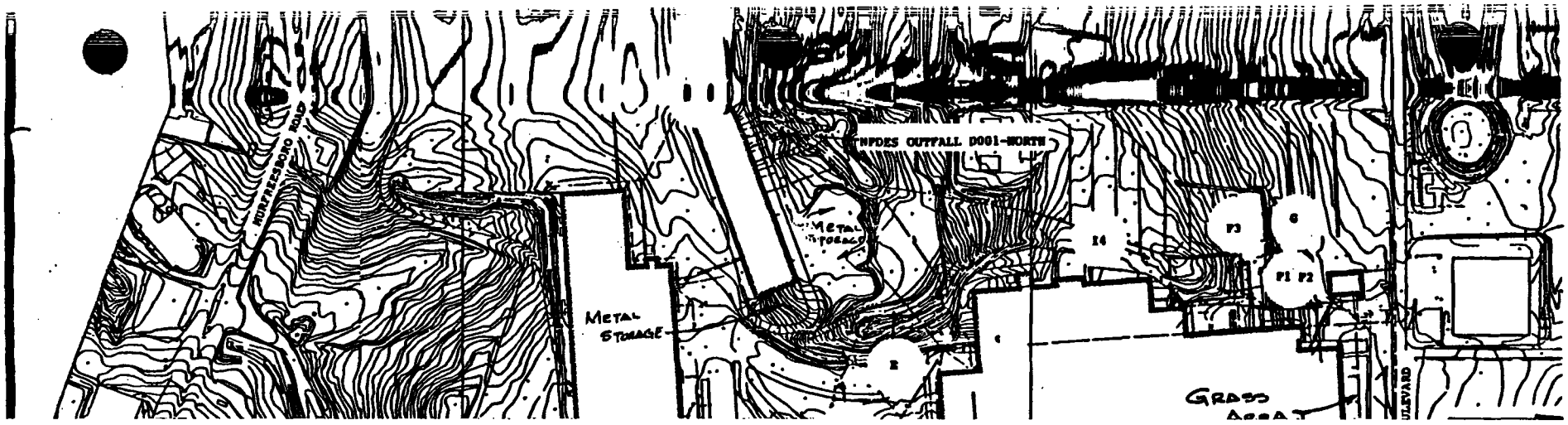
Pollutant and CAS Number (if available)	Maximum Values (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite		
SEE DATA IN SECTION VII A & B						

Part D - Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm (in minutes)	3. Total rainfall during storm event (in inches)	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event (gallons/minute or specify units	6. Total flow from rain event (gallons or specify units)	7. Season sample was taken	8. Form of Precipitation (rainfall, snowmelt)
8/27/92	600+	1.68	98	30,000	1,500,000	Summer	Rain

9. Provide a description of the method of flow measurement or estimate.

SHARP CREST WEIR W/ULTRA-SONIC LEVEL SENSOR, ABOVE LEVEL OF SENSOR, STAFF GAUGE USED. STAFF GAUGE READING ADJUSTED TO RECTANGLAR WEIR. MEASUREMENTS EVERY FIFTEEN MINUTES



LOCATION MAP
TEXTRON AEROSTRUCTURES
NASHVILLE, TN

DISCHARGE NO. 001 & 00
(STORMWATER PERMITTED)
DISCHARGE NO. 003 & 004
(NOT PERMITTED)

D001 @ 70 ACRES
D002 @ 38 ACRES
D003 @ 1 ACRE
D004 @ 9 ACRES

APPENDIX 3a

DISCHARGE MONITORING REPORT SUMMARY

Avco Corporation d/b/a Textron Aerostructures
October, 1990 – March, 1995

			Monthly Average						Daily Maximum					
	Units	Frequency	Permit Limit	DMR Average	DMR Median	DMR High	DMR Low	Rpt. Periods Out of Compl	Permit Limit	DMR Average	DMR Median	DMR High	DMR Low	Rpt. Periods Out of Compl.
OUTFALL 001														
Flow Rate	[MGD]	Continuous	Report	0.337	0.318	0.533	0.194	--	Report	0.98	1.01	1.08	0.526	--
pH *	[su]	Continuous	6.0 - 9.0	6.3	6.2	6.9	5.2	2	6.0 - 9.0	7.8	7.8	8.8	7.1	--
Oil & Grease	[mg/l]	1/Month	--	--	--	--	--	--	30	7.09	4	26.4	BDL	--
Chromium (Hexavalent)	[mg/l]	1/60	0.011	--	--	--	--	--	0.016	0.0034	0.0001	0.017	BDL	--
Trichloroethylene	[mg/l]	1/Quarter	0.02	--	--	--	--	--	0.03	0.0078	0.0063	0.029	BDL	--
Chlorine (T. Res.)	[mg/l]	1/Week	--	--	--	--	--	--	0.019	0.156	0.1	0.39	BDL	10
Temperature	[lb/day]	1/Week	--	--	--	--	--	--	30.5	22.7	22	30	16	--
OUTFALL 002														
Flow Rate	[MGD]	Continuous	Report	0.227	0.202	0.463	0.011	--	Report	0.994	1.01	1.08	0.432	--
pH *	[su]	Continuous	6.0 - 9.0	6.3	6.3	7	3.8	3	6.0 - 9.0	8	8	10.1	7.4	1
Oil & Grease	[mg/l]	1/Month	--	--	--	--	--	--	30	6.7	4.5	26.4	BDL	--
Chromium (Hexavalent)	[mg/l]	1/60	0.011	--	--	--	--	--	0.016	0.0053	0.0001	0.037	BDL	1
Trichloroethylene	[mg/l]	1/Quarter	0.02	--	--	--	--	--	0.03	0.0002	0	0.0005	BDL	--
Chlorine (T. Res.)	[mg/l]	1/Week	--	--	--	--	--	--	0.019	0.174	0.1	0.52	BDL	11
Temperature	[lb/day]	1/Week	--	--	--	--	--	--	30.5	23.3	23	33	15	2

* DMR pH data in the Monthly Average columns are for sample low values; data in the Daily Maximum columns are for sample high values.

Discharge Information
Industrial Wastewater

1. Name of firm Avco Corporation Aerostructures Division Date 6/20/77

Address: PO Box 210 Street

City Nashville County Davidson Zip 37202 Phone 361-2347

2. Responsible Official M. C. Roberts

Position Dir. Plt. Engr. & Maint. Phone 361-2347

---

3. Product(s) and/or Process(es) Major Aircraft Components, Stainless Steel Rail Car Bodies, Recreational Vehicles (MotorCoaches)

4. Total employment 1800

Domestic Wastewater

5. Is domestic wastewater discharged to a public sewerage system Yes

6. If item 5 is "Yes", to what system is the discharge made? Metro Nashville Sewerage System

7. If item 5 is "No", what is the means of treatment or disposal?

8. If the domestic wastewater is treated on site, what is the design capacity of the sewage treatment facility? None

Influent BOD_5 Effluent BOD_5

(Ammonia-Nitrogen) NH_3-N Effluent NH_3-N

9. Is domestic wastewater treated and/or discharged with industrial wastewater?

Domestic water is not treated. It is discharged with industrial waste water to Metro Sewerage System.

Industrial Wastewater

10. Specify volumes of cooling, boiler feed, and process wastewater in MGD (million gallons per day) going to a public sanitary sewer system and volumes treated and/or untreated going to a storm sewer or stream:

	Treated	Untreated	Discharge to
Cooling Water		1.0	Open Stream
Boiler feed	0.416		Sanitary Sewer
Process	0.84		Sanitary Sewer

11. If boiler feed and/or cooling water are discharged specify what types if any additives are used, (example algacides, etc.) **Boiler Feedwater Treatment: Composed of - Sodium Sulfate, Trisodium phosphate, hydrous alkaline phosphates and sodium carbonate.**

12. Where treatment is provided prior to discharge to a storm sewer or stream specify the type treatment provided including the design capacities of the treatment units **None**

13. Where treatment is provided, specify: Influent chemical characteristics (Example: BOD, NH_3-N, metals, grease, pH, etc.) **None**

Effluent chemical characteristics **None**

14. Do you have a State Water Quality Permit?

No _____ Yes X (Give Permit No.) a) 76-995 b) 76-996

Do you have a Federal NPDES Permit?

No _____ Yes X (Give Permit No.) ~~TN-0001597~~

STATE OF TENNESSEE
DEPARTMENT OF PUBLIC HEALTH, DIVISION OF SOLID WASTE MANAGEMENT
DATA FORM II
INDUSTRIAL RESIDUALS

The disposal of residual wastes generated from industrial processes has been a significant problem for many industries in Tennessee. Several reasons for that problem are the lack of environmentally acceptable disposal alternatives (such as liquid waste incinerators, solvent reprocessors, sludge disposal sites, etc.) at selected locations within the State, and the lack of a comprehensive management plan for residuals at the State level. The purpose of this study is to define the types, volumes, locations, present disposal practices, and costs associated with industrial residual management in Tennessee in order to develop and implement a hazardous/residual waste management program to meet the requirements of Public Law 94-580 and the State-wide 208 plan.

Your cooperation is appreciated.

GENERAL INSTRUCTIONS

1. This form should be completed by the technical employee(s) most familiar with the plant processes(es) and the resulting wastes. Answers should be as complete and accurate as possible.

2. If supplied information is proprietary, designate it as such. Designated information will be kept confidential.

3. If questions arise, please contact the Division of Solid Waste Management, telephone number 615-588-6537.

RESIDUAL WASTE DEFINITION

For the purposes of this study, residual wastes are defined as: solids, liquids, and sludges that result as a by-product of man's activities in the urban, agricultural, industrial, and mining environment that are not currently permitted for discharge to receiving streams after collection and/or treatment, but exclusive of non-process wastes such as on-site cafeteria, paper scaps, pallets, etc. Examples of residual wastes are:

solids and sludges from air, water, and wastewater treatment processes, hydrocarbon liquids (motor oils, industrial oils and emulsions, cutting oils, transformer oils, lacquers, varnishes, solvents, paints, etc.), inorganic and organic chemicals, clay and filter media with chemicals, incinerator residues, pesticide and pesticide containers, etc.

1. Does your firm produce residual wastes, as previously defined, that require disposal? Yes X No____

2.a. Would your firm be interested in participating in an industrial waste swap program? Yes X No____

If yes, what types, quantities, and quality of materials would your plant be willing to accept or offer for exchange? If necessary, attach additional sheet for response. di-chromates, caustic soda, sulfuric acids, nitric acid, HCl, cyanides.

2.b. Company Avco Corp. City Nashville Phone 361-2000

M. C. Roberts (Name) 6/20/77 (Date)

If you answered YES to question 1, please complete remainder of form. If you answered NO to question 1, please sign, date, and return partially completed form.

3. Current Residual Waste Characteristics and Disposal Practices (If additional space is needed, please copy and attach sufficient sheets).

		Waste 1	Waste 2	Waste 3
Process (General)		Sulfuric Anodize	Alodine	Cadmium Plating
Waste Associated with Process		Di-Chromate Sulphuric Acid Caustic	Same	Sodium Cyanide " Carbonate Cd Metal
Estimated Quantity	Tons/Yr.			
	Yd^3/Yr.			
	Gal/Yr.	25,000	12,000	500
Physical State		liquid	liquid	liquid & sludge
Chemical Constituents (% wet basis)		5-15%	5-10%	1% cyanide 1% Cd Metal 80% Sodium Carbonate
Type of Storage Provided Prior To Disposal		Holding Pond	Same	Special drums
Frequency of Disposal		Yearly	Yearly	2 or 3 years
Disposal Method		Neutralization	Same	Transfer Out

4. On-Site Disposal Facility (If off-site disposal and/or recycling is used, go to question 5)

Landfill X Land Spreading _____ Incinerator _____ Other (Specify) _____ Description of Disposal Facility _____

Landfill is used for non-process dry trash (i.e. wood, paper, plastics, etc.)

If on-site landfilling or land disposal has ever been used, indicate years of use. (19 40 to 19 ___) Present

5. Off-Site Disposal or Recycling Facility

Landfill _____ Land Spreading _____ Incinerator _____ Recycle _____
Other (Specify) _____ Description of Facility or Facilities None by Avco. (Chemicals, oils, paints, thinners, etc. are disposed of by Contractors.

Location: City or Town _____ County _____
Owner of Disposal and/or Recycling Facility _____

Conservation Chemical Co.

Name and Address of Hauler (same) 215 W. Pershing Rd., Suite 703, Kansas City, Mo. 54108.

If off-site disposal or recycling practices have changed in the past year, indicate names and addresses of previous haulers and disposal or recycling sites. _____

Approximate costs associated with off-site disposal or reprocessing per unit time. _____

6. Do you expect to produce new types of waste during the next calender year (as a result of water pollution or air pollution controls, change of product, process modification, etc.) YES _____ NO X If YES, please indicate:

General Process and Associated Waste X

Constituents of Waste X

Quantity/Time and Proposed Disposal Method X

Discharge Information
Industrial Wastewater

1. Name of firm Avco Corporation Aerostructures Division Date 6/20/77

Address: PO Box 210 Street _____

City Nashville County Davidson Zip 37202 Phone 361-2347

2. Responsible Official M. C. Roberts

Position Dir. Plt. Engr. & Maint. Phone 361-2347

---

3. Product(s) and/or Process(es) Major Aircraft Components, Stainless Steel Rail Car Bodies, Recreational Vehicles (MotorCoaches)

4. Total employment 1800

Domestic Wastewater

5. Is domestic wastewater discharged to a public sewerage system Yes

6. If item 5 is "Yes", to what system is the discharge made? Metro Nashville Sewerage System

7. If item 5 is "No", what is the means of treatment or disposal? _____

8. If the domestic wastewater is treated on site, what is the design capacity of the sewage treatment facility? None

Influent BOD_5 _____ Effluent BOD_5 _____

(Ammonia-Nitrogen) NH_3-N _____ Effluent NH_3-N _____

TDPH-WQC
B-004 (4/77)

9. Is domestic wastewater treated and/or discharged with industrial wastewater?

Domestic water is not treated. It is discharged with industrial waste water to Metro Sewerage System.

Industrial Wastewater

10. Specify volumes of cooling, boiler feed, and process wastewater in MGD (million gallons per day) going to a public sanitary sewer system and volumes treated and/or untreated going to a storm sewer or stream:

	Treated	Untreated	Discharge to
Cooling Water		1.0	Open Stream
Boiler feed	0.416		Sanitary Sewer
Process	0.84		Sanitary Sewer

11. If boiler feed and/or cooling water are discharged specify what types if any additives are used, (example algacides, etc.) **Boiler Feedwater Treatment: Composed of - Sodium Sulfate, Trisodium phosphate, hydrous alkaline phosphates and sodium carbonate.**

12. Where treatment is provided prior to discharge to a storm sewer or stream specify the type treatment provided including the design capacities of the treatment units **None**

13. Where treatment is provided, specify: Influent chemical characteristics (Example: BOD, NH_3-N, metals, grease, pH, etc.) **None**

Effluent chemical characteristics **None**

14. Do you have a State Water Quality Permit?

No _____ Yes X (Give Permit No.) a) 76-995 b) 76-996

Do you have a Federal NPDES Permit?

No _____ Yes X (Give Permit No.) TN-0001597

STATE OF TENNESSEE
DEPARTMENT OF PUBLIC HEALTH, DIVISION OF SOLID WASTE MANAGEMENT
DATA FORM II
INDUSTRIAL RESIDUALS

The disposal of residual wastes generated from industrial processes has been a significant problem for many industries in Tennessee. Several reasons for that problem are the lack of environmentally acceptable disposal alternatives (such as liquid waste incinerators, solvent reprocessors, sludge disposal sites, etc.) at selected locations within the State, and the lack of a comprehensive management plan for residuals at the State level. The purpose of this study is to define the types, volumes, locations, present disposal practices, and costs associated with industrial residual management in Tennessee in order to develop and implement a hazardous/residual waste management program to meet the requirements of Public Law 94-580 and the State-wide 208 plan.

Your cooperation is appreciated.

GENERAL INSTRUCTIONS

1. This form should be completed by the technical employee(s) most familiar with the plant processes(es) and the resulting wastes. Answers should be as complete and accurate as possible.

2. If supplied information is proprietary, designate it as such. Designated information will be kept confidential.

3. If questions arise, please contact the Division of Solid Waste Management, telephone number 615-588-6537.

RESIDUAL WASTE DEFINITION

For the purposes of this study, residual wastes are defined as: solids, liquids, and sludges that result as a by-product of man's activities in the urban, agricultural, industrial, and mining environment that are not currently permitted for discharge to receiving streams after collection and/or treatment, but exclusive of non-process wastes such as on-site cafeteria, paper scaps, pallets, etc. Examples of residual wastes are:

solids and sludges from air, water, and wastewater treatment processes, hydrocarbon liquids (motor oils, industrial oils and emulsions, cutting oils, transformer oils, lacquers, varnishes, solvents, paints, etc.), inorganic and organic chemicals, clay and filter media with chemicals, incinerator residues, pesticide and pesticide containers, etc.

1. Does your firm produce residual wastes, as previously defined, that require disposal? Yes X No ____

2.a. Would your firm be interested in participating in an industrial waste swap program? Yes X No ____

If yes, what types, quantities, and quality of materials would your plant be willing to accept or offer for exchange? If necessary, attach additional sheet for response. **di-chromates, caustic soda, sulfuric acids, nitric acid, HCL, cyanides.**

2.b. Company **Avco Corp.** City **Nashville** Phone **361-2000**

M. C. Roberts (Name) **6/20/77** (Date)

If you answered YES to question 1, please complete remainder of form. If you answered NO to question 1, please sign, date, and return partially completed form.

3. Current Residual Waste Characteristics and Disposal Practices (If additional space is needed, please copy and attach sufficient sheets).

		Waste 1	Waste 2	Waste 3
Process (General)		**Sulfuric Anodize**	**Alodine**	**Cadimum Plating**
Waste Associated with Process		**Di-Chromate Sulphuric Acid Caustic**	**Same**	**Sodium Cyanide " Carbonate Cd Metal**
Estimated Quantity	Tons/Yr.			
	Yd^3/Yr.			
	Gal/Yr.	**25,000**	**12,000**	**500**
Physical State		**liquid**	**liquid**	**liquid & sludge**
Chemical Constituents (% wet basis)		**5-15%**	**5-10%**	**1% cyanide 1% Cd Metal 80% Sodium Carbonate**
Type of Storage Provided Prior To Disposal		**Holding Pond**	**Same**	**Special drums**
Frequency of Disposal		**Yearly**	**Yearly**	**2 or 3 years**
Disposal Method		**Neutralization**	**Same**	**Transfer Out**

4. On-Site Disposal Facility (If off-site disposal and/or recycling is used, go to question 5)

Landfill X Land Spreading _____ Incinerator _____ Other (Specify) _____ Description of Disposal Facility _____

Landfill is used for non-process dry trash (i.e. wood, paper, plastics, etc.)

If on-site landfilling or land disposal has ever been used, indicate years of use. (19 40 to 19 ___) Present

5. Off-Site Disposal or Recycling Facility

Landfill _____ Land Spreading _____ Incinerator _____ Recycle _____
Other (Specify) _____ Description of Facility or Facilities None by Avco. (Chemicals, oils, paints, thinners, etc. are disposed of by Contractors.

Location: City or Town _____ County _____
Owner of Disposal and/or Recycling Facility _____

Conservation Chemical Co.

Name and Address of Hauler (same) 215 W. Pershing Rd., Suite 703, Kansas City, Mo. 54108.

If off-site disposal or recycling practices have changed in the past year, indicate names and addresses of previous haulers and disposal or recycling sites. _____

Approximate costs associated with off-site disposal or reprocessing per unit time. _____

6. Do you expect to produce new types of waste during the next calender year (as a result of water pollution or air pollution controls, change of product, process modification, etc.) YES _____ NO X If YES, please indicate:

General Process and Associated Waste X

Constituents of Waste X

Quantity/Time and Proposed Disposal Method X

Permit No. TN000 7
Application No. TN0 [illegible]

OCT 02 1979

AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et. seq; the "Act"),

AVCO AEROSTRUCTURES DIVISION

is authorized to discharge from a facility located at

NASHVILLE, TENNESSEE

to receiving waters named

MILLS CREEK

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II, and III hereof.

This permit shall become effective on FEB 13 1975

This permit and the authorization to discharge shall expire at midnight, FEB 13 1980

Signed this 30 day of DEC 1974

John C. White, Deputy
for JACK E. RAVAN
REGIONAL ADMINISTRATOR

EPA Form 3320-4 (10-73)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the term of this permit the permittee is authorized to discharge from outfall(s) serial number(s) 001 and 002 - the total facility discharge.

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations				Monitoring Requirements	
	kg/day (lbs/day)		Other Units (Specify)			
	Daily Avg	Daily Max	Daily Avg	Daily Max	Measurement Frequency	Sample Type
Flow—m^3/Day (MGD)	—	—	—	—	one per month	instantaneous
Settleable Solids	-	-	-	0.1 ml/l	one per month	grab
Oil and Grease	-	-	-	15 mg/l	one per month	grab
Temperature	-	-	-	35°C(95°F)	one per month	grab

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored once per month with a grab sample.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

Samples shall be taken at the nearest accessible point after final treatment, but prior to actual discharge to or mixing with the receiving waters.

STATE OF TENNESSEE
DEPARTMENT OF PUBLIC HEALTH
Cordell Hull Building
Nashville 37219

71-
Permit #230

APPLICATION FOR PERMIT

To Discharge Sewage, Industrial Wastes or Other Waste Following Treatment

---

In accordance with the applicable provisions of Chapter No. 164, Public Acts of 1971 (as amended by Chapter No. 386) and Regulations of the Tennessee Water Quality Control Board, application is hereby made by

AVCO AEROSTRUCTURES DIVISION
Name of City, Town, Industry, Corporation, Individual, etc.

of Nashville (Name of Municipality) in Davidson (Name of County)

and located at P. O. Box 210, Nashville, Tennessee 37202
For industries show post office address or location

for permission to discharge Equipment Cooling Water
Domestic sewage and/or industrial wastes

into Storm Drain which is confluent with Mill Creek
Name of Stream

Contact the following official Maynard C. Roberts, Manager Plant Engineering & Maint if additional data are required or should a field visit be necessary.

Supplementary information on quantity and character of sewage and/or industrial wastes; principal features of present or proposed treatment and waste recovery; and point of discharge are as follows:

Discharge Point #001	Latitude	86"	41'	44"
	Longitude	36"	07'	14"
	Elevation	510' - 0		

Discharge point located on an unnamed branch of Mill Creek 5.7 miles from the mouth of Mill Creek. (See U. S. Geological Survey Map #MR 3610)

(See attached sheet for discharge data.)

Date Sept. 28, 1971 Signed AVCO - AEROSTRUCTURES DIVISION
City, Corporation, or Other Official Name

By [signature]
Official Directly Responsible W. W. Speed

Vice President - Operations
Official Title

7-71 FILE THIS FORM IN DUPLICATE

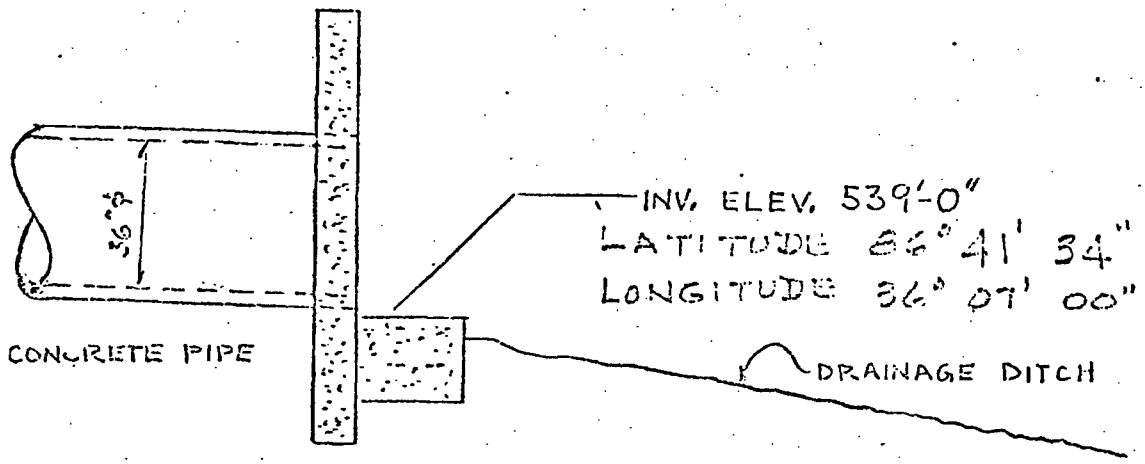
AVCO - AEROSTRUCTURES DIVISION

Discharge Point #001

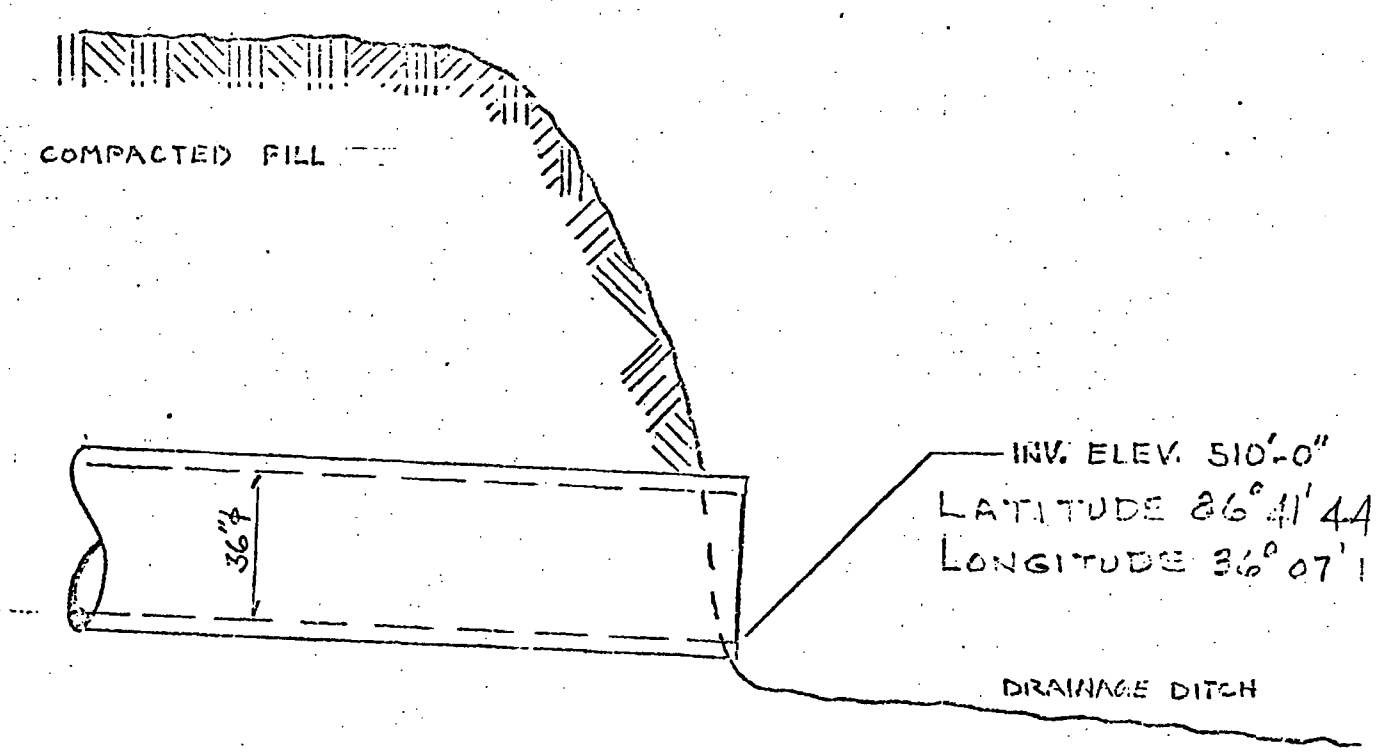
Flow (Average)	1,280,000 gallons per day
Average Temperature	70° winter, 85° summer
pH	7.2
B. O. D.	10 ppm
C. O. D.	14 ppm
Total Solids	110 ppm
Sulfate	45 ppm
Chloride	10.5 ppm

Discharge is the result of city water used for cooling equipment such as air compressors, vacuum pumps, hydaulic systems, etc.

See attached drawings for dishcarge location.

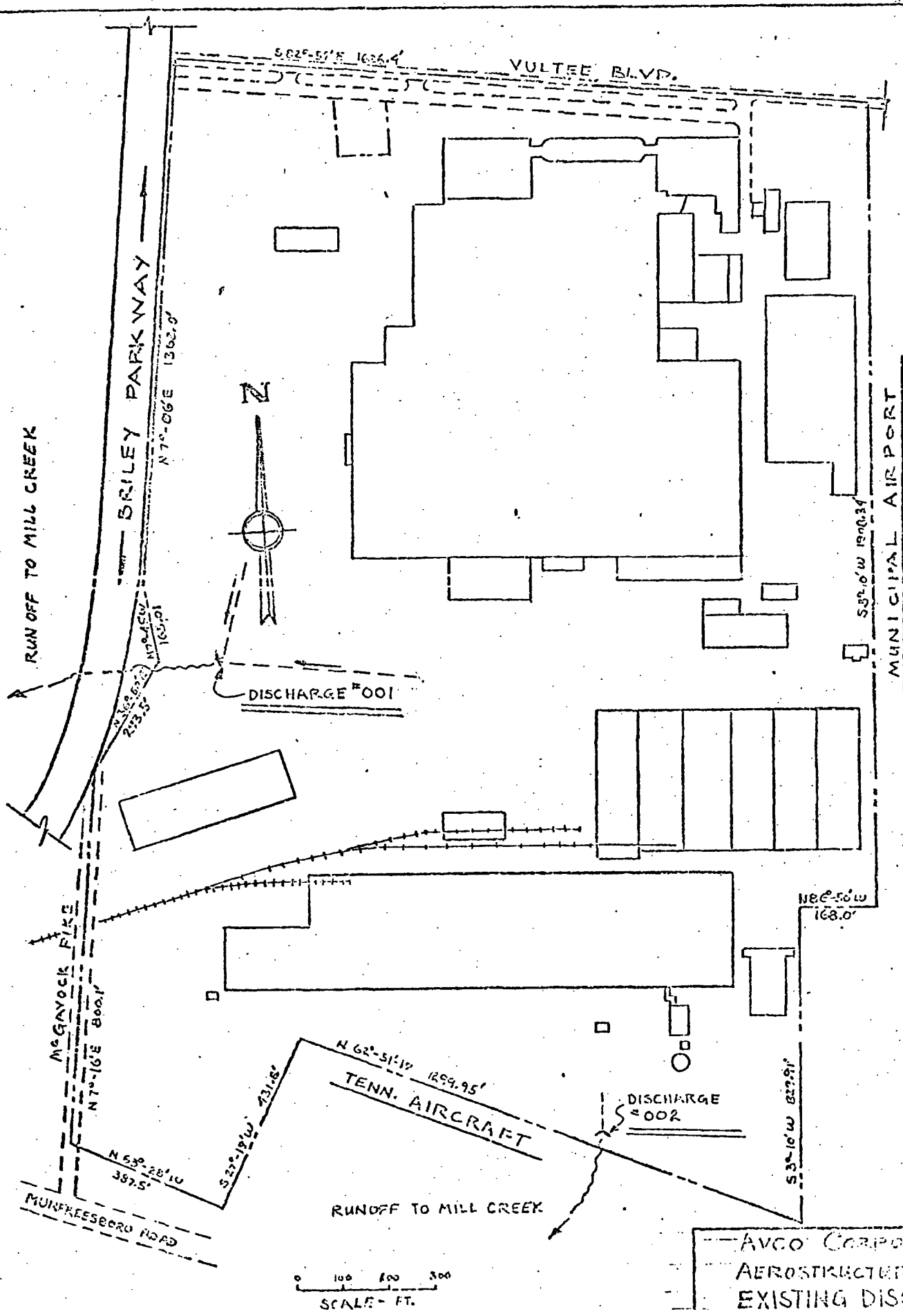


PROFILE – DISCHARGE #002



PROFILE – DISCHARGE #001

AVCO CORPORATION
AEROSTRUCTURES DI
DISCHARGE DETAILS



AVCO CORPORATION
AEROSTRUCTURES DIV.
EXISTING DISCHARGES

STATE OF TENNESSEE
DEPARTMENT OF PUBLIC HEALTH
Cordell Hull Building
Nashville 37219

PERMIT

Permit No: 71-230

For the Discharge of Treated Sewage, Industrial Wastes and Other Waste

In accordance with the provisions of Chapter No. 164, Public Acts of 1971 (as amended by Chapter No. 368) and Regulations of the Tennessee Water Quality Control Board.

PERMISSION IS HEREBY GRANTED TO
AVCO
Aerostructures Division
Nashville, Davidson County, Tennessee

FOR THE DISCHARGE OF

Industrial wastewater into an unnamed tributary of Mill Creek. The unnamed tributary enters Mill Creek at a point approximately 5.7 miles upstream of the mouth of Mill Creek.

in accordance with the application filed on September 28, 19 71 in the office of the Tennessee Department of Public Health and in conformity with plans, specifications and other data submitted to The Department in support of the above application, all of which are filed with and considered as a part of this permit, together with the following named conditions and requirements.

The wastewater for which this Permit is issued is discharged following its use for cooling such equipment as air compressors, vacuum pumps and hydraulic systems. The average flow rate is approximately 1.3 million gallons per day. The wastewater discharge for which this Permit is issued shall comply with the following conditions and criteria:

(1) The concentration of settleable solids in the industrial wastewater discharge must not exceed 0.1 ml/l as determined by the standard Imhoff cone test;
(2) The industrial wastewater discharge must contain no distinctly visible floating grease, oil, scum or other matter;
(3) The industrial wastewater discharge must contain no distinctly visible soluble or emulsified oils;
(4) The daily average concentration of total grease and oil in the industrial wastewater discharge must not exceed 5 mg/l and the instantaneous maximum concentration of total grease and oil must not exceed 10 mg/l;

NOTICE--This permit shall not be construed to authorize the creation or maintenance of a nuisance. Also, it may be revoked because of material changes in the amount of wastes discharged or failure to maintain treatment processes or other conditions of discharge specified above. Division of Water Quality Control is to be notified of any such major change.

Issued this 11th day of November 19 71

To Expire 30th day of November 19 72

Commissioner
Tennessee Department of Public Health

S. Leary Jones
Director
Division of Water Quality Control

7-71

(5) The daily average concentration of 5-day, 20° C biochemical oxygen demand in the industrial wastewater discharge must not exceed 10 mg/l and the instantaneous maximum concentration of 5-day, 20° C biochemical oxygen demand must not exceed 15 mg/l.

(6) This Permit does not allow the discharge of chromium, cadmium, zinc, nickel, copper or other materials or compounds in concentrations that might be hazardous or toxic to fish and aquatic life or alter the water quality in the receiving stream such that the water quality would not be commensurate with any of the uses for which the stream is classified;

(7) Reports relating to the characteristics of the industrial wastewater discharge shall be completed and submitted, as requested, to the Tennessee Department of Public Health.

The improper operation, at any time, of the industrial wastewater treatment facilities named herein resulting in the creation of a public or private nuisance; or the creation of a public health hazard, or hazard to fish, aquatic life and/or wildlife; or resulting in the discharge of wastewater which fails to meet one or more of the preceding criteria and conditions shall constitute a violation of this Permit.

This Permit is, at any time, subject to review by the Division of Water Quality Control, Tennessee Department of Public Health.

STATE OF TENNESSEE
DEPARTMENT OF PUBLIC HEALTH
Cordell Hull Building
Nashville 37219

71-
Permit # 231

APPLICATION FOR PERMIT

To Discharge Sewage, Industrial Wastes or Other Waste Following Treatment

---

In accordance with the applicable provisions of Chapter No. 164, Public Acts of 1971 (as amended by Chapter No. 386) and Regulations of the Tennessee Water Quality Control Board, application is hereby made by

AVCO - AEROSTRUCTURES DIVISION
Name of City, Town, Industry, Corporation, Individual, etc.

of Nashville (Name of Municipality) in Davidson (Name of County)

and located at P. O. Box 210, Nashville, Tennessee 37202
For industries show post office address or location

for permission to discharge Equipment Cooling Water
Domestic sewage and/or industrial wastes

into Storm Drain which is confluent with Mill Creek
Name of Stream

Contact the following official Maynard C. Roberts, Manager Plant Engineering & Maint if additional data are required or should a field visit be necessary.

Supplementary information on quantity and character of sewage and/or industrial wastes; principal features of present or proposed treatment and waste recovery; and point of discharge are as follows:

Discharge Point #002

Latitude	86"	41'	34"
Longitude	36"	07'	00"
Elevation	539' - 0		

Discharge point located on an unnamed branch of Mill Creek 7.8 miles from the mouth of Mill Creek. (See U. S. Geological Survey Map #MR 3610)

(See attached sheet for discharge data.)

Date Sept. 28, 1971 Signed AVCO - AEROSTRUCTURES DIVISION
City, Corporation, or Other Official Name

By [signature]
Official Directly Responsible W. W. Speed

Vice President - Operations
Official Title

7-71 FILE THIS FORM IN DUPLICATE

AVCO - AEROSTRUCTURES DIVISION

Discharge Point #002

Flow (Average)	720,000 gallons per day
Average Temperature	70° winter, 85° summer
pH	7.7
B.O.D. (5 day)	12 ppm
C.O.D.	18 ppm
Total Solids	169 ppm
Sulfate	36 ppm
Chloride	20.4 ppm

Discharge is the result of city water used for cooling equipment such as air compressors, vacuum pumps, hydraulic systems, etc.

See attached drawings for discharge location.

STATE OF TENNESSEE
DEPARTMENT OF PUBLIC HEALTH
Cordell Hull Building
Nashville 37219

PERMIT

Permit No: 71-231

For the Discharge of Treated Sewage, Industrial Wastes and Other Waste

In accordance with the provisions of Chapter No. 164, Public Acts of 1971 (as amended by Chapter No. 368) and Regulations of the Tennessee Water Quality Control Board.

PERMISSION IS HEREBY GRANTED TO
AVCO
Aerostructures Division
Nashville, Davidson County, Tennessee

FOR THE DISCHARGE OF

Industrial wastewater into an unnamed tributary of Mill Creek. The unnamed tributary enters Mill Creek at a point approximately 5.7 miles upstream of the mouth of Mill Creek.

in accordance with the application filed on September 28, 19 71 in the office of the Tennessee Department of Public Health and in conformity with plans, specifications and other data submitted to The Department in support of the above application, all of which are filed with and considered as a part of this permit, together with the following named conditions and requirements.

The wastewater for which this Permit is issued is discharged following its use for cooling such equipment as air compressors, vacuum pumps and hydraulic systems. The average flow rate is approximately 0.75 million gallons per day. The wastewater discharge for which this Permit is issued shall comply with the following conditions and criteria:

(1) The concentration of settleable solids in the industrial wastewater discharge must not exceed 0.1 ml/l as determined by the standard Imhoff cone test;
(2) The industrial wastewater discharge must contain no distinctly visible floating grease, oil, scum or other matter;
(3) The industrial wastewater discharge must contain no distinctly visible soluble or emulsified oils;
(4) The daily average concentration of total grease and oil in the industrial wastewater discharge must not exceed 5 mg/l and the instantaneous maximum concentration of total grease and oil must not exceed 10 mg/l;

NOTICE--This permit shall not be construed to authorize the creation or maintenance of a nuisance. Also, it may be revoked because of material changes in the amount of wastes discharged or failure to maintain treatment processes or other conditions of discharge specified above. Division of Water Quality Control is to be notified of any such major change.

Issued this 11th day of November 19 71

To Expire 30th day of November 19 72

Commissioner
Tennessee Department of Public Health

Director
Division of Water Quality Control

7-71

(5) The daily average concentration of 5-day, 20° C biochemical oxygen demand in the industrial wastewater discharge must not exceed 10 mg/l and the instantaneous maximum concentration of 5-day, 20° C biochemical oxygen demand must not exceed 15 mg/l.

(6) This Permit does not allow the discharge of chromium, cadimum, zinc, nickel, copper or other materials or compounds in concentrations that might be hazardous or toxic to fish and aquatic life or alter the water quality in the receiving stream such that the water quality would not be commensurate with any of the uses for which the stream is classified;

(7) Reports relating to the characteristics of the industrial wastewater discharge shall be completed and submitted, as requested, to the Tennessee Department of Public Health.

The improper operation, at any time, of the industrial wastewater treatment facilities named herein resulting in the creation of a public or private nuisance; or the creation of a public health hazard, or hazard to fish, aquatic life and/or wildlife; or resulting in the discharge of wastewater which fails to meet one or more of the preceding criteria and conditions shall constitute a violation of this Permit.

This Permit is, at any time, subject to review by the Division of Water Quality Control, Tennessee Department of Public Health.

STATE OF TENNESSEE
DEPARTMENT OF PUBLIC HEALTH
NASHVILLE 3

PERMIT

For the Discharge of Sewage, Industrial Wastes and Other Waste

---

In accordance with the provisions of Tennessee Code Annotated 70-301 to 70-319 and Regulations of the Tennessee Stream Pollution Control Board,

PERMISSION IS HEREBY GRANTED TO

Avco Corporation
Nashville, Tennessee

FOR THE DISCHARGE OF

Uncontaminated Cooling Water into drainage ditch - tributary of Mill Creek

in accordance with the application filed on December 7, 19 53 in the office of the Tennessee Department of Public Health, and in conformity with plans, specifications and other data submitted to this Department in support of the above application, all of which are filed with and considered as a part of this permit, together with the following named conditions and requirements:

This Permit is issued for a period of 5 years.

The continuance and/or renewal of this Permit shall be contingent upon the discharge of an effluent which will not create a stream pollution problem.

DATE OF
MAY 14 1970
EXPIRATION

NOTICE—This permit shall not be construed to authorize the creation or maintenance of a nuisance. Also, it may be revoked because of material changes in the amount of wastes discharged or failure to maintain treatment processes or other conditions of discharge specified above. The Department of Public Health should be notified of any such major change.

Issued this 14th day of May, 19 65

_____ Commissioner
Department of Public Health

_____ Director
Stream Pollution Control

254-9551

May 14, 1965

Mr. Maynard C. Roberts
Manager, Plant Engineering
Avco Corporation
Nashville, Tennessee

Dear Mr. Roberts:

On May 3, 1965, a visit was made to the Avco Corporation, Nashville, Tennessee for the purpose of reviewing the industrial waste disposal practices at the plant. The drainage ditch which goes from the plant and eventually into Mill Creek was discussed and observed.

The following was stated during our discussion regarding the wastes going into this drainage ditch:

1. That normally the only wastes going into this ditch is uncontaminated cooling water, storm drainage, and drainage from some of the plant drinking fountains.
2. That there was the possibility of the mis-use of the in-plant drains which go to this ditch but every precaution was being taken to keep pollutants from these drains.
3. That two paint spray booths that were periodically dumped with some run-off into this ditch have been removed as of approximately a year ago.
4. That every effort was being made to limit the plant dump to paper, metal and wood. Leaching of pollutants by rain water from this dump and into the drainage ditch have apparently occured during the past.

The management of the Avco Corporation are to be commended for their efforts in keeping this surface drainage ditch free of pollutants.

Based on the above, recommendations will be made to the Tennessee Stream Pollution Control Board that the expired Tolerance Permit issued to the Avco Corporation be replaced by a Permit. The Permit is to be issued for a period of five years. The continuance of the Permit and/or its renewal upon expiration is to be contingent upon a pollution problem not being created. Every precaution should continue be taken to prevent the discharge of an effluent which might create a pollution problem.

The cooperation and courtesies extended during the recent visit were certainly appreciated. If we may be of assistance at any time, please call upon us.

Yours very truly,

James H. Cornwell
Jr. Sanitary Engineer
Stream Pollution Control

JHC/hgm

cc: Metro Health Department

58

June 21, 1954

Mr. B. L. Clark, Plant Engineer
Avco Manufacturing Corporation
Nashville 1, Tennessee

Dear Mr. Clark:

The information in your letter of April 16, 1954, relative to the treatment and disposal of industrial waste at Avco's Nashville plant was referred to the Tennessee Stream Pollution Control Board for review at its meeting on May 20, 1954. The information was accepted by the Board.

It is noted that a new impeller and a larger motor have been installed on one of the sewage pumps and that a new impeller and a larger motor have been ordered for the second sewage pump which serves as a standby unit.

Oils and other objectionable materials including chromic acid paints are discharged to a pit located some distance from the stream.

Those cyanide wastes which in the past have been buried in metal containers are now discharged to a concrete septic tank. It is understood that the septic tank is completely sealed and there is no possibility of overflow reaching the stream.

In your original permit application you indicated that negotiations were under way for purchasing an incinerator for the purpose of taking care of the oils and other wastes referred to above, however, in your last letter you state that the incinerator has not been purchased. We understand that the incinerator would also destroy the chromic acid paints which are now discharged to the dump. Since surface runoff from this dump could possibly cause serious pollution of Mill Creek we recommend that the incinerator be installed as originally proposed.

On June 2, 1954, we received complaints that a heavy volume of highly colored waste was being discharged from your plant to Mill Creek. Subsequent investigation and analysis of the waste showed it contained a

considerable amount of chromic acid. Mr. Osteen of this Division visited the Avco plant on June 3, and found that the waste apparently originated from the overflowing of a large vat of chromic acid. Mr. Roberts of your company indicated to Mr. Osteen that the tank was overflowed to the storm sewer by mistake and that changes were then being made in the sewer system to prevent such accidents occurring in the future. We are recommending that your present Tolerance Permit be extended six months. This is to allow time for the company to complete the improvements in the waste disposal system outlined in the original permit application including the construction of the incinerator.

The next report on the progress of your waste control program should be submitted to this Division prior to October 10, 1954.

Yours very truly,

R. P. Farrell, Director
Division of Sanitary Engineering

RPF/FTO/mpr

cc: Davidson County Health Department

STATE OF TENNESSEE
DEPARTMENT OF PUBLIC HEALTH
NASHVILLE 3

Posted 1-13-54 MPR

TOLERANCE PERMIT

For the Discharge of Sewage, Industrial Wastes and Other Waste

---

In accordance with the provisions of Chapter No. 128, Public Acts of 1945, and Regulations of the Tennessee Stream Pollution Control Board,

PERMISSION IS HEREBY GRANTED TO

Crosley Division, Avco Manufacturing Corporation
Nashville, Tennessee

FOR THE DISCHARGE OF

Industrial wastes consisting of non-toxic cooling water into a surface stream tributary to Mill Creek

in accordance with the application filed on December 7, 19 53 in the office of the Tennessee Department of Public Health, and in conformity with plans, specifications and other data submitted to this Department in support of the above application, all of which are filed with and considered as a part of this permit, together with the following named conditions and requirements:

This tolerance permit is issued for a limited period to allow time for the company to complete the proposed work on the sewage pump station and to carry out the procedures for disposing of cyanide wastes, other toxic wastes and oils as outlined in the application for permit.

Renewal of this tolerance permit or the issuance of a full permit will be contingent upon satisfactory progress by the company leading to the correction of this pollution problem.

DATE OF EXPIRATION JUN 15 1954

NOTICE—This permit shall not be construed to authorize the creation or maintenance of a nuisance. Also, it may be revoked because of material changes in the amount of wastes discharged or failure to maintain treatment processes or other conditions of discharge specified above. The Department of Public Health should be notified of any such major change.

Issued this 16th day of December 19 53

_____ Commissioner
Department of Public Health

_____ Director
Division of Sanitary Engineering

R. H. HUTCHESON, M.D.
Commissioner of Public Health

STATE OF TENNESSEE
DEPARTMENT OF PUBLIC HEALTH
NASHVILLE 3

R. P. FARRELL, Director
Division of Sanitary Engineering

APPLICATION FOR PERMIT

To Discharge Sewage, Industrial Wastes or Other Waste

In accordance with the applicable provisions of Chapter No. 128, Public Acts of 1945, and General Regulations of the Tennessee Stream Pollution Control Board, adopted May 25, 1945, application is hereby made by

Crosley Div. Avco Manufacturing Crop.
Name of City, Town, Industry, Corporation, Individual, etc.

of Nashville (Name of Municipality) in Davidson (Name of County)

and located at Berry Field
For industries show post office address or location

for permission to discharge Industrial cooling and rinse water.
Domestic sewage and/or industrial wastes

into Browns Creek
Name of Stream

Contact the following official B. L. Clark, Plant Engineer
if additional data are required or should a field visit be necessary.

Supplementary information on quantity and character of sewage and/or industrial wastes; principal features of present or proposed treatment and waste recovery; and point of discharge are as follows:

See attached sheet.

Date December 7, 1953 Signed Crosley Div. Avco Manufacturing Corporation
City, Corporation, or Other Official Name

By W R Lawrence
Official Directly Responsible

General Manager
Official Title

FILE THIS FORM IN DUPLICATE

SUPPLEMENT TO APPLICATION FOR PERMIT

TO DISCHARGE SEWAGE, INDUSTRIAL WASTES, OR OTHER WASTE

Industrial waste and plant sewage is pumped from the plant to a company owned sewer system which connects with the Nashville Browns Creek sewer. Cooling water from the air conditioning, spot welders, quench tanks and rinse tanks flow into storm sewers and dump directly into a surface stream which leaves the plant property, flows under McGavock Road and under Murfreesboro Road thence into Mill Creek.

We have made a survey and are reasonably sure that only non-toxic cooling water is being discharged through our storm sewer system into the surface stream.

The cyanide wastes which were burried in metal containers are to be dug up and the cyanide crystals placed in a large concrete septic tank which we have purchased and burried in the ground for that purpose. The contents of this tank are to be treated with chlorine to neutralize the liquors before they reach the overflow stage. We have been in touch with Mr. L. C. Webb of Inflico Company in regard to this matter.

We have instructed our maintenance department that no toxic materials or other objectionable waste should be put on the dump or areas adjacent to the surface stream. In addition to this we are negotiating with Brule Incinerator Company of Chicago for the purchase and installation of a large incinerator with the capacity to take care of all of our waste and thus eliminating the need for the present dump. According to the vendor's plans this incinerator will completely destroy chromic acid paints, greases, and oils which could possibly under the present dump system be washed into the surface stream during heavy rain fall. There is some oil drainage from machine shop borings which soak into the ground, but we are constantly changing the location of the dump areas for this material in order to prevent any excessive amount of oil reaching the open stream. All used oils and thinners are being stored in barrels and sold to a salvage company.

We have made a thorough investigation of the sewer pump station. We called in local and factory representatives of the Fairbanks - Morse Pump Company to determine how we could increase the capacity of our pump system to assure us that the pump would maintain a level in the sewage disposal plant well below the by-pass from the sump to the stream. Their recommendations are as follows:

(a) Secure 12" impellers for the two present pumps - these have been ordered.

(b) Exchange 30 HP motors on two present pumps for the 10 HP motors now installed. One 30 HP motor has been received. In addition to these recommendations we have installed a third pump equipped with a 15 HP motor as insurance. One of the 30 HP motors has been installed on one of the present pumps and we have set up a hourly check on a twenty-four hour basis of the water level in the sewage disposal sump. This check has indicated that the pumps are now capable of holding the sump level 48" or more below the by-pass outlet.

As our program developes we will keep you informed as of the results.

EAC-N Copy

WPC Correspondence Files and Chronology
Copied & Compiled by DSF
2002

CONTAMINANTS

OILS/GREASES
CHROMIC ACID PAINTS
COOLING WATER
CYANIDE WASTES; CYANIDE CRYSTALS
THINNERS
GREEN PENETRANT- PREP ALUMINUM FOR PAINTING
DI-CHROMATES
CAUSTIC SODA
SULFURIC ACIDS
HCL
"SHELL DROMUS B" CUTTING FLUIDS

PRODUCTS/PROCESSES

AIRCRAFT AEROSTRUCTURES
STAINLESS STEEL RAPID TRANSIT RAIL CAR SHELLS
MISSILE NOSE CONES, U.S. ARMY

CADMIUM PLATING
ALODINE
SULFURIC ANODIZE
HEAT TREATING
CHEMICAL MILLING
PENETRANT INSPECTION ANODIZING
PAINTING
SPOT WELDING

CHRONOLOGICAL HISTORY OF SELECT WPC CORRESPONDENCE

NAME: AVCO CORPORATION

04/04/55	CHROMIUM SPILLS TO CREEK (FROM DITCH) "13.6 PPM CR^{+6} A FEW DAYS AFTER SPILL"
04/28/53	AT 1175 MURFREESBORO ROAD CREEK HAD 25.6^{+6} CR AND 1.0 CN PPM
09/07/56	CR IN DITCH AT MCGAVOCK PIKE AND MURFREESBORO ROAD 3.2^{+6} PPM AND 1.78^{+6} PPM
12/07/53	PERMIT APPLICATION: CN WASTES BURIED IN METAL---THEN CONCRETE TANKS. MACHINE OIL DRAINAGE SOAKS INTO GROUND IN DUMP.
06/21/54	CHROMIC ACID PAINTS DISCHARGED TO PIT (DUMP?)
11/24/58	DISCHARGE TO MILL CREEK OF PLANE STRIPPING PROCESS: --STRIPPER, ALKALINE CLEANER, ACID, PHENOLIC ENGINE CLEANER --DISCHARGE TO GROUND SURFACE
01/16/63	SPILL OF GREEN PENETRANT USED TO PREP ALUMINUM FOR PAINTING. OIL FILM - DUMP BEING MOST PROBABLE SOURCE OF CONTAMINANT
02/13/63	DISCHARGE OF YELLOW – CHROMIUM, FLUORIDE & POTASSIUM TO DITCH
05/14/65	SPRAY PAINT BOOTHS (2) PERIODICALLY DUMPED INTO DITCH TRYING TO LIMIT PLANT DUMP TO PAPER, METAL & WOOD.
03/26/68	GREENISH BLUE-WHITISH DISCHARGE TO DITCH (COMPLAINT) POSSIBLE WATER USED TO "SPRAY THE DUMP"
04/30/68	POSSIBLY AN EMULSION TYPE CUTTING OIL, WATER WAS MILKY.
10/13/69	MILKY LOOKING CUTTING OILS. ZINC CHROMATE BASED PAINTS USED ON AIRCRAFT—"PAINT FILTERS PUT IN DUMP(FIRE HAZARD DUE TO OXIDIZING" SO STOPPED.
06/12/68	DRAINAGE DITCH- ALUMINUM SHAVINGS AND OIL OBSERVED IN LOW AREAS.

AVCO - AEROSTRUCTURES DIVISION

06/25/69 DITCH UNDER BRILEY EXTREMELY MILKY

09/26/69 CHALKY WHITE, BLUE, YELLOW DISCHARGE TO DITCH

11/25/69 WATER QUALITY CONTROL BOARD ADDED AVCO CORPORATION TO "CRITICAL LIST OF INDUSTRIES HAVING A SERIOUS STREAM POLLUTION PROBLEM" ON 11/21/69

03/18/74 DISCHARGES: SANITARY SEWER 1,100,000MGD [GPD?]
STORM SEWER 2,200,000MGD [GPD?]
(AMOUNTS CORRECTED IN 1977)

04/21/75 DETERGENT SPILL (FROM COOLING WATER DISCHARGE) CAUSTIC SOLUTION OF TSP, BORAX, SODIUM METASILICATE AND ANIONIC SURFACTANT

05/05/75 "FRENCH DRAIN SYSTEM UNDER BUILDING FOR SUB-SURFACE DRAINAGE"

1976 DISCHARGE PERMITS ISSUED:

OUTFALL #001	AND	OUTFALL #002
COOLING WATER		COOLING WATER
5.7 MILES U/S		7.8 MILES U/S

1977 DISCHARGE INFORMATION INDUSTRIAL WW
COOLING WATER:
1.O MGD UNTREATED→ OPEN STREAM
BOILER FEED:
0.416 MGD TREATED→SANITARY SEWER
PROCESS:
0.84 MGD TREATED(SANITARY SEWER
"LANDFILLING / LAND DISPOSAL FROM 1940 TO PRESENT" [1977]

10/1977 REPORT TO COMMISSIONER OF WASTE TREATMENT FACILITY (AS REQUIRED BY NEW LAW)

07/1979 INSPECTION: BROKEN DRAINPIPE FROM PLATING AREA -----

07/1979 VIOLATE PERMIT WITH DISCHARGE OF CHROMUIM (730PPB) AND OIL & GREASE (17PPM)

09/18/79 JET FUEL SPILL (3RD REPORTED)

09/25/79 SPILL (AMMONIUM BISULFIDE, SODIUM DICHROMATE) 12,000 GALLONS
*U/S OF METRO WATER PLANT→ WATER PLANT PERSONNEL HAD TO MONITOR CHROME WHICH WAS ABOVE MCL'S IN CREEK

09/26/79 ANALYSES: 2600 PPB CR^6 / 3100 PPB CR^6
5025 PPB CR TOTAL / 3100 PPB CR TOTAL

10/1979 NPDES PERMIT ISSUED

10/19/79 STATE WPC REQUESTS EPA ENFORCEMENT

11/21/79 SHOW CAUSE MEETING IN ATLANTA

04/1980 EPA REQUESTS CIVIL ACTION AGAINST AVCO, $10,000 CIVIL PENALTY

05/28/80 SAMPLE OF LNDF: 3 LEACHATE AREAS- DRY PERIOD

1,1-DCA	1,2-DCE, TCE	1,1,1-TCA	CN
2.6 PPB	41 PPB 16PPB		
	44	2.7PPB	0.03

01/09/81 SPILL- "SHELL DROMUS B" CUTTING FLUID

01/15/81 SPILL

01/02/80 ALUMINUM SAMPLE 1,300 PPB

01/06/80 ALUMINUM SAMPLE 6,400 PPB

06/17/81 TO 06/20/81
SPILL (INTENTIONAL DUMPING?)

08/17/81 SAMPLE: 1500 CR TOTAL PPB
35,000 CR TOTAL PPB

11/23/81 SAMPLE: AL @ 10,900 PPB

11/24/81 SAMPLE: AL @ 7,050 PPB

12/04/81 LIMITED STREAM ASSESSMENT: NO MACRO INVERTEBRATES BELOW EITHER OUT FALL 001 OR 002

12/31/81 NOTICE OF NON-COMPLIANCE FOR UNPERMITTED DISCHARGES (11-23-81 AND 11-24-81 SAMPLES)

01/14/82 REPLY TO NOTICE OF NON-COMPLIANCE: JET FUEL IN PIPE FROM FRENCH DRAIN WHICH SURROUNDS 3 BURIED HOLDING TANKS.

04/19/82 SAMPLE: CR @ 1100 PPB TRIB TO MILL CREEK

03/19/82 SAMPLE: CR @ 2,800 D/S OF POOL OUT FALL
12/08/82 SAMPLE 001 OUT FALL:

1,1 – DCA	11.8 PPB	TCE	42.1 PPB
1,1,1 – TCA	30.7 PPB	CHLOROFORM	10.7 PPB
1,2 – DCE	30		

07/15/83	SPILL: 3000 LBS $NaCr_2O_7$ DIVERTED TO SEWER WITH PERMISSION REPORTED TO COAST GUARD
02/21/85	SPILL: CHROME, DIVERTED TO SANITARY SEWER WITH PERMISSION NOTIFIED DEPARTMENT, ETC
07/24/85	VOC'S IN OUTFALLS - TO BE INCLUDED IN PERMIT FOR MONITORING
01/23/86	SAMPLE: PROPANE, DCE, CHLOROFORM, TCA, AND TCE
10/27/87	JET FUEL IN 002
01/21/86	DISCHARGE STILL TOXIC TO AQUATIC LIFE: CHLORINE AND HEX-CHROME
09/08/88	GW SAMPLE FROM MW-3 INSTALLED IN 1988 (SOUTH PORTION OF FACILITY NEAR CHROME TANKS) PB : ND CR : ND ZN : ND PH : 7.4
08/1988	FISH KILL
09/19/88	NOTICE OF NON-COMPLIANCE FOR FISH KILL
10/06/88	RESPONSE OF DISAGREEMENT
12/06/88	OIL SHEEN ON SURFACE OF DISCHARGE WITH BOOM'S IN PLACE AERIAL PHOTO
03/09/89	COMMISSIONERS ORDER: CIVIL PENALTY OF $5,000 DAMAGES OF $935.10 APPEALED BY TEXTRON
06/21/89	HEARING BY BOARD
06/1989	MILL CREEK ON CONTAMINATED STREAM LIST
03/30/89	SECTION 6 OF UST SOIL & GW INVESTIGATION REPORT (38 PAGES)
11/20/89	TEXTRONS' PHILOSOPHY OF COOPERATION AND COMPLIANCE
01/11/90	SPILL FROM UNDER XY-GLO AREA, CONTAINMENT PIT; HEX-CHROME (BROKEN PIPE) "SEEPAGE FROM BUILDING FOOTING DRAINS TO OUTFALL 002" TOTAL CR @ 1180 PPB HEX CR @ 3869 PPB FINED $5,935.10

02/18/90	SPILL FROM HEAT TREAT QUENCH TANK – GLYCOL SOLUTION TO OUTFALL OO1 (JARRETT REPORTING)
05/16/90	GROUND LEVEL RESERVOIR OVERFLOW LETTER TO METRO FROM AVCO: "IMPACT HAZARDOUS WASTE STORAGE YARD AND CHEMICAL STORAGE BUILDINGS" CHLORINE VIOLATION IN NPDES DISCHARGE"
12/05/90	COMMISSIONER'S ORDER: JANUARY 4, 1990 SPILL FEBRUARY 18, 1990 SPILL PAY DAMAGES $1,179.27
02/19/92	AVCO SAMPLING 002: CR 24 PPM, TOLUENE .0018 PPM
08/31/92	5000,000 GALLONS No. 2 FUEL OIL TANK
09/02/92	(FROM APPLICATION) RELEASE OF 0.8 TO 2.6 lb CR TO 001 FROM BUILDING 2
11/10/93	RELEASE OF ETHYLENE GLYCOL TO PAVEMENT AND POSSIBLY 002, 5 GALLONS OF DILUTED SUBSTANCE (5lbs) REPORTED TO EPA RESPONSE CENTER
12/05/94	COMPLIANCE SAMPLING:
	#001 1,1 – DCA 0.9 -PPB 1,2 – DCE 8.6 " 1,1,1 – TCA 0.8 " TCE 16 PPB VC 3.9 "
09/07/95	(08/27/95) RELEASE OF DEOXIDIZER (CHROMIC 1.2 to 2 LBS and SULFURIC ACID)

TENNESSEE DEPARTMENT C. JBLIC HEALTH

OFFICE CORRESPONDENCE

RLS 12
JEH 6/27
file
KHH 7/28
BWS 7/29

FROM	TO	DATE

DATE: June 12, 1980

TO: Joe Walkup

FROM: Ruth Yates

SUBJECT: Results from 5/28/80 Sampling at AVCO

On 5/28/80 a composite sample of three (3) different areas of leachate was collected from AVCO's landfill. At the time this grab sample was collected, the values for the various parameters measured were low, therefore, indicating no specific environmental hazard during this dry period. However, the mere presence of some of the compounds - such as, cyanides at 0.03 ppm; 1, 1, 1 trichloroethane at 2.7 ppb; trichloroethylene at 16-44 ppb; 1, 1 - dichloroethane at 2.6 ppb and trans 1, 2 - dichloroethylene at 41 ppb - mandates that a monitoring program be established to be sure that these toxic substances do not increase or enter surface water in significant amounts.

R.Y.

RY/tah 2-14

FROM	DATE

TO

PH-0001
SR 3/77

Affected Facility	Description of Needed Activity
Aircraft Services Delta Exxon Texaco	Cover fueling (and unloading if provided) platform with 6-foot overhang roof from sloped pad. Utilize downspouts to control collected rainfall.
Aircraft Services Delta Exxon Texaco Budget Rent-A-Car	Surface drainage now a problem.
Delta Exxon Loading	Construct new pad with curbed edges with special attention directed at surface runoff.
Aircraft Services Exxon Unloading Budget Rent-A-Car	Existing pad acceptable, but curbed edges needed to contain spills and runoff.
Delta Exxon Texaco	Construct and maintain appropriate waste oil handling tank system.
Budget Rent-A-Car	Connect to public sewer system.
Exxon	Cover existing separator.

TENNESSEE DEPARTMENT OF PUBLIC HEALTH

OFFICE CORRESPONDENCE

FROM	TO	DATE
AIP	JEH	5/6
	RCS	5/13
	SHF	5/13
	TKC	5/8
	FILES	

DATE: May 1, 1975

TO: Files

FROM: Andrew I. Philipsborn

SUBJECT: AVCO Aerostructures, Inc., Nashville, Davidson County, Tennessee, Cleansing Solution Spills - April 9, 16, 22, 1975

On the above three dates, the Metro Health Department received complaints regarding soapsuds and a greenish color in a tributary to Mill Creek. The source of the froth was the referenced Company's loss of a cleansing solution and possibly a biodegradable penetrant. Both of these solutions are used in the aircraft wing assembly process and the frequent spillage overflows into an enclosed pit. This pit drains into a sanitary sewer line. It is currently believed that a hole exists in this trench. Beneath the pit, exists so called "French sewer lines" which are open drainage pipes designed to collect groundwaters and discharge them into a manhole which joins one of the Company's two cooling water discharges. The inherent agitation involved in the piping and discharge created the foam. The green color observed is indicative of not only the cleansing solution, but also a penetrant, utilized for crack detection. The Company is presently undertaking measures to remedy the leak. AVCO officials have unofficially considered connecting the French sewer line onto the sanitary sewer lines preventing any possible future incident. This idea was not recommended nor encouraged by this Division. Samples of the pollutants were grabbed at (1) the manhole where the solution merged with the cooling water, (2) the property line, where the discharge enters an unnamed tributary to Mill Creek, (3) half way downstream before entering Mill Creek, and (4) and (5) upstream and downstream of the tributary's entrance into Mill Creek. Laboratory results and further developments will be included in the file when they are made available.

FROM	DATE

TO	

Incidently, the cleansing solution is manufactured by Wyandotte Products and is called "Altrex B" and contains the following constituents: trisodium phosphate, sodium metasilicate, anionic surfactant, and borox. It is a concentrated caustic solution but had been diluted with cooling water down to a pH of 7 to 8 before it left the Company's property.

Andy

A.I.P.

AIP/cm 5/2

AVCO AEROSTRUCTURES DIVISION NASHVILLE, TENN. 37202, TELEPHONE: (615) 254-9551

RECEIVED
1975 MAY -7 PM 1:50
W.Q.C. DIV.

AIP 5/8
RLS 5/6
JEH 5/13
TKC 5/13
4-I
SAF 5/15

May 5, 1975

Mr. Andrew I. Philipsborn
Environmental Engineer
Division of Water Quality Control
Tenn. Department of Public Health
Nashville, Tenn. 37219

Re: Detergent Spill, April 16, 1975
Avco Corporation

Dear Mr. Philipsborn:

This is in response to your letter dated April 21, 1975, same reference.

First, let me express appreciation for the cooperation and understanding you have extended to us concerning the spill from our outfall. We at Avco are taking every precaution possible to stay within the guidelines required for our water and solids disposal. We realize, and I am sure you do also, that mishaps and accidental situations occur that we cannot control, however, every effort is made to minimize these situations.

We have discovered an 8" line emptying into our storm sewer manhole and in turn discharging into our No. 002 water outfall, south of our L-1011 Manufacturing Building. The detergent was coming from this drain line. This underground 8" line was not recorded on any of our building drawings. We started a tracking program to locate where the line went under the building. We asked the Metro Water Dept. to assist us with their equipment to try and locate the line. They were unsuccessful. We then employed Buchi Plumbing Co. to locate the line. They were successful and the line has been properly marked and recorded on our drawings.

As was explained to you, we have a French drain system under our building for sub surface drainage. This 8" line runs from this drain field. The process system from which the detergent could come from is drained by a separate drain system that empties into the Sanitary Sewer. The only way for the detergent to get into the French drain is for the process system drain system to leak or the drain pit under the system to leak.

The actions being taken to alleviate the problem:

1. A manhole is being installed in the newly discovered 8" line from the French drain so the water can be diverted to the Sanitary Sewer temporarily. The line is to be plugged at the new manhole.

2. A dye and/or penetrant solution is to be continuously fed into the process system drains and pit for a 48 hour period. Samples will be taken from the new manhole every 2 hours and analyzed.

3. A complete inspection of the process system pit has been conducted and there appears to be no leakage in the pit itself. Therefore, the process system drain must have an underground leak. If we pick up the dye or penetrant solution in the new manhole, this will be confirmed.

4. The manhole and tiein to the Sanitary sewer should be complete by 5-7-75. The sampling will start at that time. In the meantime, minimum spillage or drainage is being allowed in the process system pit or drain system.

You will be advised of our progress and final results. Feel free to contact me at any time concerning this matter.

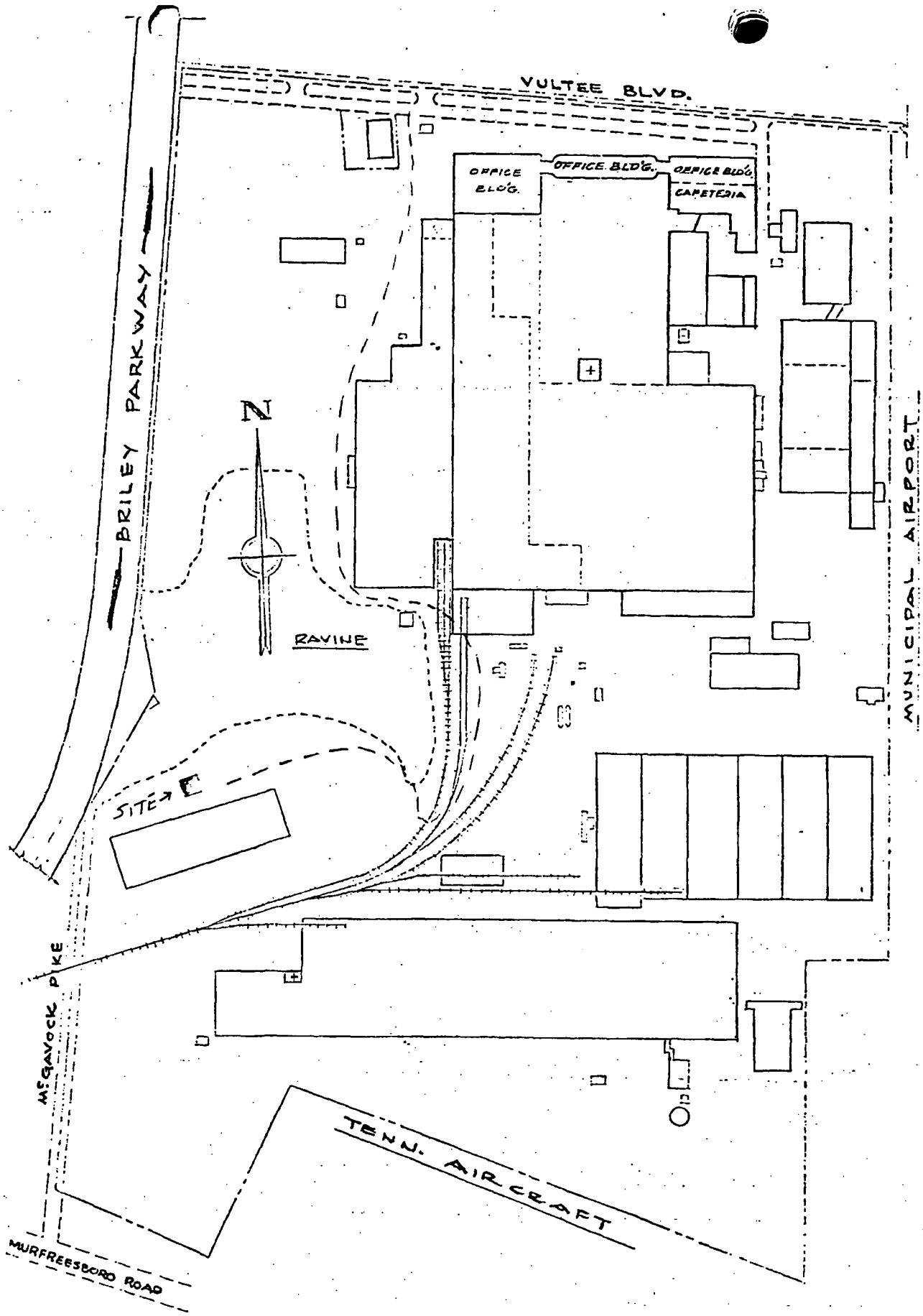
Yours very truly,

AEROSTRUCTURES DIVISION

Maynard C. Roberts, Director
Plant Engineering & Maintenance

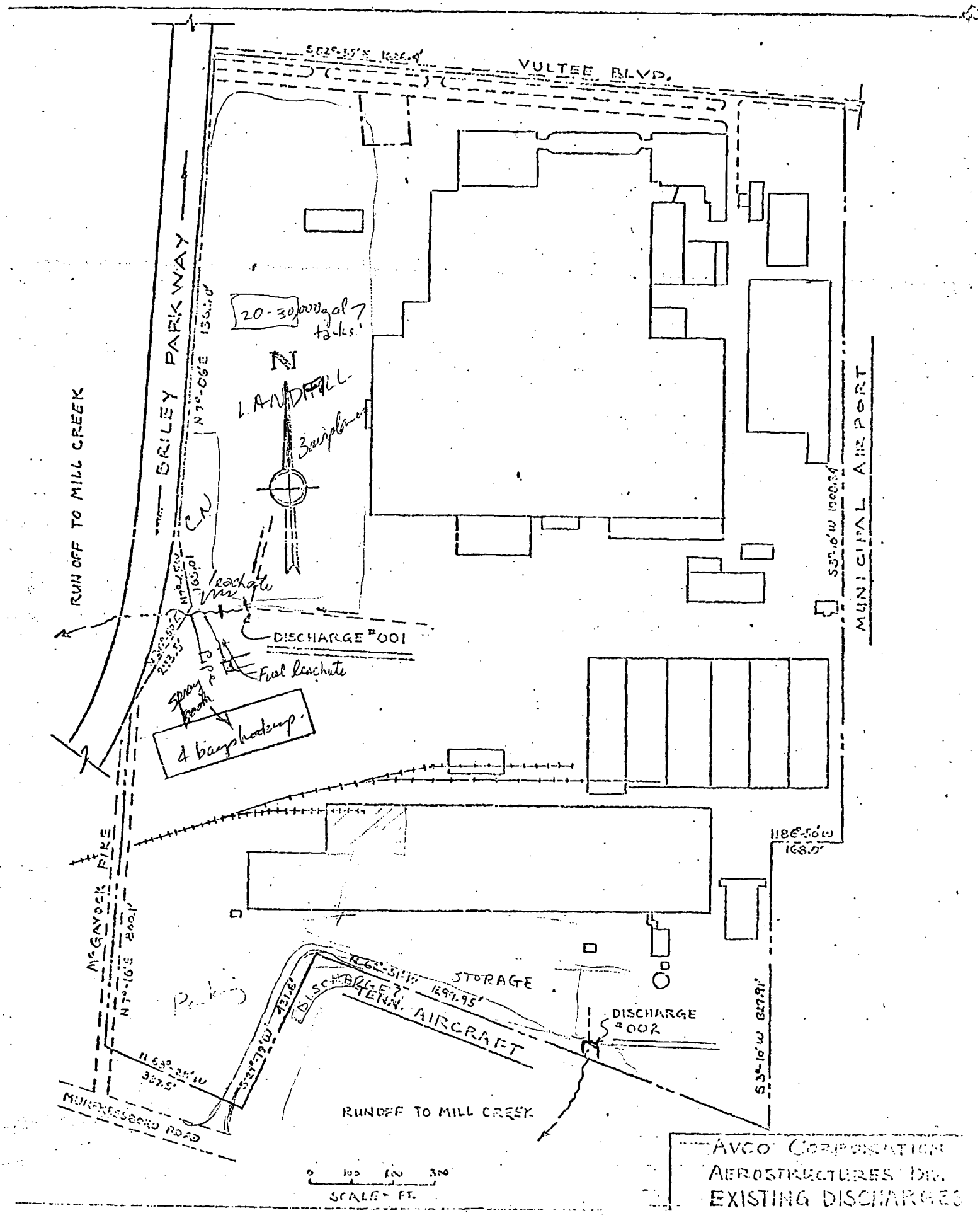
MCR:OLR:jab

CC: Robt. N. Carnahan
Sanitary Engineer
Metro Health Dept.
311 23rd Avenue N.
Nashville, Tenn. 37203

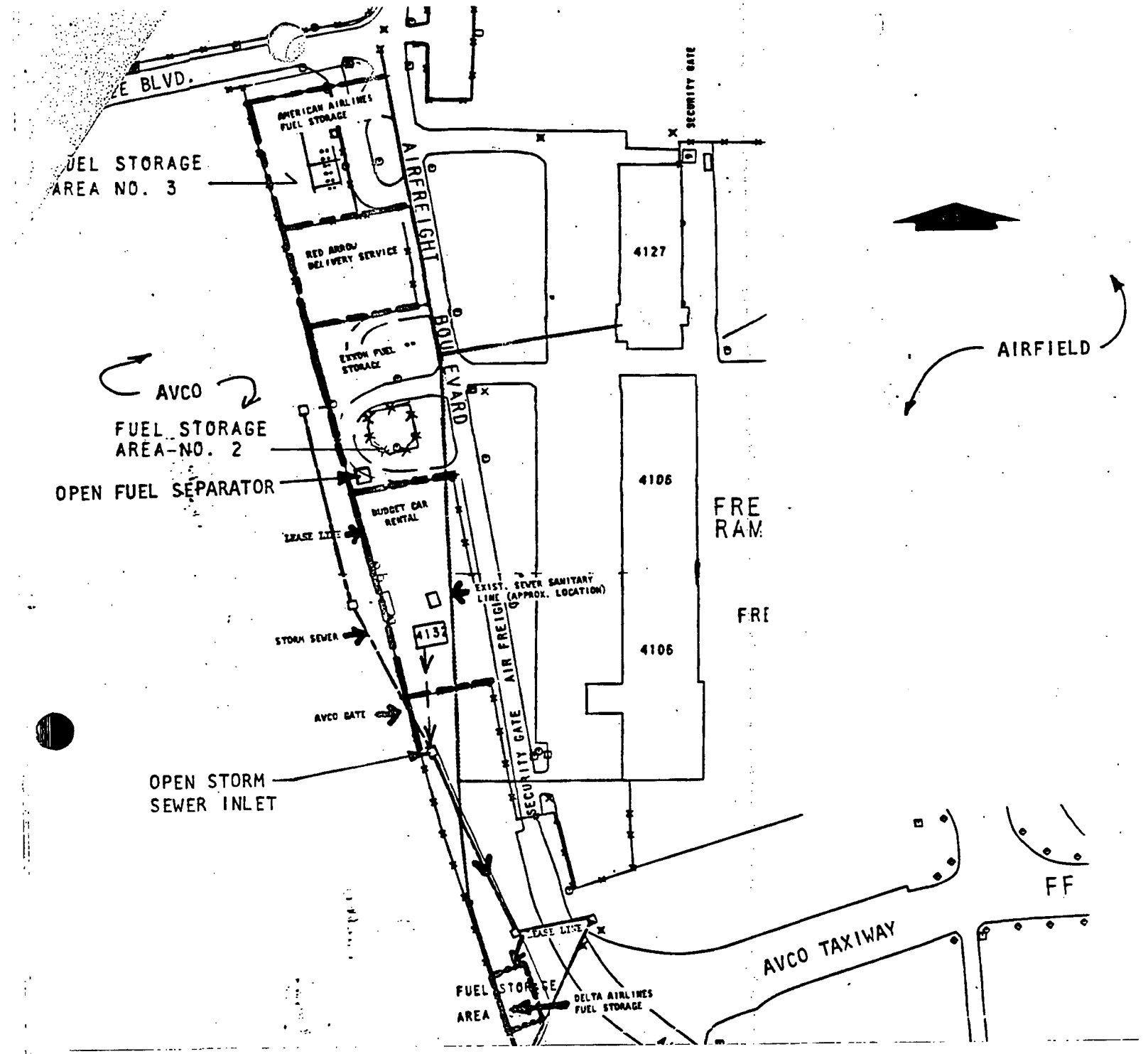


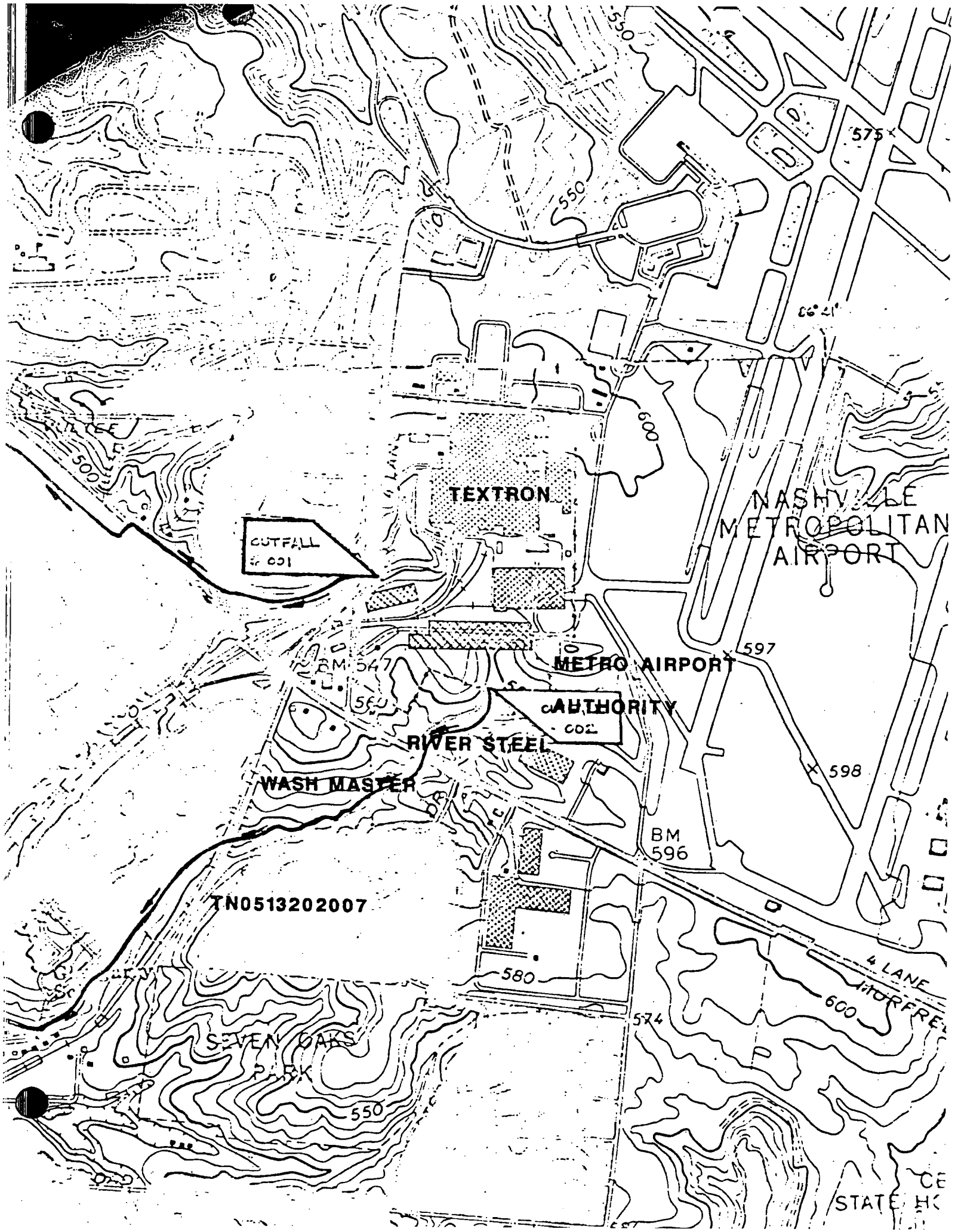
SITE PLAN

AVCO AEROSTRUCTURES DIVISION



AVCO CORPORATION
AEROSTRUCTURES DIV.
EXISTING DISCHARGES


E BLVD.
UEL STORAGE
AREA NO. 3
AMERICAN AIRLINES
FUEL STORAGE
RED ARROW
DELIVERY SERVICE
EXXON FUEL
STORAGE
AIRFREIGHT
BOULEVARD
SECURITY GATE
4127
AIRFIELD
AVCO
FUEL STORAGE
AREA-NO. 2
OPEN FUEL SEPARATOR
BUDGET CAR
RENTAL
LEASE LINE
4106
FRE
RAM
EXIST. SEWER SANITARY
LINE (APPROX. LOCATION)
FRE
STORM SEWER
4132
4106
AVCO GATE
AIR FREIGHT
SECURITY GATE
OPEN STORM
SEWER INLET
FF
LEASE LINE
AVCO TAXIWAY
FUEL STORAGE
AREA
DELTA AIRLINES
FUEL STORAGE


550
575
550
600
500
TEXTRON
OUTFALL
001
NASHVILLE
METROPOLITAN
AIRPORT
597
BM 547
METRO AIRPORT
AUTHORITY
002
RIVER STEEL
WASH MASTER
598
BM
596
TN0513202007
580
4 LANE
600
574
SEVEN OAKS
PARK
550
STATE HK

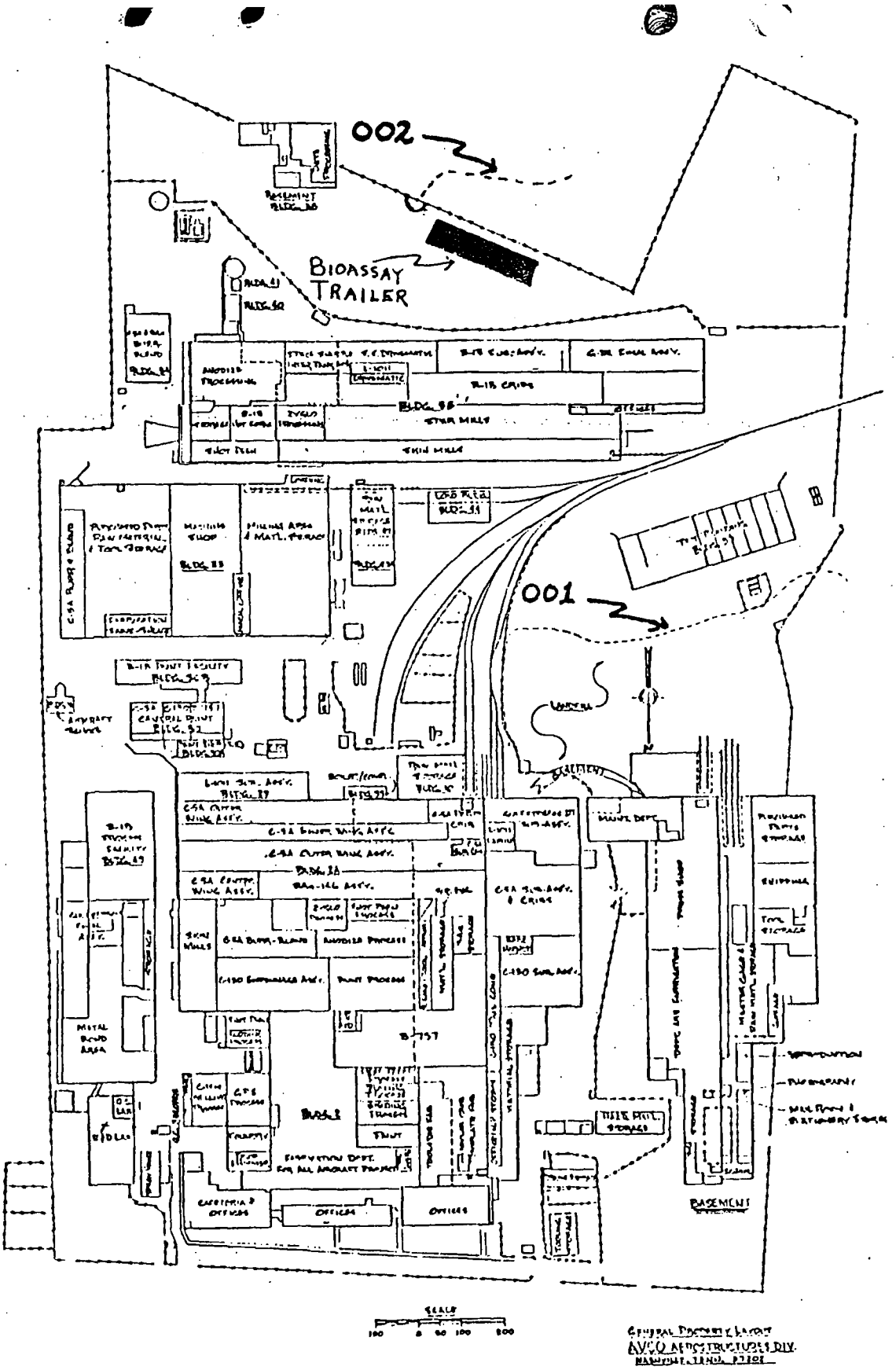


Figure 1. General plant layout and locations of the bioassay trailer, discharge #001, and #002. AVCO Aerostructures Division, Nashville, Davidson County, Tennessee. April 21-25, 1985.

PUBLIC NOTICE
(TDEC 03-32)

PERMIT APPLICATION: NRS #03-145

APPLICANT: Tennessee Department of Transportation
Environmental Planning and Permits Division
Suite 900, J.K. Polk Building, 505 Deaderick St.
Nashville, TN 37243-0334
(615) 532-5660

LOCATION: **Interstate 40 From Interstate 24 to Donelson Pike, Davidson County, TN. TDOT#19008-1177-44, Fed# IM-40-5 (118) 213, PIN 100279.00**

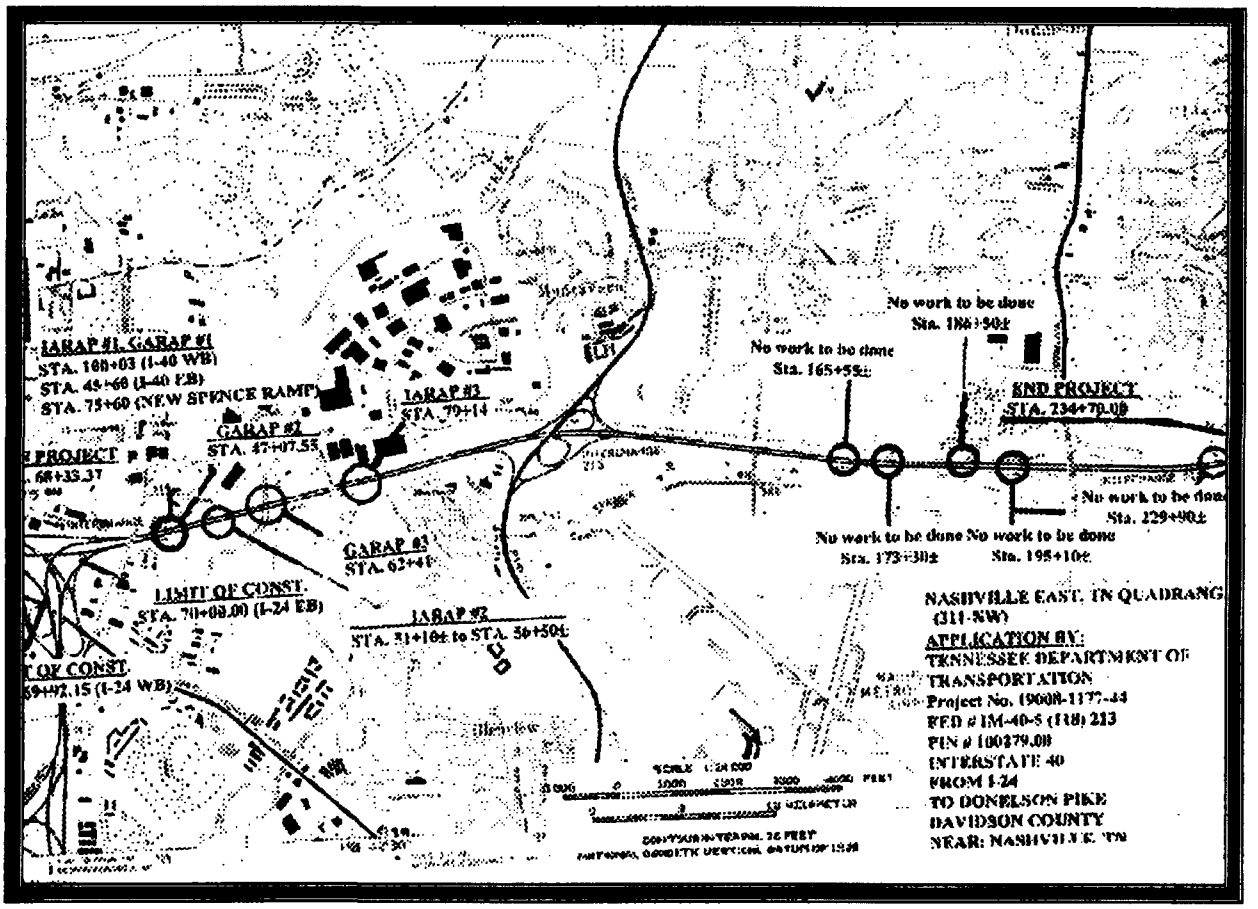
WATERSHED DESCRIPTION: Mill Creek, and the unnamed tributaries to Mill Creek, lie within Mill Creek Watershed and are included in the USGS Hydrologic Map Unit 05130202 of TN. Mill Creek flows in a northerly direction where it joins the Cumberland River. The watershed has a drainage area of 108 square miles. The headwaters of Mill Creek flow primarily through sparsely populated agricultural lands and heavily developed metropolitan area of Nashville. Substrate throughout the stream consists of coarse gravel, rubble, and bedrock in various combinations. The unnamed tributaries to Mill Creek have varied widths and depths throughout the project. At the proposed bridge site Mill Creek's channel has a width of 75-125ft. and depth ranges from <1ft. in riffles to 4 ft. in pools. Minnows and crayfish were observed. The connected wetland adjacent to the existing bridge consists of bottomland hardwood species including: water oak, black willow, willow oak, sweet gum, river birch, sycamore and cottonwood.

PROJECT DESCRIPTION: The applicant proposes to widen 3.150 miles of Interstate 40 along an existing alignment for public use. The construction will very from four to six lanes in either direction, an 11 ft. to 13 ft. median, 12 ft. shoulders, guardrail, varying auxiliary lanes from 12 ft. to 24 ft., and an 18 ft. typical to ditch centerline. The project also includes impacts such as culvert extensions, wetland impacts and associated encapsulations requiring individual permits.

The proposed work to widen the bridge over Mill Creek will meet the requirement for a General Permit as it is expected to meet the USFWS and State of TN requirements to ensure the safety of the Federally and State endangered Nashville Crayfish (found only in the Mill Creek Watershed). After formal consultation with the USFWS, TDOT has agreed to coordinate with USFWS and follow certain special conditions. TDOT will ensure that EPPD (TDOT biologists) will follow specific requirements regarding the relocation of the Nashville Crayfish prior to the start of construction, monitoring of the bridge site during construction and the reconstruction of crayfish habitat as well as specific construction activities, which are detailed in the special notes of the construction plans and drawings. The project also involves other work, which is expected to meet the requirements for work under the general permit for Road Crossings and a Utility Line Crossing.

The Proposed project will impact 303 ft. of stream, which will be mitigated for through the In-Lieu Fee Mitigation Program at $200.00 per foot in the amount of $60,600.00, which will be paid to the TWRA/Stream Mitigation Program. On-site replacement was not an option due to the urbanized area, solid rock slopes and right of way fencing required. The project also includes permanent impacts to 0.15 acres of wetlands, which will be mitigated for by debiting 0.30 acres from available wetland credits at the Harpeth Wetland Bank.

The project would be staged in order to complete all necessary excavation in the dry. Standard erosion control devices would be used to prevent sediment from entering flowing water. Upon completion of the work, all disturbed areas would be stabilized.
PERMIT COORDINATOR: Jennifer Wallens
USGS TOPOGRAPHIC QUADRANGLES: Nashville East, TN Quadrangle 311-NW
FIGURE 1 TOPOGRAPHIC MAP Attached


IARAP #1, GARAP #1
STA. 100+03 (I-40 WB)
STA. 49+60 (I-40 EB)
STA. 75+60 (NEW SPENCE RAMP)
GARAP #2
STA. 47+07.55
IARAP #3
STA. 79+14
GARAP #3
STA. 62+41
LIMIT OF CONST.
STA. 70+08.00 (I-24 EB)
IARAP #2
STA. 31+10± to STA. 36+50±
No work to be done
Sta. 165+55±
No work to be done
Sta. 186+50±
END PROJECT
STA. 234+70.00
No work to be done
Sta. 229+90±
No work to be done
Sta. 173+30±
No work to be done
Sta. 195+10±
NASHVILLE EAST, TN QUADRANG
(311-NW)
APPLICATION BY:
TENNESSEE DEPARTMENT OF
TRANSPORTATION
Project No. (9008-1177-44
FED # IM-40-5 (118) 213
PIN # 100379.00
INTERSTATE 40
FROM I-24
TO DONELSON PIKE
DAVIDSON COUNTY
NEAR: NASHVILLE, TN

TENNESSEE DEPARTMENT OF HEALTH AND ENVIRONMENT

OFFICE CORRESPONDENCE

FROM	TO	DATE

DGH 8/22

DATE: August 21, 1989

TO: Textron File

FROM: Veit M. Spero

SUBJECT: Follow-Up Investigation

On 6/21/89, representatives of Textron met with Division personnel to present sampling data obtained at the River Steel Corporation. Textron contends that River Steel is a potential source of the pollutants that entered a tributary of Mill Creek resulting in a fish kill on 8/12/88. The tributary receives a discharge from Textron's Outfall 002.

Although we found overwhelming evidence that the discharge of pollutants entered the tributary from Outfall 002, we agreed to again observe the River Steel property. Barry Sulkin, Mike Thornton and I conducted investigations at River Steel and Textron on 6/22/89 (See Map). We evaluated the site and Textron's sampling points to determine if their findings were significant.

We met with Joel Rogers the President of River Steel Corporation. River Steel obtains rolls of sheet steel and cuts this steel into strips of varying widths. As was the case during our fish kill investigation on 8/12/88, they do not handle any hazardous wastes or hazardous chemicals. They have hydraulic oil and mineral spirits on site which are used in the cutting machinery. There are no floor drains in the building and there were no discharges. There were empty drums present which had contained oil but posed no environmental problems. There was spillage of oil on the concrete in one location below four drums of oil fitted with spigots. Textron's sample 7407 was collected approximately 20 feet from these barrels (Map, point 1). Textron's sample showed contamination however, there is very little if any runoff from this area that reaches the tributary. There is little slope and the absence of a ditch indicates that most water infiltrates into the soil. We found an oil boom saturated with oil located near the drums. Mr. Rogers didn't know how the boom got there. Since Textron always has booms across their outfall he assumed it belonged to Textron. Later during a legal deposition we found out that Kevin Songer placed the boom there. This boom could have contributed contaminants to the sample.

We proceeded to observe the tributary upstream of Textron's 002 and River Steel (Map, point 2). We found that the area behind Textron's deionization plant drains into the tributary upstream of River Steel. There is a ditch and small spring behind the DI plant which drains to the tributary (Map, point 3). This ditch receives drainage from the east side of the DI plant which includes a storage tank labeled "acid." It also drains an equipment storage area which contained at least two very large, used plating tanks. All this drainage would enter the

FROM	DATE

10

PH-0001
SR 3/77

tributary upstream of River Steel. Textron contended that their sample number 7433 (Map, point 4), collected in the tributary on 6/19/89, contained contamination from River Steel. Our findings indicate that Textron's runoff would also influence the sample, more so than River Steel's runoff.

Gerald Hill of Textron met with us during our investigation. He went with us to River Steel to show us their sampling points. I've already discussed two of these samples. The third sample was sample number 7434 (map, point 5). This sample was collected on River Steel's driveway located between the main River Steel building and Textron's property line fence. Mr. Hill said he collected mud from two locations and combined this with water from a puddle. The sample results were reported in mg/l. It is difficult to elaborate on the result since part was solid and part was water. The sampling technique is questionable and the mixture of soil and water makes the unit measurement questionable.

Our inspection of the River Steel Corporation property determined that there are no possible sources of pollutants with the characteristics exhibited by those found in the tributary on 8/12/88. This confirms our findings during a similar inspection on 8/15/88.

After visiting River Steel we went to Textron to observe Outfall 002. During this visit we noticed a stain on the asphalt parking lot coming from the deionization plant. This stain was present in a straight line starting inside the door of the deionization plant and running toward the waste holding tanks (see map). Perpendicular to this stain approximately 15 feet from the DI plant door, the stain branched, flowing downhill. This stain indicated a flow toward a ditch that leads to Outfall 002 just below the weir.

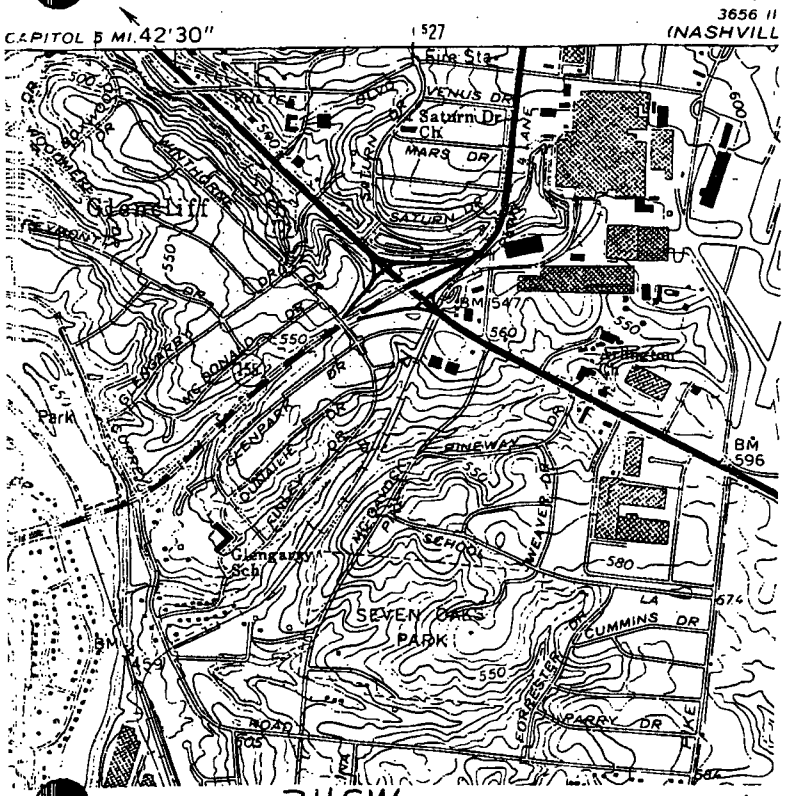
We obtained a water hose and placed it along the stain to determine the exact flow pattern. Dye was placed in the water to aid in tracing the water. The water followed the stain across the parking lot and then branched. A portion of the water flowed toward the rear of the DI plant in a ditch that would eventually reach the tributary upstream of Outfall 002 and also upstream of River Steel. The other branch of water entered the ditch along the parking lot and subsequently flowed into the pool below Outfall 002 (see diagram).

The portion of the stain we observed at the DI plant ran parallel with the direction of the hose used to empty the waste holding tanks. The stain indicated a significant spillage since it could be followed for several hundred feet.

Gerald Hill informed me on 6/23 that the method of emptying the waste holding tanks will be changed. Permanent over head piping will be installed to replace the flexible hose.

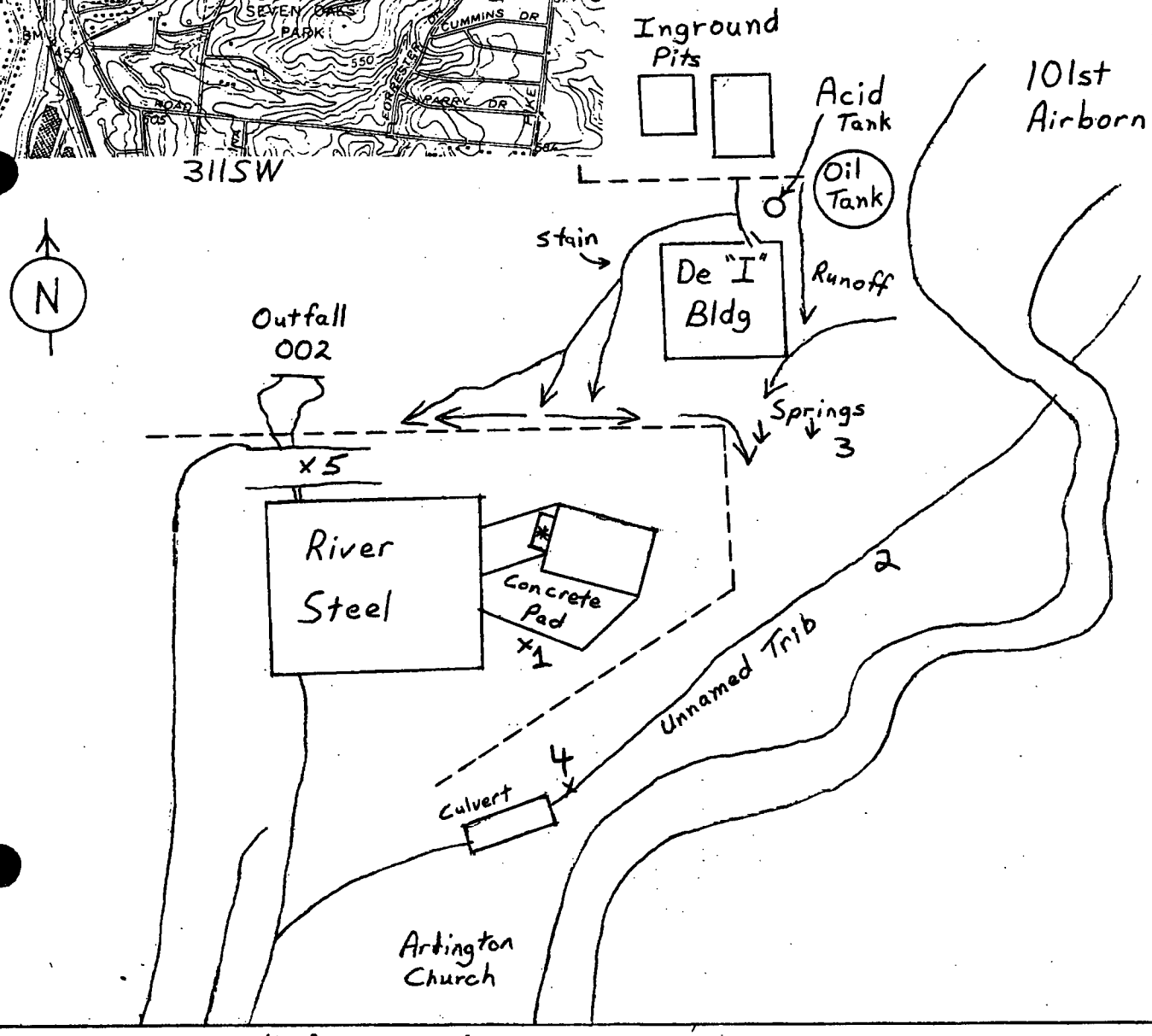
A sample of sediment was collected on the parking lot downstream of the stain. It was analyzed for metals. The results are forthcoming.

STATE OF T
DEPARTMENT OF
DIVISION OF



*- Oil & Mineral Spirits Storage

x- AVCO Sampling Points



Textron 6/23/89

- Outfall 002 clear - some oil backed up behind boom
- ditch located behind deionization plant would enter trib to Mill Ck. u/s of 002
- sampler belonging to Environmental Labs collecting sample of AUCO discharge to Metro sewer system
- where Textron runs hose between waste tanks & D.I. plant an obvious brown stain was present on asphalt. The stain ran across the asphalt parallel with the direction that the hose would run. Stain ran right into door of D.I. plant. Also a stain at midpoint that indicated spillage as it ran downhill & across parking lot

Sump by acid storage tank pH 10.9-11.0
Cond 1100
Stain splits & flows in two different directions

Joel Rogers, President
River Steel Corporation
- roll steel cut into strips
- no pickling
- mineral spirits
- hydraulic oil

20 drums empty-full
UNOCAL Solvent 140 gal
Shell Tellus oil 32
Texaco hydraulic oil 32
Soluble Oil
Mineral Spirits

7/5/8

Sample results from Lab
Craig Edwards for VMS, MKT

Sediment soil samples - edge
of parking lot at confluence of
stain. ~~[illegible]~~

Lab# I.D. I-1451 B

IN mg/kg

TOT. CHROMIUM	127
Copper	79.9
LEAD	162
Nickel	13
ZINC	334
% SOLIDS	86.1

JMM

MAR 0 9 1989

JGH 3/10
VMS 3/
MRT 3-

TENNESSEE DEPARTMENT OF HEALTH AND ENVIRONMENT
Bureau of Environment
T.E.R.R.A. BUILDING
150 NINTH AVENUE NORTH
NASHVILLE, TENNESSEE 37219-5404

March 9, 1989

C.T. Corporation Systems
530 Gay Street
Knoxville, Tennessee 37902

RE: TEXTRON, INC. a/k/a
TEXTRON AEROSTRUCTURES
CASE NO. 88-3506

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
RECEIPT #P 685 255 022

Dear Sir:

Enclosed please find an Order and Assessment issued against Textron, Inc. a/k/a Textron Aerostructures on this date by J.W. Luna, Commissioner of the Tennessee Department of Health and Environment.

Please read the Order carefully and pay special attention to the NOTICE OF RIGHTS section. If you or your attorney have any questions, please contact me at (615)741-0657.

Sincerely,

Gloria Snavely

Gloria Snavely
Assistant General Counsel

GS:LDR
Enclosure

xc: Linda Tidwell
Barry Sulkin
Joe E. Holland
William L. Penny

STATE OF TENNESSEE
DEPARTMENT OF HEALTH AND ENVIRONMENT

IN THE MATTER OF:	)	
	)	
TEXTRON, INC. a/k/a	)	OFFICE OF WATER MANAGEMENT
TEXTRON AEROSTRUCTURES	)	
DAVIDSON COUNTY, TENNESSEE	)	DIVISION OF WATER POLLUTION CONTROL
	)	NO. 88-3506
RESPONDENT	)	

ORDER AND ASSESSMENT

Forward, J. W. Luna, Commissioner of the Tennessee Department of Health and Environment (the "Commissioner") and states:

PARTIES

I.

J. W. Luna is the duly appointed Commissioner of the Tennessee Department of Health and Environment (the "Department").

II.

Textron Aerostructures is a Division of Textron, Inc. Textron, Inc. is a corporation incorporated under the laws of the State of Delaware with corporate offices at 10 Dorrance Street, Providence, Rhode Island. Textron, Inc. is licensed to do business in Tennessee. Its agent for service of process is C.T. Corporation Systems, 530 Gay Street, Knoxville, Tennessee 37902.

JURISDICTION

III.

Whenever the Commissioner has reason to believe that a violation of Tennessee Code Annotated, Sections 69-3-101 et seq., the Water Quality Control Act, hereinafter, the "Act", has occurred, or is about to occur, he may issue a complaint to the violator and he may order corrective action be taken pursuant to T.C.A. Section 69-3-109(a) of the Act. Further, the Commissioner has authority to assess civil penalties and damages against any

violator of the Act, pursuant to T.C.A. Sections 69-3-115 and 64-3-116 of the Act.

IV.

Respondent is a "person" within the meaning of T.C.A. Section 69-3-103(20). Respondent has violated provisions of the Act as subsequently set forth in this Order.

FACTS

V.

Textron, Inc. operates an industrial manufacturing plant with a facility (Textron Aerostructures) in Davidson County, Tennessee. The Davidson County facility is authorized to discharge noncontact cooling water, boiler blowdown, and stormwater runoff from outfall 001 to an unnamed tributary at mile 1.5 to Mill Creek at mile 4.6 and outfall 002 to an unnamed tributary at mile 1.3 to Mill Creek at mile 7.2 respectively in accordance with the terms and conditions of National Pollutant Discharge Elimination System ("NPDES") Permit No. TN0001597.

VI.

The unnamed tributaries and Mill Creek are "waters" of the State, as defined by T.C.A. Section 69-3-103(33). Pursuant to T.C.A. Section 69-3-105(a)(1), all waters of the State have been classified by the Tennessee Water Quality Control Board for suitable uses. Miles 0.0 to 5.0 of Mill Creek are classified by Rule 1200-4-4-.01(12) of the Official Compilation, Rules and Regulations of the State of Tennessee (hereinafter referred to as rules) for the uses of industrial water supply, fish and aquatic life, recreation, irrigation, and livestock watering and wildlife. Miles 5.0 to 7.8 of Mill Creek are classified by the above Rule for the uses of industrial water supply,, fish and aquatic life, irrigation, and livestock water and wildlife. The unnamed tributaries are classified in their entirety by the above Rule for the uses of fish and aquatic life, recreation, irrigation, and livestock watering and wildlife.

VII.

Pursuant to T.C.A. Section 69-3-105(a)(1), water quality standards have been adopted to protect such classifications of suitable use. These water quality standards are provided in Rule 1200-4-3-.03. Rule 1200-4-3-.03(3)(g) states that the water shall not contain toxic substances, whether alone or in combination with other substances, "that will adversely affect fish or aquatic life." Rule 1200-4-3-.03(3)(h) states that the waters shall not contain other pollutants that will be detrimental to fish or aquatic life. Rule 1200-4-3-.03(3)(c) states that there shall be no distinctly visible solids, scum, foam, oily sleek, or the formation of slimes, bottom deposits, or sludge banks of such size or character that may be detrimental to fish and aquatic life.

VIII.

On January 22-23, 1986, Division personnel conducted a compliance sampling inspection at Respondent's facility. The Respondent's monitoring system for turbidity, pH, and hexavalent chromium was inoperable. Further, logs of maintenance and calibrations on the monitoring system were not being kept. A review of Respondent's discharge monitoring reports revealed significant oil and grease concentrations in Respondent's effluent. Said concentrations are visibly observable in Respondent's effluent.

IX.

On April 21-25, 1986, a 96 hour static renewal acute toxicity test was performed on outfall 001 at Respondent's facility. The test was performed to determine lethal concentrations of Respondent's effluent. Discharge from outfall 001 was acutely toxic exhibiting a LC_{50} of 100%. During the same time period, a 96 hour flow-through acute toxicity test was performed on outfall 002. Discharge from outfall 002 was acutely toxic resulting in a 24 and 48 hour LC_{50} of 75.5%, a 72 hour LC_{50} of 63.0%, and a 96 hour LC_{50} of 42.0%. Each discharge empties

into an unnamed tributary to Mill Creek. Further, a sampling of the effluent revealed oil and grease, hexavalent chromium, and methyl blue active substance to be elevated above background water supply levels. Soap suds had accumulated below outfall 002.

X.

On August 12, 1988, Division personnel were notified of a fish kill downstream of Respondent's outfall 002. A light brown floc was present immediately below Respondent's outfall 002 and also 500 feet downstream of the outfall. Hexavalent chromium was found in samples from the unnamed tributary. Lead was detected in the brown floc. Also, the pH below the outfall was elevated to a toxic level. Lead and hexavalent chromium were subsequently found in materials located at Respondent's facility. The spill detection equipment at Respondent's facility was inoperable on August 12, 1988.

XI.

On December 6, 1988, Division personnel visited Respondent's facility. At outfall 002 an oil sheen was observed on the surface of the discharge and in a pool of water immediately below the discharge. An absorbant boom had been placed across the downstream end of the pool and had collected oil and scum. Old booms were observed on the bank of the unnamed tributary and in the unnamed tributary downstream of the outfall.

XII.

The Division has incurred damages as a result of enforcement of the Act in the amount of Nine Hundred Thirty-five Dollars and Ten Cents ($935.10).

VIOLATIONS

XIII.

By the release of substances into waters of the State in violation of its NPDES permit, Respondent has on at least four

occasions violated T.C.A. Section 69-3-108(b)(1) and (6) which state:

> (b) It shall be unlawful for any person, other than a person who discharges into a publicly owned treatment works, to carry out any of the following activities, except in accordance with the conditions of a valid permit:
>
> (1) the alteration of the physical, chemical, radiological, biological, or bacteriological properties of any waters of the state;
>
> (6) the discharge of sewage, industrial wastes or other wastes into waters, or a location from which it is likely that the discharged substance will move into waters;

XIV.

By the release of substances into waters of the State in violation of its NPDES permit, Respondent has on at least four occasions violated T.C.A. Section 69-3-114(b) which states:

> (b) "...it shall be unlawful for any person to act in a manner or degree which is violative of any provision of this part or any rule, regulations, or standard of water quality promulgated by the board or of any permits or orders issued pursuant to the provisions of this part;...or to refuse to furnish, or to falsify any records, information, plans, specifications, or other data required by the board or the commissioner under this part."

XV.

By the release of substances into waters of the State in such a manner as to violate water quality standards as provided in Rule 12-4-3-.03, Respondent has violated T.C.A. Section 69-3-114(b).

XVI.

By the release of substances into waters of the State in such a manner as to pollute said waters, Respondent has violated T.C.A. Section 69-3-114(a) which states:

> It shall be unlawful for any person to discharge any substance into the waters of the state or to place or cause any substance to be placed in any location where such substances, either by themselves or in combination with others, cause any of the damages as defined in Section 69-3-103(22), unless such discharge shall be due to an unavoidable accident or unless such action

has been properly authorized. Any such action is declared to be a public nuisance.

Section 69-3-103(22):

"Pollution means such alteration of the physical, chemical, biological, bacteriological, or radiological properties of the waters of the state including but not limited to changes in temperature, taste, color, turbidity, or odor of the waters:

(A) As will result or will likely result in harm, potential harm or detriment of the public safety, or welfare;

(B) As will result or will likely result in harm, potential harm or detriment to the health of animals, birds, fish, or aquatic life;

(C) As will render or likely render the waters substantially less useful for domestic, municipal, industrial, agricultural, recreational, or other reasonable uses; or

(D) As will leave or will likely leave the waters in such condition as to violate any standards of water quality established by the board;

ORDER

XVII.

WHEREFORE, pursuant to the authority vested in me by T.C.A. Sections 69-3-109 and 69-3-115 and after consideration of:

(a) the facts alleged herein;

(b) whether a civil penalty imposed will be a substantial economic deterrent to the illegal activity;

(c) damages to the state, including compensation for loss or destruction of wildlife, fish, and other aquatic life, resulting from the violation, as well as expenses involved in enforcing this section and the costs involved in rectifying any damage;

(d) cause of the discharge or violation;

(e) the severity of the discharge and its effect upon the quality and quantity of the receiving waters;

(f) effectiveness of action taken by the violator to cease the violation;

(g) the technical and economic reasonableness of reducing or eliminating the discharge;

(h) the social and economic value of the discharge source; and

(i) the economic benefit gained by the violator.

I, J. W. Luna, hereby issue the following ASSESSMENTS and ORDERS to the Respondent:

1. Respondent shall conduct its business in accordance with the Act and rules or regulations, including but not limited to, taking whatever action is necessary to prevent future unpermitted discharges of pollutants into the waters of the State of Tennessee.

2. Respondent shall implement and maintain a monitoring system that has the ability to detect unpermitted discharges of pollutants before such discharges enter the waters of the State of Tennessee.

3. Respondent shall pay a Civil Penalty to the Department, hereby assessed, in the amount of Five Thousand Dollars ($5,000) within thirty (30) days of receipt of this Order.

4. Respondent shall pay Damages to the State of Tennessee, hereby assessed, in the amount of Nine Hundred Thirty-five Dollars and Ten Cents ($935.10) within thirty (30) days of receipt of this Order.

Furthermore, the Respondent is advised that the foregoing Order is not in any way to be construed as a waiver, express or implied, of any provision of the law or regulations. However, compliance with the Order will be one factor considered in any decision whether to take enforcement action against the Respondent in the future.

NOTICE OF RIGHTS

The Respondent is hereby advised that in accordance with Tennessee Code Annotated Sections 69-3-109, 69-3-110, 69-3-116, and 4-5-307, it may appeal this Order and Assessment by filing an appropriate Petition with the Commissioner. The Petition, however, must be filed no later than thirty (30) days from service of this Order and Assessment or Respondent will be deemed to have consented to the Order and confessed judgment to the Assessment and they will not be subject to review. (T.C.A. Sections 69-3-109 and 69-3-116).

Further, Respondent has the right to be represented by counsel, to submit responsive pleadings, and to subpoena witnesses on its behalf, and to present evidence and argument on all issues involved.

Issued by the Commissioner of the Tennessee Department of Health and Environment this 9th day of March, 1989.

J. W. LUNA, Commissioner
Tennessee Department of Health and Environment

Kenneth W. Bunting
Administrator, Water Programs

Correspondence regarding the foregoing Order should be sent to Gloria Snavely, Assistant General Counsel, 6th Floor, TERRA Building, 150 Ninth Avenue, North, Nashville, Tennessee 37219-5404, (615) 741-0657.

Gloria Snavely
Assistant General Counsel

GS/E3169011
Textron Inc.

JEH 2/6
DJW 2/12

Date: 2/6/86
To: JEH, DJW
Subject: AVCO - Receiving Stream Survey

DJW and myself conducted a very limited stream survey of aquatic benthos on 2/4-5/86. We observed and collected organisms from the two receiving streams into which AVCO discharges. We used a kick net and picked rocks for approximately 15 minutes at 8 locations (see last page).

There is very little aquatic life in the two tributaries. Near the confluences with Mill Creek the diversity in both tributaries improves somewhat, however organisms like mayflies, caddisflies, stoneflies, etc. are not present. A small stream located near AVCO, and which flows into the trib. which receives 002, showed a fairly good diversity. This tells me that there should also be fairly good diversity in the tributaries but that's not the case. We also looked at Mill Creek and found an abundance of aquatic life. Even at a point in the tributary 1 mile from AVCO and 50 yards from Mill Creek organisms which should be present were not.

We measured total chlorine at 4 locations. Outfall 002 had 1.7 mg/l and Outfall 001 had 0.6 mg/l of chlorine. I wouldn't expect much impact from this amount of chlorine except near the discharge point. Chlorine residuals were also measured at stations 2 and 8 and little (maybe 0.1 mg/l) if any was present.

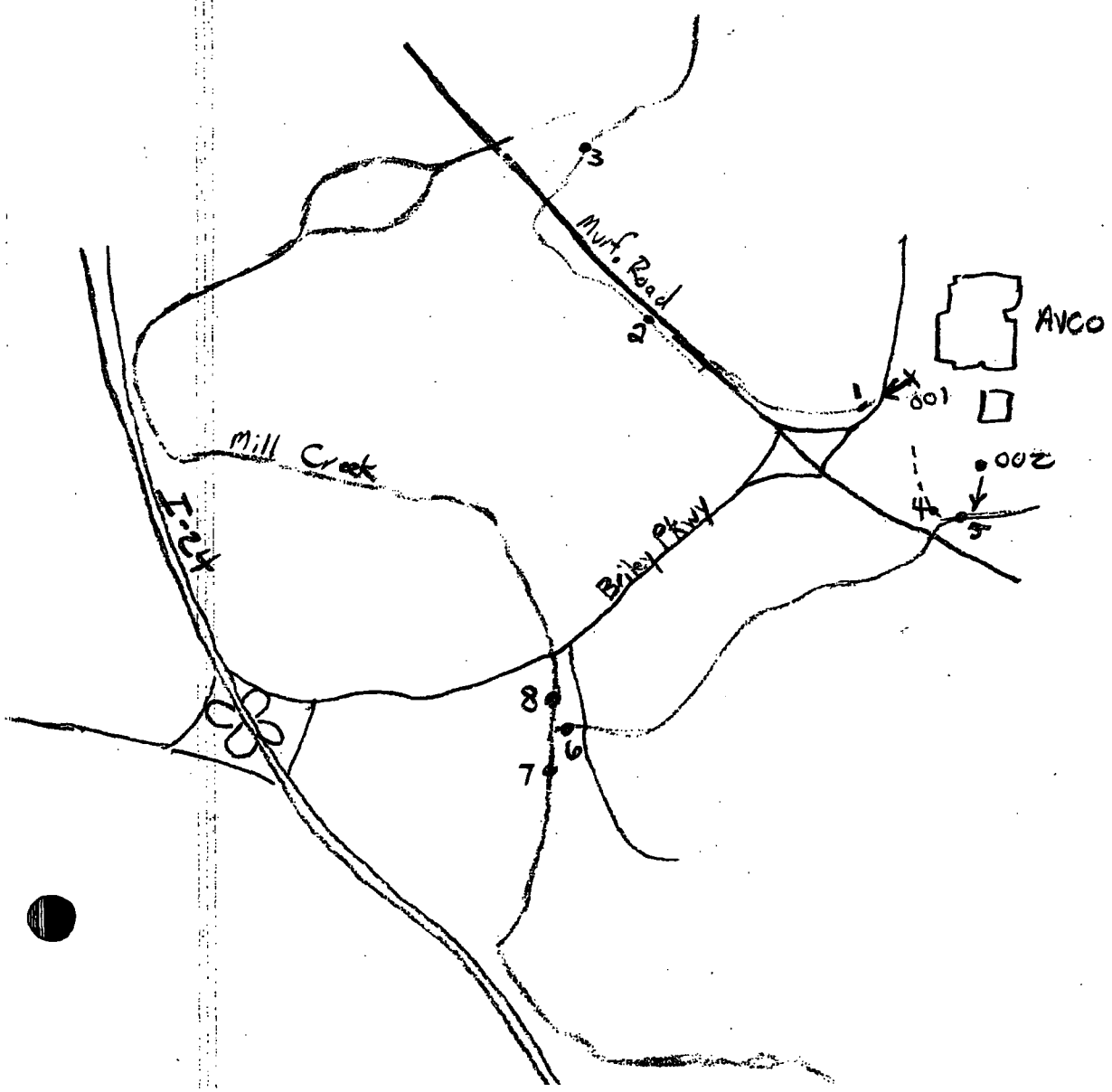
The trib. which receives 001 has been channelized in areas and in places runs through culverts. Oil from the AVCO discharge can be seen

on rocks and on the surface when the bottom is disturbed. This tributary receives runoff from a heavily developed strip of Murfreesboro road. The majority of flow comes from AVCO and it has been clear on the 4 occasions I've observed it. I spoke with 2 residences in a neighborhood through which the stream flows and they both said it turns white occassionally. They considered the stream "gross" and wouldn't allow there children to play in it.

The other trib which flows southwest receives runoff from a portion of the airport. It has the appearance of being more like a natural stream and it runs through a neighborhood.

We are going to run a bioassay on the effluents to check for toxicity. More to come!

Station Number	Location	Invertebrates Observed
1	0.1 mile d/s outfall 001	Horsehair worms (1), Aquatic Earth Worm (1)
2	0.75 mile d/s outfall 001	Aquatic Earthworms
3	1.5 mile d/s outfall 001	Damselflies (2), Crawfish (2), Amphipod (1), minnows
4	Small trib near AVCO with no effluents	Amphipods (several), fish, decapods, isopods
5	0.1 mile d/s outfall 002	Aquatic Earthworms
6	1.1 mile d/s outfall 002	Crawfish, Isopods (2) aquatic earthworm, fish
7	Mill Creek u/s confluence 002	Caddisflies, mayflies, snails, dragonfly, isopods (all numerous)
8	Mill Creek d/s confluence 002	Caddisflies, mayflies, snails, isopods, mussel (all numerous



RICHARD FULTON, MAYOR

OCT 5 1979

BWS 10/8
JEH 10/12
RLS 10/15
JDR

METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY

DEPARTMENT OF WATER AND SEWERAGE SERVICES
WATER TREATMENT PLANT
OMOHUNDRO DRIVE
NASHVILLE, TENNESSEE 37210

September 28, 1979

Mr. K. R. Harrington
Director - Water & Sewerage Services
8th Floor Stahlman Building
211 Union Street
Nashville, Tennessee

In re: Avco Pollution Spill

Dear Mr. Harrington:

After receiving notification on Wednesday, September 25, 1979, at 11:00 a.m., from Mr. Barry Sulkin, State Sanitarian - Middle Tenn. Basin Office, concerning a spill of sulfuric acid, ammonium bifluoride and sodium dichromate into Mill Creek from Avco, monitoring procedures were established with the lab.

These procedures consisted of tests, to be run every fifteen minutes, for chromium, fluoride, color and pH on our raw water source. Also, samples were taken directly from Mill Creek, the receiving stream for the spill, at two locations upstream of the creek's mouth on the Cumberland River. The Mill Creek sample locations were the Elm Hill Pike and Lebanon Road bridges.

Chromium was the indicating test for all samples after the other tests proved of little or no value as far as indicating spill contamination.

After securing basic information and background, tests on the raw water were increased to every five minutes and the grab sample frequency, on Mill Creek, did not change due to the travel time involved. This frequency rate remained constant from 11:00 a.m. until 10:00 p.m. on September 25, 1979, at which time samples were taken from the raw and finished water once an hour for the next eight hours.

Test results indicated the peak contamination had passed the Elm Hill bridge sampling point prior to the first sample, therefore, sampling was discontinued at 5:30 p.m.

The increasing contamination rate at Lebanon Road peaked at 6:00 p.m. on September 25, 1979, at a maximum rate of 975 ppb chromium.

Two peaks were observed at the plant influent, at 8:50 p.m. on September 25, of 61 ppb, and 2:00 a.m. on September 26, of 44 ppb, respectively. These two peaks in raw water resulted in finished water peaks at 1:00 a.m. on the 26th of 9 ppb and at 9:00 a.m. of 23 ppb.. Both peaks in the plant effluent were significantly below Safe Drinking Water Act Maximum Contaminate Level of 50 ppb.

All tests were run within the acepted parameters of E.P.A. and A.W.W.A. for water testing. Results of all tests are attached.

Respectfully,

Fred L. Clinard

Fred L. Clinard
Supt. of Water Treatment

FLC/jdb

cc: Mr. Lester Williams, Jr.
Chief Operational Engineer

SAMPLE POINT		TIME	CONC. (PPB)
Elm Hill		11:30	409
"		2:00	220
"		3:00	241
"		4:00	134
"		4:30	101
"		5:30	64
Lebanon Road		11:30	214
"		12:30	232
"		2:00	369
"		3:00	487
"		4:00	791
"		4:30	888
"		5:30	975
"		7:00	496
"		7:30	412
"		8:30	374
"		9:30	321
"	9/26/79	9:30	22
Plant Influent		12:00	2
"		12:30	2
"		12:45	2
"		1:00	3
"		1:15	2
"		1:30	2
"		1:45	1
"		2:00	0
"		2:15	5
"		2:30	2
"		2:45	3
"		3:00	8
"		3:15	8
"		3:30	5
"		3:45	9
"		4:00	8
"		4:15	6
"		4:30	6
"		4:45	8
"		5:00	2
"		5:15	4
"		5:30	2
"		5:45	2
"		7:15	7
"		7:30	1
"		7:45	14
"		8:00	9
"		8:15	23
"		8:20	11
"		8:25	16
"		8:30	42
"		8:35	11
"		8:45	13
"		8:50	61
"		9:00	12

SAMPLE POINT		TIME	CONC. (PPB)
Plant Influent		9:05	49
"		9:10	15
"		9:15	14
"		9:20	12
"		9:25	7
"		9:30	10
"		9:35	8
"		9:40	9
"		9:45	15
"		9:50	15
"		9:55	8
"		10:00	13
"		11:00	12
"		12:00	22
"	9/26/79	1:00	37
"		2:00	44
"		3:00	28
"		4:00	18
"		5:00	13
"		6:00	7
"		9:30	3
Plant Effluent		8:55	7
"		10:00	0
"		11:00	0
"		12:00	0
"	9/26/79	1:00	9
"		2:00	5
"		3:00	2
"		4:00	5
"		5:00	11
"		6:00	15
"		9:00	23
"		9:30	12
Plant Settled		9:30	11

TESTS RESULTS

Time	pH	Time	Fluoride	Time	NH_3
12:05	7.25	12:10	0.15	12:20	0.42
12:55	7.00	1:05	0.15	12:50	0.42
1:30	7.00	1:35	0.15	1:05	0.43
2:00	7.05	2:05	0.15	2:00	0.42
2:40	7.05	2:35	0.15	2:30	0.43

Component Measured	Result	Time
pH	7.25 same as morning	11:30 a.m.
color	45 (35 in morning)	12:00
color	45-50 brown	12:10
color	55 brown	12:20
color	55 brown	12:30
color	55 brown	12:40
color	10-15 (no green color)	Elm Hill at 12:00 to 12:15
color	55 brown	12:50

July 20, 1979

Mr. Jim Hestle
Avco Aerostructures Division
P. O. Box 210
Nashville, Tennessee 37202

Re: Inspection, July 20, 1979

Dear Mr. Hestle:

On July 20, 1979, an inspection was conducted at the AVCO plant. During my inspection I was accompanied by Doc Russell, the Maintenance Engineer. One area of prime interest was the broken drain pipe that carries used plating chemicals to the emergency waste ponds. You do not intend to use this line until it has been repaired.

Other areas of concern include an accumulation of oily debris in the concrete drains around several buildings. The aluminum chips behind the machine shop should be cleaned up as soon as possible. These chips are covered with oil that will be washed off with each rain.

We discussed the possibility of constructing a dike to catch overflowing fuel in the event of a spill. After careful consideration, I believe that this dike area must be provided for you to comply with Federal Law. The wing test tank is, in effect, an above ground storage tank. It is subject to leaks and failures. Please refer to the enclosed copy of the Federal Register. Please call me to discuss this situation if you feel it is necessary.

You did not have a valve on your existing diked area surrounding the bulk fuel oil tank. If the valve did exist, it was open. You could not produce an SPCC plan. Without this plan you are in violation of Federal Law. The plan can be prepared according to the enclosed document.

Please call me with any questions concering this correspondence.

Respectfully,

Robert L. Slayden, Jr.
Environmental Engineer
Division of Water Quality Control

RLS/dj 1-6
Enclosure

July 20, 1979

Mr. Jim Hestle
Avco Aerostructures Division
P. O. Box 210
Nashville, Tennessee 37202

Re: Inspection, July 20, 1979

Dear Mr. Hestle:

On July 20, 1979, an inspection was conducted at the AVCO plant. During my inspection I was accompanied by Doc Russell, the Maintenance Engineer. One area of prime interest was the broken drain pipe that carries used plating chemicals to the emergency waste ponds. You do not intend to use this line until it has been repaired.

Other areas of concern include an accumulation of oily debris in the concrete drains around several buildings. The aluminum chips behind the machine shop should be cleaned up as soon as possible. These chips are covered with oil that will be washed off with each rain.

We discussed the possibility of constructing a dike to catch overflowing fuel in the event of a spill. After careful consideration, I believe that this dike area must be provided for you to comply with Federal Law. The wing test tank is, in effect, an above ground storage tank. It is subject to leaks and failures. Please refer to the enclosed copy of the Federal Register. Please call me to discuss this situation if you feel it is necessary.

You did not have a valve on your existing diked area surrounding the bulk fuel oil tank. If the valve did exist, it was open. You could not produce an SPCC plan. Without this plan you are in violation of Federal Law. The plan can be prepared according to the enclosed document.

Please call me with any questions concering this correspondence.

Respectfully,

Robert L. Slayden, Jr.
Environmental Engineer
Division of Water Quality Control

RLS/dj 1-6
Enclosure

AVCO AEROSTRUCTURES DIVISION NASHVILLE, TENN. 37202, TELEPHONE: (615) 361-2000

EHS 9/20
JLC 9/21
RHW 9/21
WAT
DWS 9/22
DEL
Joe Rossman 10/12
JEH 10/17
RLS

OCT 05 1977

September 16, 1977

RECEIVED
SEP 22 PM 2 27
W.C. DIV.

Commissioner
Tenn. Dept. of Public Health
Cordell Hull Building
436 6th Avenue N.
Nashville, Tenn. 37219

Re: State Law, Operation of Waste Treatment Facility

Dear Sir:

Please consider this notification as compliance with Section No. 7, House Bill No. 209, Public Chapter No. 175, Public Acts 1977, concerning registration of existing treatment facilities.

Avco has had in operation for several years two treatment pools that are used for holding tanks for liquid processing waste from metal cleaning and processing systems.

These are for batch treatment, under the directions of our Chemical Engineering Staff, of liquid waste prior to release into the Metro sewerage system.

If we can be of further service, please contact the undersigned.

Yours very truly,

AEROSTRUCTURES DIVISION

Maynard C. Roberts

Maynard C. Roberts, Director
Plant Engineering & Maintenance

MCR:jab

AVCO AEROSTRUCTURES DIVISION NASHVILLE, TENN. 37202, TELEPHONE: (615) 361-2000

EHS 9/20
JLC 9/21
RHW 9/21
WAT
JWS 9/22
DEL
Joe Rossman 10/1
JEH 10/17
RLS 10/20

OCT 05 1977

September 16, 1977

RECEIVED
SEP 22 AM 2 27
W.P.C. DIV.

Commissioner
Tenn. Dept. of Public Health
Cordell Hull Building
436 6th Avenue N.
Nashville, Tenn. 37219

Re: State Law, Operation of Waste Treatment Facility

Dear Sir:

Please consider this notification as compliance with Section No. 7, House Bill No. 209, Public Chapter No. 175, Public Acts 1977, concerning registration of existing treatment facilities.

Avco has had in operation for several years two treatment pools that are used for holding tanks for liquid processing waste from metal cleaning and processing systems.

These are for batch treatment, under the directions of our Chemical Engineering Staff, of liquid waste prior to release into the Metro sewerage system.

If we can be of further service, please contact the undersigned.

Yours very truly,

AEROSTRUCTURES DIVISION

Maynard C. Roberts, Director
Plant Engineering & Maintenance

MCR:jab

November 25, 1969

Mr. Maynard C. Roberts, Manager
Plant Engineering and Maintenance
AVCO Corporation
Aero Structures Division
Nashville, Tennessee 37202

Re: Industrial Wastewater Discharges

Dear Mr. Roberts:

The Tennessee Stream Pollution Control Board held its regularly scheduled meeting on November 21, 1969. The matter of intermittent, unapproved industrial wastewater discharges from AVCO to an unnamed tributary of Mill Creek was discussed.

After careful consideration, the Board adopted the following resolution:

> "That the AVCO Corporation be added to the Board's critical list of industries having a serious stream pollution problem. That the Company has permission to discharge to the adjacent surface drainage ditch uncontaminated cooling water only. That frequently contaminated industrial wastewater is discharged into the surface drainage ditch and that such discharges contribute to the pollution of Mill Creek. That the Company should promptly initiate a program such that the intermittent discharges of contaminated industrial wastewater will be eliminated. That failure to successfully eliminate such contaminated discharges to the surface drainage ditch will result in further Board action in accordance with the statutes."

November 25, 1969

Mr. Maynard C. Roberts, Manager
Plant Engineering and Maintenance
AVCO Corporation
Aero Structures Division
Nashville, Tennessee 37202

Re: Industrial Wastewater Discharges

Dear Mr. Roberts:

The Tennessee Stream Pollution Control Board held its regularly scheduled meeting on November 21, 1969. The matter of intermittent, unapproved industrial wastewater discharges from AVCO to an unnamed tributary of Mill Creek was discussed.

After careful consideration, the Board adopted the following resolution:

> "That the AVCO Corporation be added to the Board's critical list of industries having a serious stream pollution problem. That the Company has permission to discharge to the adjacent surface drainage ditch uncontaminated cooling water only. That frequently contaminated industrial wastewater is discharged into the surface drainage ditch and that such discharges contribute to the pollution of Mill Creek. That the Company should promptly initiate a program such that the intermittent discharges of contaminated industrial wastewater will be eliminated. That failure to successfully eliminate such contaminated discharges to the surface drainage ditch will result in further Board action in accordance with the statutes."

OFFICE MEMO

TO	FROM	DATE
VWM	SLJ	
MET		

Date: October 1, 1969

To: V. W. McCoy

From: S. L. Jones

Regarding: AVCO Corporation, Nashville, Industrial Waste

Mr. Watkins, [redacted] telephoned September 29, 1969, concerning the wastes from AVCO which are discharged to the ditch that flows through the subdivision and under Murfreesboro Road and then into Mill Creek. He claims that there is a new City sewer within 15 feet of the stream at the fence. He also quoted the engineers of AVCO as stating that this was discharged into the stream in lieu of going to the City sewer in order to save sewer tax. I will try to find out from Ray Harrington if this is true.

S. L. J.

SLJ/jw

OFFICE MEMO

		TO	FROM	DATE
Date:	October 1, 1969			
To:	V. W. McCoy	VWM	SLJ	
From:	S. L. Jones	MET		
Regarding:	AVCO, Nashville, Industrial Waste			

On September 29, 1969, I telephoned Mr. Ray Harrington, Metro, concerning the reported waste from AVCO which flows into the ditch at the edge of the plant and on into Mill Creek.

The City has an agreement with AVCO whereby they pay sewer service charge based on meter reading and divert the remainder of the flow into the creek. As far as I know AVCO is operating without a Permit and if they are under a Permit but are discharging the reported material, they have violated the Permit.

We have had this problem off and on with AVCO ever since I can remember. If there is any problem at all in regard to diverting all of the flow into the City sewer which can now be reached by gravity, I suggest that we ask the Board to issue an Order at the next Board meeting.

S. L. J.

SLJ/jw

Volume Seven

Mill Creek Pollutant Source Study

METRO
WATER SERVICES

May, 1998

CTE ENGINEERS
CONSOER TOWNSEND ENVIRODYNE ENGINEERS, INC.

2. THE MILL CREEK BASIN

2.1. BASIN CHARACTERISTICS

The Mill Creek Watershed is geographically located in the Outer Nashville Basin Ecoregion of the Interior Plateau of Tennessee (U.S. EPA, 1997). The basin is located in the southeastern portion of Davidson County, and is the second largest watershed in the county. Mill Creek joins the Cumberland River at river mile 194 downstream the from Briley Parkway Bridge and the Opryland Hotel. The drainage area within Davidson County is approximately 45,949 acres (71.8 mi^2)(MDPW, 1992). The total drainage area, including the headwaters outside of the county, is 107.9 mi^2 (USGS, 1996). Figure 2-1 shows the location of the watershed in Davidson County. The representative land uses are broken down by percent of total basin area in Table 2-1. The majority of the watershed in the county is residentially developed (43 percent).

Figures 2-2 and 2-3 show a detailed map of the Mill Creek Basin. The maps show the major streams and mileage, roadways, railroads, commercial areas, and the sanitary sewer system in the Mill Creek Basin.

Table 2-1: Watershed Land Use Characteristic (USGS, 1996) Within Davidson County

Area (mi^2)	Impervious Percent	Land Use in Percent of Total Area					
		Residential	Commercial	Industrial	Agricultural	Transportation	Woodland
71.8	30.5	43.4	13.9	2.4	15.5	1.9	22.0

Source: MDPW, 1992

The headwaters of Mill Creek originate in the residential, agricultural and undeveloped wood lots of northeastern Williamson County and southeastern Davidson County. The stream then flows through a commercially dominant area near the Hickory Hollow Mall and Interstate 24 (I-24), through Antioch, and under Murfreesboro Road (mile 4.6). The Nashville International Airport and it's associated industries (primarily shipping and receiving warehouses) comprise a large portion of the land use along the right bank downstream from the Murfreesboro Road Bridge to the I-40 Bridge (mile 3.4). From I-40 to the mouth, the land use is a mixture of commercial, residential and industrial development.

Several sub-tributaries flow into Mill Creek as the main channel meanders to the Cumberland River. Major sub-tributaries of the basin in Davidson County include the following: Sims Branch (mile 1.59), Whitsett Branch (mile 5.82), Glenrose Branch (mile 6.09), Finley Branch (mile 7.16), Sevenmile Creek (mile 7.79), Sorghum Branch (mile 8.53), State Branch (mile 9.32), Ezell Branch (mile 9.9), Bush Branch (mile 9.91), Franklin Branch (mile 10.49), Whittemore Branch (mile 13.03), Collins Creek (mile 13.89), Turkey Creek (mile 16.23), Indian Creek (mile 17.05), Holt Creek (mile 19.4) and Owl Creek (mile 19.79). The largest sub-basin within the Mill Creek Watershed is the Sevenmile Creek Basin. All of the sub-tributaries were individually considered and included in the dry weather survey.

Photograph 2-1: The Central Waste Water Treatment Plant in Nashville, Tennessee.

The sewer system extends throughout the Mill Creek Basin up to Pettus Road (mile 16.0) in the headwaters. Gravity sewers and forced main sewers from ten pumping stations contribute flow to the Mill Creek sewer system. Browns Creek Pumping Station receives all flow from these sources and pumps it to Metro's Central Waste Water Treatment Plant (Photograph 2-1).

According to the Metro Department of Public Works National Pollution Discharge Elimination System (NPDES) permit records of 1992, there are nine facilities in the Mill Creek Basin subject to the Superfund Amendments and Reauthorization Act (SARA) Title III regulations (MDPW, 1992). Table 2-2 lists the facilities and their location in the Mill Creek Basin.

Table 2-2: SARA Title III Regulated Industries in the Mill Creek Basin

Facility Name	Address	Receiving Stream
Alladin Industries Incorporated	1124 Menzler Road	Pavilion Branch to Mill Creek
Alladin Synergetics Incorporated	1124 Menzler Road	Pavilion Branch to Mill Creek
Alladin Synergetics Incorporated	Murfreesboro Road	Pavilion Branch to Mill Creek
Meguiars Incorporated	3258 Ezell Pike	Ezell Branch or Bush Branch to Mill Creek
Alumanodics Incorporated	1417 Poplar Place	Storm Water Conveyance to Mill Creek
Looseleaf Incorporated	428 Harding Industrial Drive	Mill Creek
Nashville Display	1415 Elm Hill Pike	Mill Creek
Samual Binham Company	340 Wilhagen Road	Pavilion Branch or Main Branch of Mill Creek
Textron Aerostructures	Vultee Boulevard	Storm Water Conveyance to Mill Creek

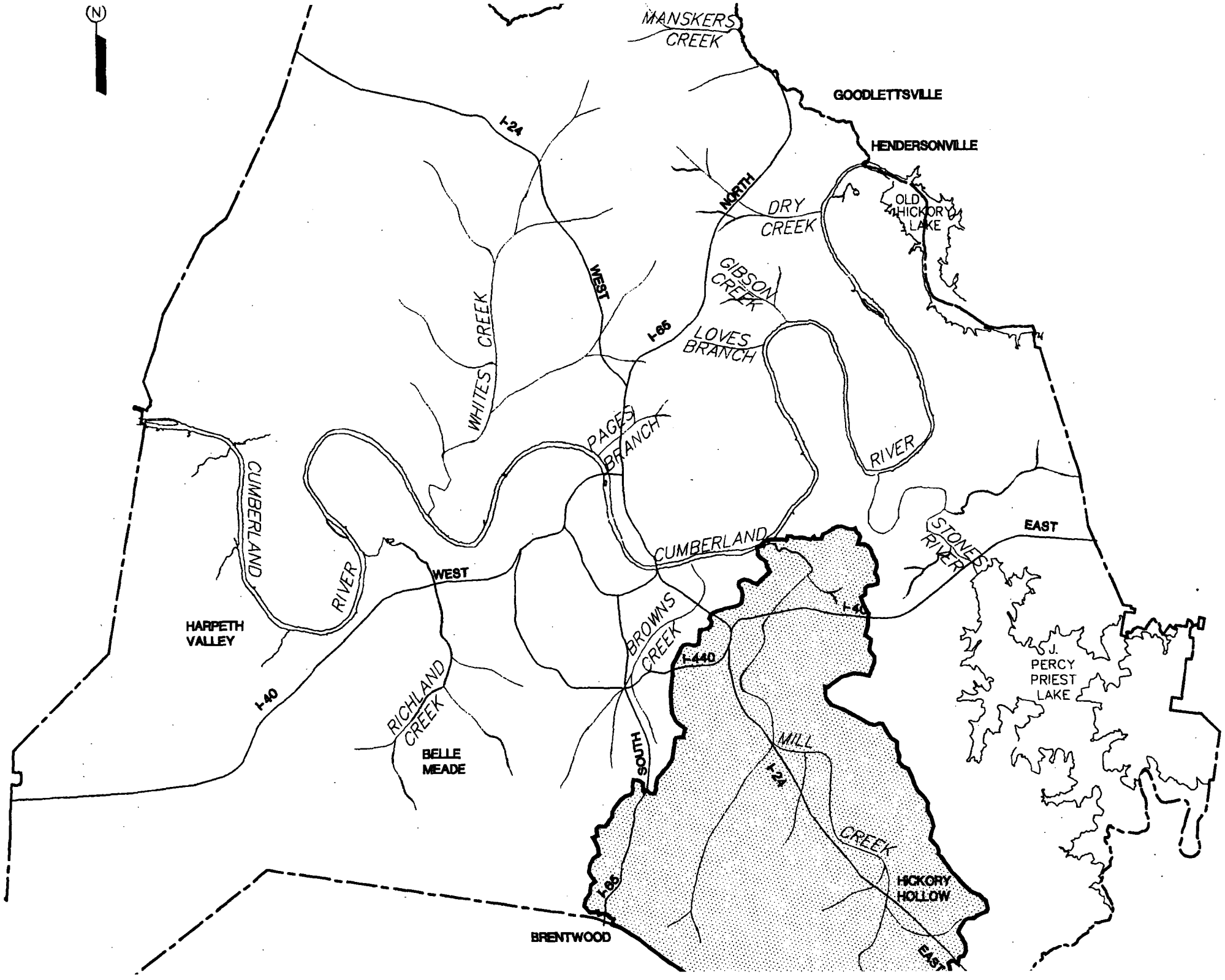
The permit also lists fourteen facilities that have NPDES discharge permits. Table 2-3 lists the facilities regulated in the Mill Creek Watershed.

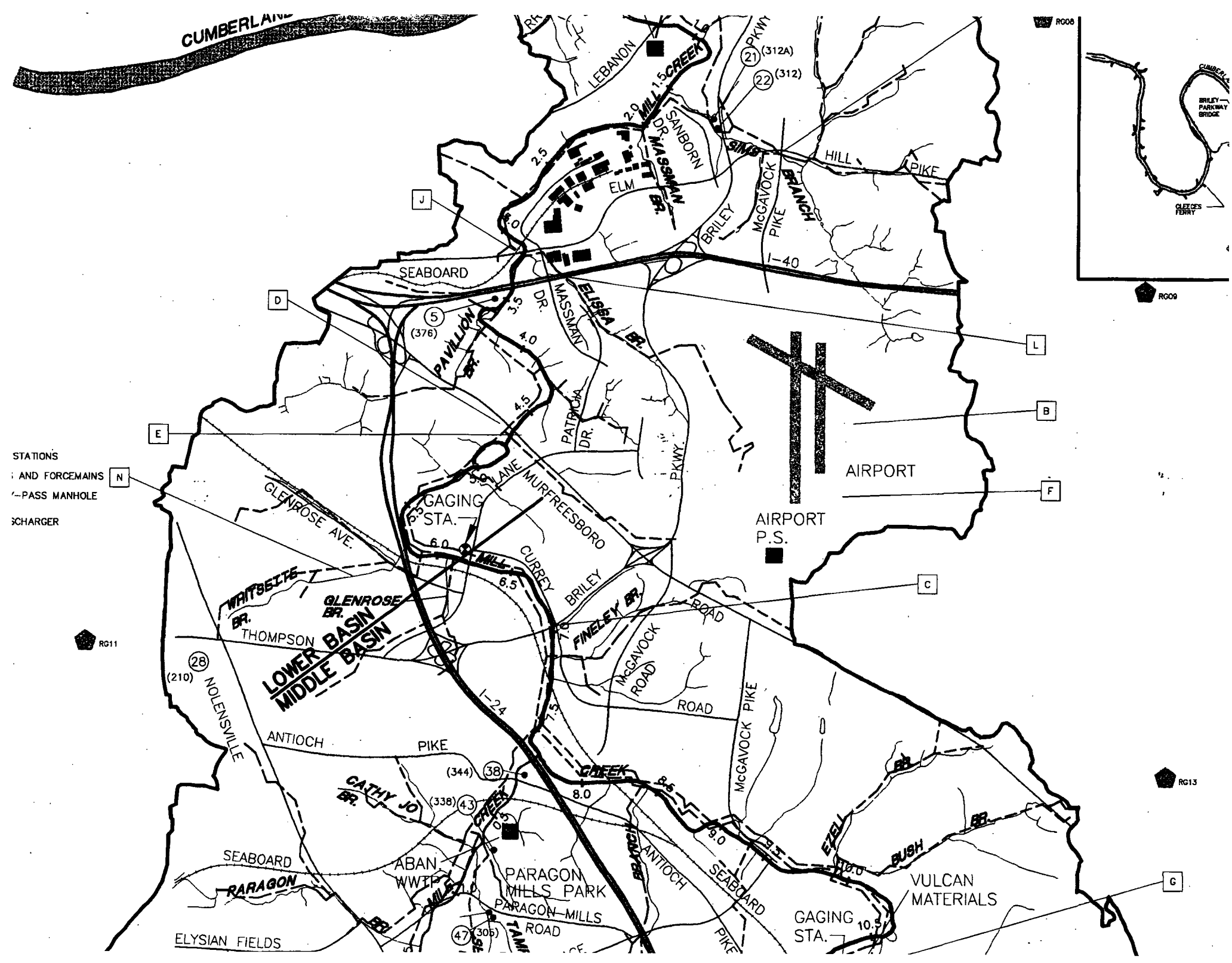
Table 2-3: NPDES Permitted Discharges in the Mill Creek Basin

Permit Number	Facility Name	Address	Receiving Stream	Map Reference Letter Figure 2-2, 2-3
TN0065145	National Convenience Store	McGavock Pike	Sims Branch to Mill Creek	A
TN0064041	Metro Nashville Airport Authority	1 Terminal Road	Sims Branch to Mill Creek	B
TN0064165	Glencliff Quarry	Briley Parkway	Mill Creek	C
TN0065251	National Convenience Store	1191 Murfreesboro Road	Mill Creek	D
TN0001597	AVCO Aerostructures	Vultee Boulevard	Storm Water Conveyance to Mill	E

Table 2-3: NPDES Permitted Discharges in the Mill Creek Basin

Permit Number	Facility Name	Address	Receiving Stream	Map Reference Letter Figures 2-2, 2-3
	Division		Creek	
TN0063908	American Fuel Storage Facility	929 Airport Service Road	Storm Water Conveyance to Main Branch	F
TN0003026	Vulcan Materials	Franklin Limestone Road	Franklin Branch to Mill Creek	G
TN0028797	Music City Union Oil Auto Truck	Interstate 24 at Old Hickory Boulevard	Mill Creek	H
Not Applicable	Waste Management of Tennessee	1428 Antioch Pike	Mill Creek	I
Not Applicable	Kayne Avenue Yard	1509 Elm Hill Pike	Mill Creek	J
Not Applicable	Roadway Express, Incorporated	3240 Franklin Limestone Road	Mill Creek	K
Not Applicable	United Parcel Service	705 Massman Drive	Mill Creek	L
Not Applicable	Tricil Environmental Services, Incorporated	1640 Antioch Pike	Mill Creek	M
Not Applicable	Safety Kleen Corporation	215 Whitsett Road	Glenrose Branch to Mill Creek	N


N
MANSKERS CREEK
GOODLETTSVILLE
HENDERSONVILLE
I-24
NORTH
DRY CREEK
OLD HICKORY LAKE
WEST
GIBSON CREEK
I-65
LOVES BRANCH
WHITES CREEK
PAGES BRANCH
RIVER
CUMBERLAND
RIVER
CUMBERLAND
STONES RIVER
EAST
WEST
HARPETH VALLEY
I-40
BROWNS CREEK
I-440
J. PERCY PRIEST LAKE
RICHLAND CREEK
BELLE MEADE
SOUTH
MILL
I-24
CREEK
HICKORY HOLLOW
I-65
BRENTWOOD
EAST


CUMBERLAND
LEBANON
MILL CREEK
SANBORN DR.
MASSMAN BR.
ELM
SINGS BRANCH
HILL PIKE
BRILEY
McGAVOCK PIKE
I-40
SEABOARD
MASSMAN DR.
ELISHA BR.
PAVILION BR.
PATRICIA DR.
PKWY.
AIRPORT
AIRPORT P.S.
GAGING STA.
MURFREESBORO PIKE
GLENROSE AVE.
CURREY ROAD
BRILEY
WHITSETT BR.
GLENROSE BR.
THOMPSON
LOWER BASIN
MIDDLE BASIN
FINELEY BR.
McGAVOCK ROAD
I-24
NOLENSVILLE
ANTIOCH PIKE
CATHY JO BR.
MILL CREEK
ABAN WWTP
PARAGON MILLS PARK
PARAGON MILLS ROAD
PARAGON BR.
ELYSIAN FIELDS
SEABOARD
ANTIOCH PIKE
EZELL BR.
BUSH BR.
VULCAN MATERIALS
GAGING STA.
STATIONS
AND FORCEMAINS
PASS MANHOLE
SCHARGER
RG08
RG09
RG11
RG13

2.2. HYDROLOGY

The USGS currently maintains two flow monitoring stations along the main branch of Mill Creek. The stations are located at the Thompson Lane Bridge (mile 6.23) and at the Franklin Limestone Road Bridge (mile 11.0). The Thompson Lane gage (Gage #03431060) measures flow from 93.4 mi^2 of the basin, 87 percent of the total drainage area of 107.9 mi^2 (USGS, 1997). The Franklin Limestone Road gage (Gage #03431000) measures flow from 64.0 mi^2 of the basin, 59 percent of the total drainage area of the basin.

Several rain gages are located in or near the Mill Creek Watershed. Table 2-4 lists the rain gages monitored during the study. The location of each gage is illustrated in Figures 2-2 and 2-3.

Table 2-4: Rain Gages in the Mill Creek Watershed

Gage Number	Location	Map Reference	Description of Measurement
08	Munn Road	RG08	Rainfall East of Mill Creek near Stones River
09	McCrory Creek Pumping Station	RG09	Rainfall East of Mill Creek near Percey Priest Lake
11	Thompson Lane near Interstate 65	RG11	Rainfall West of Mill Creek near Browns Creek
12	Off Harding Place, Near Hopedale Pumping Station	RG12	Rainfall mid-basin of Mill Creek
13	Smith Springs Road near Percey Priest Lake	RG13	Rainfall in the headwaters
14	Off Bell Road near Hickory Hollow Mall	RG14	Rainfall in the headwaters

The flow of Mill Creek has been monitored since 1954. Table 2-5 shows the mean and peak flow rates from 1994 through 1996. Analysis of the flow and rainfall data over the three year period shows the hydrologic characterization of the basin to be representative of an urban-developed watershed. The basin has a high impervious percentage (30.5 percent) and runoff coefficient (32 percent)(MDPW, 1992). Flows react quickly during large rainfall events because of storm water runoff from the impervious land uses.

Table 2-5: Hydrologic Statistics for Mill Creek (1994-1996)
Station # 03431000

Water Year*	Annual Mean Flow (cfs)	Peak Flow Event								
		Peak Flow (cfs)	Date	Total Rainfall For Event (inches)						
				Average of Gages	RG 08	RG 09	RG 11	RG 12	RG 13	RG 14
1994	131	5,750	March 9, 1994	2.10 inches	2.02	2.16	2.05	1.94	2.16	2.29
1995	90.2	6,590	May 14, 1995	1.5 inches	2.22	2.03	1.57	1.06	1.27	0.84
1996	103	7,720	October 5, 1996	No available data						

Source: USGS 1994 - 1996
*Water Year = October (previous year)-September (listed year)

2.3. SANITARY SEWER SYSTEM

The collection system in the Mill Creek Watershed consists of gravity fed trunk and lateral sewer lines that convey sewage to the Browns Creek Pumping Station via one 78-inch tunnel. The large sewer trunk lines that service the Mill Creek Basin converge at a large chamber along the right bank behind a warehouse on Massman Drive. The junction chamber conveys sewage through two 48-inch trunk lines that cross the creek at mile 2.71. A junction chamber along the left bank joins the 48-inch trunk lines to the 78-inch tunnel.

Photograph 2-2: Mill Creek at Mile 0.1, Three large diameter sewer trunk lines cross the main channel near the confluence from an adjacent basin.

Near the confluence of Mill Creek, three large

sewer trunk lines cross the main channel from an adjacent basin. Photograph 2-2 illustrates the sewer crossing during construction. These large sewer lines convey sewage from the developments associated with Opryland and Eastern Davidson County to the Browns Creek Pumping Station.

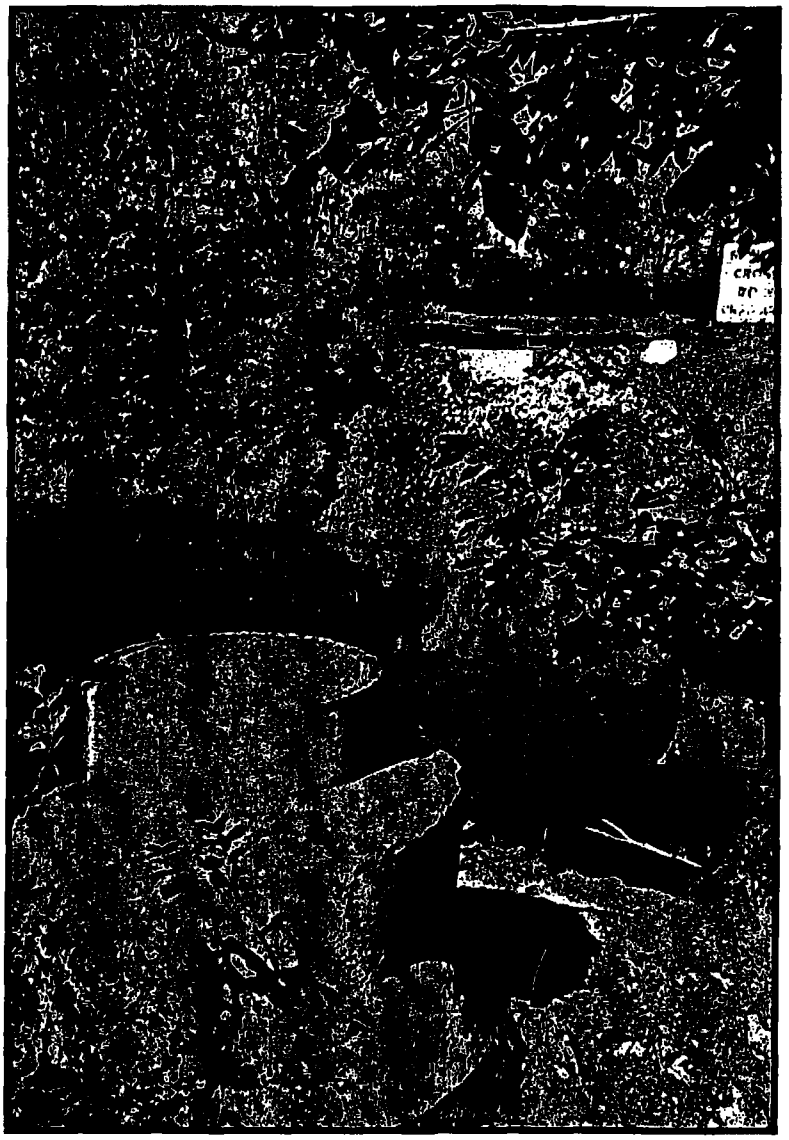
3.2.1 Lower Basin Survey

The lower section of the main branch extends from the confluence to the Thompson Lane Bridge and USGS flow monitor at mile 6.23. Photograph 3-1 illustrates the confluence of Mill Creek along the bank of the Cumberland River. Due to backwater from the Cumberland River, the depth of Mill Creek allowed field personnel to survey the basin from a boat up to mile 1.5. The depth of the creek in this backwater portion of the lower section of the basin ranged from five to fifteen feet deep.

Photograph 3-1: The confluence of Mill Creek with the Cumberland River.

The average water temperature in the lower portion of the basin during the survey was 17°C. Algae growth was normal for the season, and the DO concentrations were relatively consistent (Figure C-4). The pH of the stream remained within the TDEC Water Quality Standards (Figure C-5). The substrate of the creek consisted of silts, gravel, cobbles, and boulders up to ten feet in diameter.

At mile 0.1, three large diameter sewer trunk lines cross the channel of Mill Creek. These sewer trunk lines convey sewage from an adjacent basin near the Opryland Hotel to the Browns Creek Pumping Station. Several manholes are located at the crossings. Debris from



Photograph 3-2: Mile 0.1. Evidence of sanitary sewer overflow was observed at manhole 95-01-04.

previous overflows was observed around some of the manholes. Photograph 3-2 illustrates manhole 95-01-04 at the crossing. Dry weather samples collected downstream from the crossings showed no elevation of fecal coliform concentration (48 col/100 mL).

In this lower portion of the basin, undeveloped wood lots and spatially placed single family residences characterize the land use immediately adjacent to the stream. Private boat docks are located along the stream at mile 0.35 from a residential development. High bluffs characterize the stream banks near the Lebanon Pike Bridge (mile 0.85). The Mill Creek Pumping Station is located along the left bank upstream of Lebanon Pike.

The backwater portion of the basin ends at mile 1.5. Upstream from the backwater section, the creek flows from pool to pool through several riffles and runs. The pools vary in depth from 5 to 8 feet deep while the riffles and runs are much shallower (5 inches to 2 feet deep). Bass, suckers, drum, brim, stonerollers, and minnows populate the deep pools in the area. The first suitable macroinvertebrate environment was sampled at mile 1.55.

The fields and residential developments become the dominant land use near the confluence of Sims Branch at mile 1.59. Several SSOs were discovered in the Sims Branch

Sub-basin. Section 3.2.4 includes a complete description of the sub-tributary basin dry weather survey findings.

Several warehouses and industrial facilities are located along the right bank Mill Creek on Massman Drive. At mile 2.71, behind one of the warehouses in this development, a large junction chamber conveys the Mill Creek sewer service to the Browns Creek Pumping Station. Section 2.3 describes the Mill Creek sewer system in more detail. Two large diameter sewer pipes cross the channel in the vicinity. Field personnel discovered signs of SSO at several manholes near the crossing. Fecal coliform concentrations downstream from the crossing remained below the TDEC water quality standard during dry weather sampling.

The Elm Hill Pike, Chessie Seaboard Rail Road, and Interstate 40 bridges cross Mill Creek near mile 3.3. Storm water runoff from the transportation and residential developments along these transportation corridors is conveyed quickly to the stream via large conduits. Field personnel observed petroleum sheens and trash along the banks near many of the conduits.

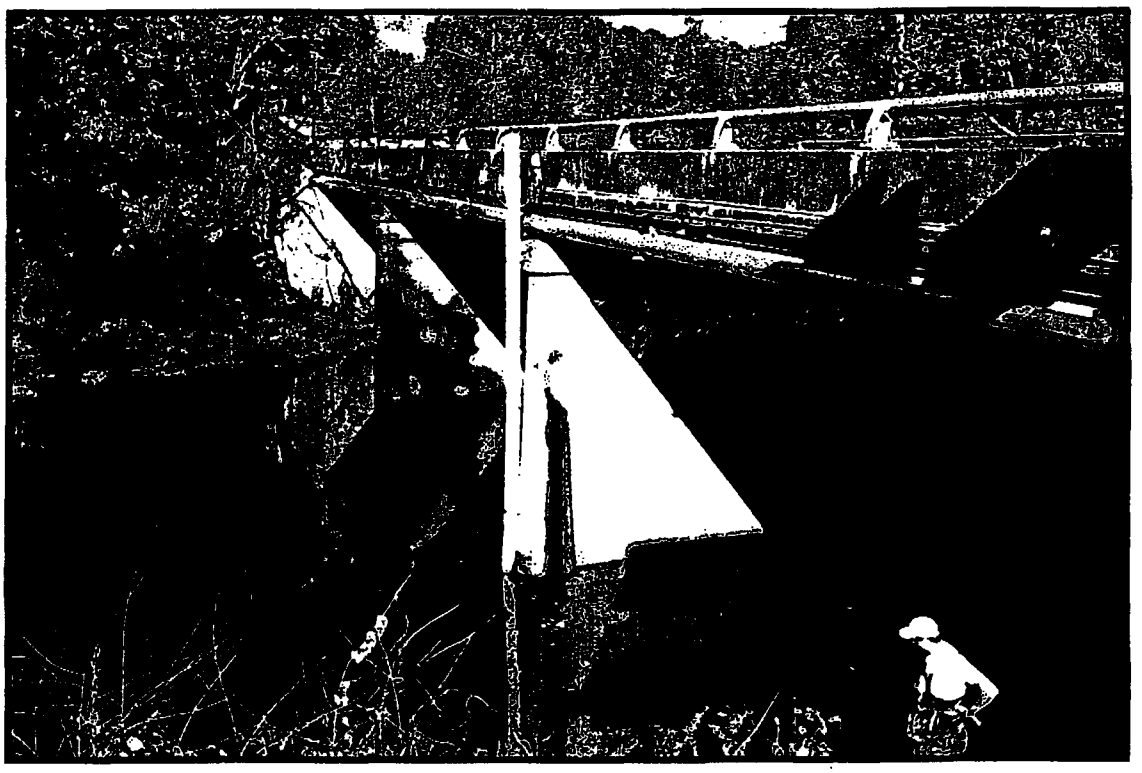
Photograph 3-3: Mile 4.2. Mill Creek downstream of the Murfreesboro Road Bridge at macroinvertebrate sample site #2.

The Murfreesboro Road Bridge crosses Mill Creek at mile 4.6. The land use adjacent to Murfreesboro Road is dominated by high density commercial developments and apartment

communities. Little or no vegetative buffer exists between development and the creek channel near the bridge. The second macroinvertebrate sample was collected downstream from this commercial area at mile 4.2. Photograph 3-3 illustrates the characteristics at this location.

The confluence of a small sub-tributary, Glenrose Branch, is located at mile 6.1 along the left bank. The USGS monitored the Glenrose Branch Sub-basin through 1990-92 as part of their Rainfall, Stream flow, and Water-Quality Data For Five Small Watersheds study (USGS, 1994). Interstate 24 also parallels the channel of Mill Creek near this sub-tributary confluence.

The first USGS gage at the Thompson Lane Bridge is located at mile 6.23 (Photograph 3-4). This location marks the end of the Lower Section and the beginning of the Middle Section of the watershed (Photograph 3-4).



Photograph 3-4: Mill Creek at Mile 6.23.
A USGS flow gage is maintained at the Thompson Lane Bridge.

3.2.2 Mid-Basin Survey

The mid-section of Mill Creek extends from the Thompson Lane Bridge and USGS gage at mile 6.23 to the Bell Road Bridge at mile 14.5. The average water temperature remained relatively consistent with the temperatures of the lower portion of the basin (16°C). The stream

bed composition consists of bed rock intermittently covered by silt, sand, and gravel bars. Algae growth was normal and formed a film of growth over the surface of the larger rocks in the stream bed. The DO concentrations were normal and the pH of the stream remained within the TDEC water quality standards. (See Figures C-4 and C-5).

Currey Road parallels the main channel of Mill Creek from Thompson Lane to the Briley Parkway Bridge at mile 7.0. Curry Road provides an easy vantage point from the car to survey the creek bed. Residential lots characterize the right bank adjacent to Curry Road and fields (flood plains) characterize the left bank. At the Briley Parkway Bridge, an abandoned pumping station and bypass bleeder were discovered. Photograph 3-5 illustrates the bleeder at the abandoned pumping station along the right bank. The bleeder pipe was completely obstructed by a concrete plug. No sign of leakage was observed during the dry weather survey. The third macroinvertebrate sample was collected immediate / upstream from the abandoned bypass bleeder.

Photograph 3-5: Mile 7.0. Field personnel discovered an abandoned pumping station and bypass bleeder at the intersection of Curry Road and Briley Parkway.

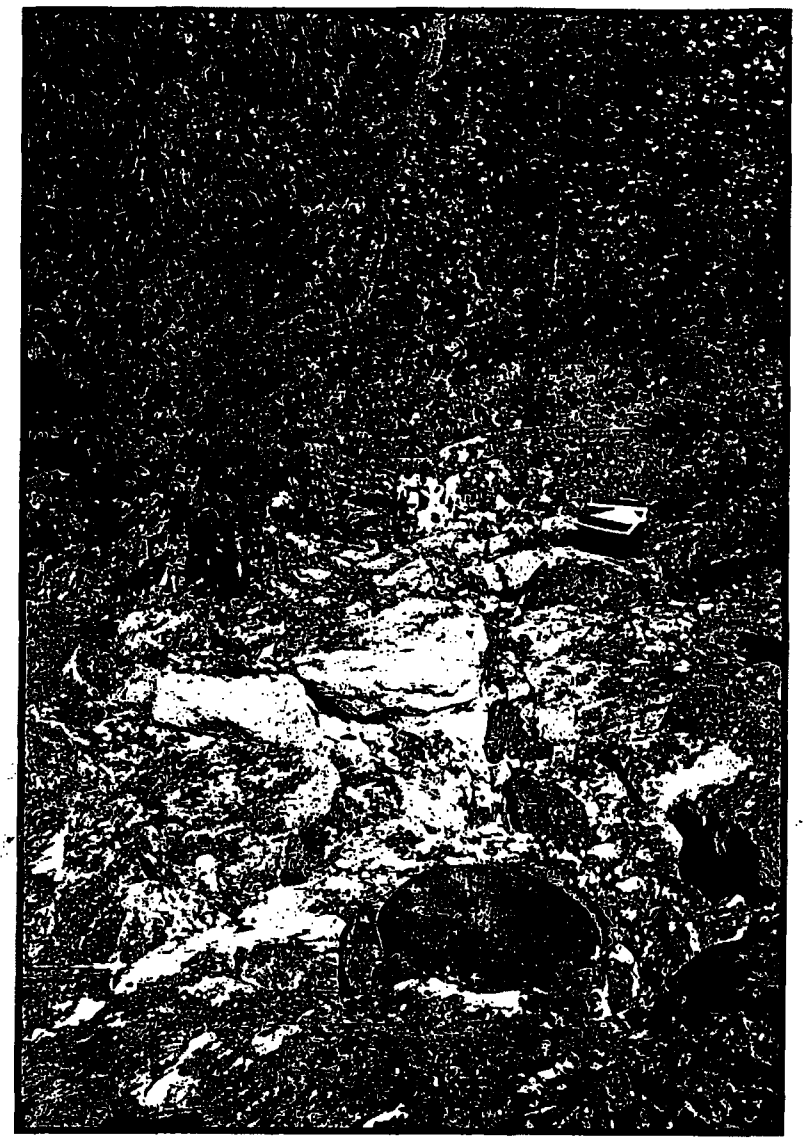
Finley Branch enters Mill Creek along the right bank at mile 7.18. Several manholes in the vicinity of the confluence of Finley Branch showed signs of SSO (Photograph 3-6). The

single highest dry weather fecal coliform concentration recorded along the main branch of Mill Creek was collected near the confluence of Finley Branch at mile 7.2 (8,300 col/100mL). However, several subsequent samples in the vicinity produced concentrations well below the TDEC water quality standard of 1,000 col/100mL. (See Appendix C, Table C-1). Appendix E includes a detailed listing and description of the sewer problems in the area.

Photograph 3-6: Mile 7.18. Field personnel discovered evidence of SSO at manhole 120-13-02 during the dry weather survey.

The Chessie Seaboard Rail Road crosses Mill Creek at mile 7.3. Upstream from the rail road bridge, the majority of the land use is commercial. Sevenmile Creek, the largest sub-tributary in the Mill Creek Watershed, enters the main branch along the left bank at mile 7.79. Field personnel observed several signs of SSOs in the Sevenmile Creek Sub-basin during the dry weather survey. Appendix E includes the locations and detailed descriptions of each problem discovered in the sub-basin.

Several large diameter sewer trunk lines converge in the vicinity of the confluence of Sevenmile Creek. At mile 7.7, behind a warehouse along Space Park South Drive, a large junction chamber along the right bank combines a 42-inch sewer trunk line from the Sevenmile Creek Sub-basin with the 66-inch sewer trunk line from upstream services along the main



Photograph 3-7: Mile 7.7. Field personnel discovered riser damage and evidence of SSO at manhole 133-04-33 during the dry weather survey.

branch. Another junction chamber along the main branch at mile 7.8 combines two large parallel sewer trunk lines from upstream (66-inch and 36-inch). Field personnel discovered evidence of SSO activity at many manholes near these junction chambers. Photograph 3-7 illustrates the condition of a manhole at the mile 7.7 junction chamber. The majority of the fecal coliform sample results were below the TDEC water quality standard during dry weather.

Space Park South Drive and another Chessie Seaboard Rail Road Bridge cross Mill Creek near mile 8.2. Large storm water conduits enter the creek from the Space Park South Industrial Park. Oily "sludge like" deposits and run off debris (plastics, paper, and other floatables) littered the undergrowth and trees at the outfall of many of these conduits.

Sorghum Branch enters Mill Creek along the left bank at mile 8.54. At the confluence of Sorghum Branch and immediately upstream along left bank of the main branch, runoff conveys large amounts of silt to the stream from a warehouse parking lot located on Harding Industrial Drive. The land use along the right bank consists of fields and wood lots associated with the Nashville International Airport. At mile 9.31, State Branch enters the creek along the right bank from the airport.

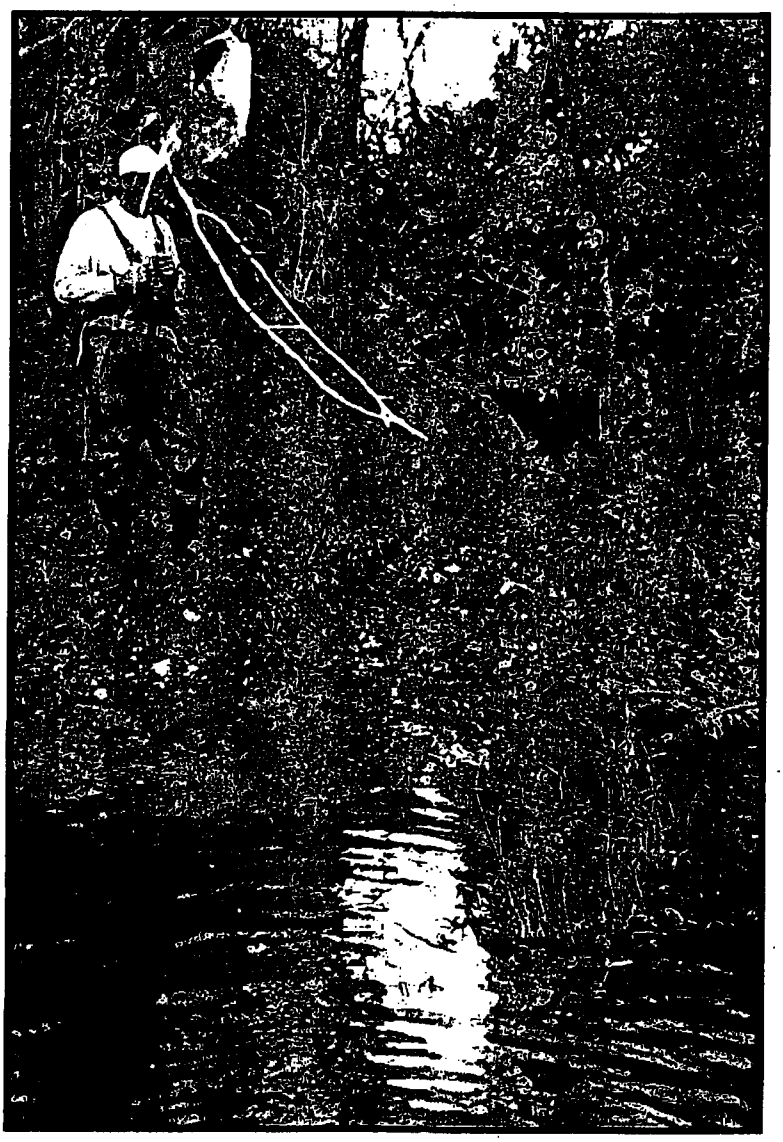
Photograph 3-8: Mile 10.2. A pump from a rock quarry discharges just upstream of the Harding Place Bridge.

Harding Place crosses Mill Creek at mile 9.55. Immediately upstream from the bridge, the dominant land use is fields and a rock quarry. Field personnel discovered a large discharge entering Mill Creek along the right bank from the rock quarry (Photograph 3-8). The fourth macroinvertebrate sample was collected downstream from this discharge.

The main branch becomes relatively inaccessible upstream from mile 10.6 to the Franklin Limestone Road Bridge (mile 11.00). Deep, slow moving pools characterize the main channel through this portion of the basin.

USGS maintains a second flow gage at the Franklin Limestone Road Bridge. The creek near the bridge becomes much more shallow. Storm water runoff from the rock quarry along the right bank has deposited large quantities of silt in the channel throughout this portion of the watershed. The land use upstream from Franklin Limestone Road becomes much more developed. Industrial, commercial and residential developments compose the land use along Antioch Pike on the left bank. A mobile home community is located along the right bank.

Antioch Pike crosses Mill Creek at mile 12.0. Immediately downstream from the bridge, field personnel discovered an oily discharge entering the creek along the right bank. The seep appeared to originate from a heavy equipment rental agency located on Cummings Court. An



Photograph 3-9: Mile 11.95. Field personnel discovered an oily seep along the right bank downstream from Antioch Pike.

oily deposit from the seep extends into the channel of Mill Creek at this location (Photograph 3-9).

Near the Antioch Pike Bridge, the basin is heavily developed. Interstate 24, Haywood Lane and Antioch Pike all converge in the vicinity. Trash and run off debris from these areas litter the banks. Antioch Pike parallels the main channel of Mill Creek up to mile 13.2 near the Blue Hole Road Bridge and Antioch High School.

Interstate 24 crosses Mill Creek at mile 13.85 near the Hickory Hollow area (Photograph 3-10). The land use gradually becomes less and less developed with fields and residential developments comprising the land use between I-24 and the Bell Road Bridge at mile 14.35.

Photograph 3-10: Mile 13.85. The Interstate 24 Bridge crosses Mill Creek near the Hickory Hollow area.

3.2.3 Upper Basin Survey

The upper portion of the Mill Creek Basin extends from the Bell Road Bridge at mile 14.5, beyond the Davidson County line at mile 20.4, to the headwaters in Williamson County. Metro's service terminates downstream of the Pettus Road Bridge at mile 15.5. Fields, wood lots, and some sparse residential developments characterize the

Photograph 3-11: Mile 15. Fields, wood lots and some sparse residential developments characterize the land use throughout the remainder of the Mill Creek watershed.

majority of the land use throughout the remainder of the Mill Creek Watershed within Davidson County (Photograph 3-11). Field personnel located cattle, horse and pig farms along this portion of the creek.

Photograph 3-12: Mile 16.17. Field personnel discovered high fecal coliform concentrations in this small tributary entering Mill Creek along the right bank. The small tributary drains a pig and cattle farm.

The average water temperature through the upper portion of the basin was slightly less than the temperatures recorded downstream (14°C). The same stream bed characteristics found in the middle portion of the basin continue through the headwaters (bed rock intermittently covered by silt, sand, and gravel bars). Algae growth was normal in the main branch channel, but became heavy in some of the smaller sub-tributary basins. The DO concentrations and pH remained within the TDEC water quality standards. See Figures C-4 and C-5.

At mile 16.17, field personnel discovered a septic tributary entering the main branch along the right bank (Photograph 3-12). A strong sewage odor accompanied the gray flow of the tributary. Samples collected from this tributary yielded the highest concentrations recorded during the dry weather survey of Mill Creek (average = 230,000 col/100mL). The tributary flows from a small pig and cattle farm off of Pettus Road.

6. CONCLUSIONS

6.1 DRY WEATHER

The dry weather survey of Mill Creek was conducted with the intent of obtaining information concerning baseline levels and potential sources of fecal coliform bacteria, basin characteristics, general water quality conditions, and the overall health of the stream. The following is a summary of the observations and conclusions from the water quality survey.

6.1.1 Dry Weather Observations

1. Heavily urbanized areas along the main branch and sub-tributaries contribute large amounts of refuse that litters the banks and stream bed throughout the basin (plastics, floatables, etc.).
2. Illegal dumping (recent or historical) contributes pollutants to the stream and provides breeding habitats for animals and insects that can act as vectors of diseases.

During the dry weather walking survey, the structural integrity of the sewage collection system was analyzed, and the following conclusions were made.

3. No dry weather sewer leaks were observed in the Mill Creek Watershed.
4. Fifty-three potential SSO points were identified during the survey. The majority are located along the main branch near the confluence of Sevenmile Creek with Mill Creek (mile 7.79). Seven were known SSOs by Metro prior to the study. Two were added to Metro's SSO list as a result of this study. The remaining forty-four were not added to the list following further investigation and/or maintenance performed by Metro.
5. Structural deficiencies (i.e. inner seal dislodged, manhole cover missing, cracked casting) were observed at many manholes throughout the basin. The majority of the problems were related to maintenance of the manholes.
6. No dry weather sewer leaks were observed in the Mill Creek Watershed. However, water quality analysis downstream of sub-surface sewer line crossings showed one location where a potential leak could be causing elevated levels of bacteria. Further investigation should be performed at this location. The site is located along the main branch of Mill Creek at mile 7.2, downstream of the confluence of Sevenmile Creek with Mill Creek.

6.1.2 Dry Weather Conclusions

1. Temperature and flow have an effect on fecal coliform and fecal streptococci concentrations. High base flows in the colder seasons produce lower and more steady levels of bacteria, while lower base flows during warm, dry seasons produce higher and more unstable concentrations of bacteria.

2. Urbanization has increased the imperviousness of the basin, resulting in increased velocities and volumes of storm water runoff and has increased the amount of pollutants conveyed to the stream.

3. Stream sediments can sustain fecal coliform bacteria. Warm temperatures also contribute to the extended bacterial activity (Pipes, W., 1996).

4. Livestock grazing and agricultural land uses have a measurable impact on the levels of fecal coliform bacteria in the headwaters of the Mill Creek Watershed.

5. Due to the low dry weather concentrations of fecal coliform bacteria, Mill Creek does not impact the dry weather fecal coliform levels in the Cumberland River.

6. Generally, the physical measurements throughout the basin suggest that the water quality is capable of supporting fish. However, the dissolved oxygen concentration at one location dropped below the TDEC water quality standard (5 mg/L minimum).

7. Overall, the general health of the creek, as indicated by the macroinvertebrate survey analysis, is moderately impaired. Petroleum contamination and runoff from industrial (rock quarries) commercialized areas is suspected to have impaired the majority of the macroinvertebrate populations in the Mill Creek Basin.

6.2 WET WEATHER

When it rains, fecal coliform concentrations in the Mill Creek Basin consistently exceed the water quality standards. During a design storm of 1.36 inches of precipitation in 24 hours, fecal coliform bacteria levels at the mouth (at the Cumberland River) are predicted to exceed 70,000 colonies/100mL as a result of background contributions. Fecal coliform sampling results suggest that commercial and residential runoff are obvious sources of bacterial contamination. However, the sewage collection system can become overwhelmed by infiltration and/or inflow during rainfall events, resulting in SSOs.

The following conclusions were based on the results obtained during the wet weather surveys conducted thus far.

1. Analysis of the data collected from Mill Creek suggests that SSOs have a smaller impact on the fecal coliform concentrations in the creek than do non-point sources. However, a complete assessment of the impact SSOs have on the creek during rain storms greater or equal to the design storm conditions (1.36 inches - eight per year storm) is still largely unknown. Efforts continue to capture an event in the Mill Creek Basin that accurately portray the impact of non-point sources and SSOs have on the creek and Cumberland River.

2. Analysis of the sample results collected during the storms has provided excellent background information.

3. Fecal coliform bacteria concentrations exceeded the water quality standard of 1,000 colonies/100mL throughout the Mill Creek Basin during wet weather (with no SSO contribution).

4. Fecal coliform concentrations are somewhat higher in warm weather than in cold weather. This is most likely due to increased ability of the bacteria to survive on land and in stream sediment during warm weather.

5. During significant rain events, background bacteria concentrations peak at roughly the same time as the flow.

6. Although fifty-three potential SSOs were found during the dry weather survey, inspections during wet weather events revealed that the major SSOs occur between mile 1.5 (near the confluence of Sims Branch) and mile 8.0 (near the confluence of Sevenmile Creek).

7. Rain events during the rainy season (November-April) appear to cause SSOs more frequently than rain storms during the dry months (May-October) due to saturated ground conditions and the related increase in potential inflow and/or infiltration.

7. RECOMMENDATIONS

Wet weather sampling activities revealed high levels of fecal coliform bacteria in the Mill Creek Watershed. Bacteria from documented SSOs as well as from urban runoff contribute to violations of the TDEC Water Quality Standards for primary contact recreation, and make the stream unsafe for recreational activities. When it rains, the stream turns brown and silty due to re-suspension of settled solids in the stream bed, and erosion and runoff containing solids from streets, yards, and construction sites.

In addition to the increase of solids and fecal coliform bacteria, residential and commercial refuse is conveyed to the stream and is carried downstream. The debris can block flow constrictions such as bridges, can cause flooding, and can also be transported to the Cumberland River, further polluting the environment. One of the main reasons that the Cumberland River contains a large amount of trash after a rain event is the contributions from Nashville's urban streams. These deposits of debris can also act as a breeding ground for mosquitoes or other pests that can potentially act as vectors of disease.

Recommendations to improve the water quality of the Mill Creek Watershed are listed below. They are divided into two categories: sewage collection system improvements and urban runoff pollution prevention controls.

7.1 SEWAGE COLLECTION SYSTEM IMPROVEMENTS

The current SSOs have a measurable and documented impact. Recommendations to the improve the sewage collection system in the Mill Creek Basin are listed below.

1. Implement an aggressive sewer rehabilitation program in weak sections of the system to remove excessive inflow and infiltration.

2. Implement a program to limit or control inflow from other pumping stations.

3. Institute a semi-annual sewer trunk-line maintenance survey of the main branches of Mill Creek, assessing each manhole and sewer crossing to ensure that the structural integrity of the system is sound. In particular, check for non-watertight manholes (i.e. broken castings, gaskets, inner locks, etc.) in the flood plains of the streams.

4. Following large rain events, the system should be inspected to identify any problems in the lines which could have occurred during the event, so that they can be repaired to prevent further damage to the system from subsequent events.

5. A bypass/overflow list should be well maintained and available for all Metro sections in order to ensure communications between sections regarding the conditions and locations of the bypasses and overflows. This will ensure that new problems will be addressed in a priority-based manner.

7.2 URBAN RUNOFF POLLUTION CONTROLS

An urban runoff pollution prevention and control plan in the Mill Creek Watershed should be implemented in order to improve the water quality of the stream. Such a plan is more difficult to achieve than steady-state pollutant source control due to the intermittent nature of rainfall and runoff patterns. Non-structural controls include regulatory controls that prevent pollution by controlling land use and development. Low cost structural controls include the use of facilities that encourage the uptake of pollutants by filtration, settling, or vegetation (U.S. EPA, 1993). CTE recommends that the following activities and best management practices (BMPs) be instituted for the Mill Creek Watershed in order to reduce the fecal coliform bacteria loadings to the stream, and ultimately in the Cumberland River.

1. Pollutant sources from urban areas can be controlled through the use of BMPs. Urban high density residential areas are found along much of the creek bank in the basin: BMPs that can be used in these areas include:
   a) street sweeping,
   b) catch basin cleaning,
   c) solid waste control,
   d) animal waste removal ordinances, and
   e) solid waste pick-up exercises such as the *Adopt A Highway* program.

2. Other runoff controls applicable to the Mill Creek Basin include retention facilities to minimize the intensity and concentration of the pollutants. These controls include:

   a) Retention Basins. These facilities capture and release storm water runoff at a controlled rate of flow. This method is effective in removing bacteria, suspended solids, and floating wastes from runoff.
   b) Porous Pavement. Porous pavements can be used in applications such as parking lots to lessen the amount of storm water runoff caused by large amounts of impervious area. Porous pavements allow runoff to flow through the asphalt/concrete layer to an underground gravel bed where bacterial pollutants

could settle out and be removed from the runoff. Field studies have shown that porous pavement systems can remove significant levels of both soluble and particulate pollutants (Schueler, 1987).

7.3 VERIFICATION OF RESULTS

If the preceding recommendations are partly or wholly followed, CTE believes that significant improvements in water quality will result. To verify and quantify the improvements, *remediation verification* samples should be collected according to the general sample guidelines that are contained in this section. If reliable new methods come into existence in the future, providing information for differentiating between human and non-human wastes in waters, these methods should be employed in determining the contributions from each source for the major creeks within Davidson County. These new tests should show the extent to which non-human sources contribute to the pollution of our streams and waterways.

1. Following significant changes that occur within the basin in the future which could cause significant changes in water quality, the stream should be sampled prior to and following the changes both upstream and downstream of the impacted area. These changes include sewer improvements and urban BMPs.

2. Mill Creek should be sampled for fecal coliform, fecal streptococci, and Escherichia coli bacteria on a semi-annual basis (all seasons) during both dry and wet weather. The following locations should be sampled:

   Main Branch at Lebanon Pike ..... Mile 0.85
   Main Branch at Thompson Lane ..... Mile 6.23
   Main Branch at Bell Road ..... Mile 14.5
   Sevenmile Creek at Antioch Pike ..... Mile 0.2
   Sevenmile Creek at Old Hickory Boulevard ..... Mile 5.2

   A survey of potential SSO locations should accompany the wet weather sampling.

3. Along with item number 2, macroinvertebrate sampling should be performed at selected locations within the basin to assess the stream's health from year to year. Mill Creek locations should include:

   Confluence Sample Near Sanborn Drive ..... Mile 1.5
   Downstream of Murfreesboro Road Bridge ..... Mile 4.2
   Upstream of Harding Place Bridge ..... Mile 10.15
   Upstream of Nolensville Pike Bridge (Reference Site) ..... Mile 19.7

Sims Branch Confluence..... Mile 0.07
Sevenmile Creek Confluence Downstream of Antioch Pike Bridge
..... Mile 0.2

4. Fecal coliform, fecal streptococci, and Escherichia coli samples should be included in storm water runoff sampling. This study has revealed significant storm water runoff contributions to the fecal coliform levels in the streams. If storm water sampling is not currently performed, it should be implemented in the basin to monitor continued impacts on Mill Creek.

PROPOSED FINAL VERSION

YEAR 2002
303(d) LIST

September, 2002

**TENNESSEE DEPARTMENT OF ENVIRONMENT
AND CONSERVATION**

**Division of Water Pollution Control
Planning and Standards Section
6th Floor, L & C Annex
401 Church Street
Nashville, Tennessee 37243-1534**

Proposed Final 2002 303(d) LIST (Cheatham Reservoir Watershed cont.)

Waterbody ID	Impacted Waterbody	County	Partial	Not	CAUSE (Pollutant)	Pollutant Source	COMMENTS
TN05130202 007 – 1450	SEVENMILE CREEK	Davidson	2.0		Nutrients Pathogens	Urban Runoff/Storm Sewers Hydromodification	Provides habitat for the federally listed Nashville crayfish (O. shoupi).
TN05130202 007 – 1500	PAVILLION BRANCH	Davidson	1.3		Pathogens	Urban Runoff/Storm Sewers	
TN05130202 007 – 1000	MILL CREEK	Davidson	3.5		Nutrients Siltation Organic Enrichment/Low DO	Collection System Failure Urban Runoff/Storm Sewers	Provides habitat for the federally listed Nashville crayfish (O. shoupi).
TN05130202 007 – 2000	MILL CREEK	Davidson	4.0		Siltation Organic Enrichment/Low DO	Collection System Failure Urban Runoff/Storm Sewers	
TN05130202 007 – 3000	MILL CREEK	Davidson	5.9		Siltation Organic Enrichment/Low DO Pathogens	Collection System Failure Urban Runoff/Storm Sewers	Provides habitat for the federally listed Nashville crayfish (O. shoupi).
TN05130202 007 – 5000	MILL CREEK	Davidson Williamson	8.1		Nutrients Siltation Organic Enrichment/Low DO	Minor Municipal Point Source Livestock in Stream	Provides habitat for the federally listed Nashville crayfish (O. shoupi).
TN05130202 010 – 0200	DRAKES BRANCH	Davidson	2.7		Pathogens	Collection System Failure	
TN05130202 010 – 0300	DRY FORK	Davidson	9.9		Pathogens	Undetermined Source	
TN05130202 010 – 0400	EARTHMAN FORK	Davidson	11.0		Pathogens	Collection System Failure	
TN05130202 010 – 0600	CUMMINGS BRANCH	Davidson	2.6		Pathogens	Livestock in Stream	
TN05130202 010 – 0700	LITTLE CREEK	Davidson	1.1		Siltation	Land Development	
TN05130202 010 – 0800	EWING CREEK	Davidson	17.6		Pathogens Other Habitat Alterations	Urban Runoff/Storm Sewers Hydromodification	
TN05130202 010 – 1000	WHITES CREEK	Davidson		2.9	Pathogens Organic Enrichment/Low DO	Collection System Failure	Water contact advisory.
TN05130202 014 – 0400	NORTH FORK SYCAMORE CREEK	Robertson		15.4	Siltation Other Habitat Alterations	Hydromodification	
TN05130202 023 – 0100	EAST FORK BROWN'S CREEK	Davidson		2.2	Nutrients Other Habitat Alterations Pathogens Oil and Grease	Minor Industrial Point Source Urban Runoff/Storm Sewers Hydromodification	Impacted by spills and runoff from Radnor Yards.
TN05130202 023 – 0200	MIDDLE FORK BROWN'S CREEK	Davidson	3.5		Other Habitat Alterations	Land Development	
TN05130202 023 – 0300	WEST FORK BROWN'S CREEK	Davidson	3.6		Organic Enrichment/Low DO Pathogens	Urban Runoff/Storm Sewers	

APPENDIX D: Federally Listed Endangered Aquatic Species in the State of Tennessee

Scientific Name	Common Name	Status	Total Obs.	Pre-1975 obs.	Post-1975 obs.	HUC location of endangered species post-1975	Extirpated since 11/1975	When Listed	Federal Register Citation
Percina tanasi	Snail darter	T	47	3 obs. 1974-09/1975	44 obs. 1976-2000	06010201 06020001 06020002 06010204 06020004 06030004 06010104 06010108 06010107 06010201 06020003	No	12 Or 150	40 FR 47506; Oct. 9, 1975 Or 49 FR 27514; July 5, 1984
Phoxninus cumberlandensis	Blackside dace	T	26	0	26 obs. 1985-2000	05130101	No	273	52 FR 22585; June 12, 1987
Scaphirhynchus albus	Pallid sturgeon	E	3	0	3 obs. 1990	08010100	No	399	55 FR 36647; Sept. 6, 1990
Crustaceans									
Orconectes shoupi	Nashville crayfish	E	57	0	57 obs 1981-2000	5130202	No	242	51 FR 34412; Sept. 26, 1986
Mollusca									
Alasmidonta atropurpurea	Cumberland elktoe	E	19	0	19 obs. 1978-2000	05130104 05130107	No	602	62 FR 1657; Jan. 10, 1997
Alasmidonta raveneliana	Appalachian elktoe	E	1	0	1 obs. 1992	06010108	Yes*	563	59 FR 60334; Nov. 23, 1994
Cyprogenia stegaria (irrorata)	Eastern fanshell pearlymussel	E	30	4 obs 1936-1974	26 obs 1978-1999	05130108 06010205 06020001 06040001	No	391	55 FR 25595; June 21, 1990
Dromus dromas	Dromedary pearlymussel	E	71	32 obs 1899-1964	39 obs 1975-1999	05130108 05130201 06010205 06010206 06020001	No	15	41 FR 24064; June 14, 1976

REFERENCE 8

Amoco Oil Company
375 Northridge Road, Suite 600
Atlanta, Georgia 30350-3290
Remediation Services Division
404-512-6875
Facsimile: 404-512-6866

June 26, 1992

NASHVILLE ENVIRONMENTAL
RECEIVED
JUN 26 1992
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
FIELD OFFICE

Mr. Troy Estes
Tenn. Dept. of Conservation
Division of Underground Storage Tanks
537 Brick Church Park Drive
Nashville, TN. 37243-1550

Site Specific Standard for Former
Amoco Station #4365
Vultee Blvd - Nashville, TN.

Mr. Estes,

In reply to your letter dated 5/26/92, Amoco is applying for a Site Specific Standard at our former service station #4365, located on 1330 Vultee Blvd in Nashville, TN. Following this cover letter are Amoco's responses to the nineteen questions associated with technical guidance document-008. After your office has had a chance to review the document, Amoco would appreciate having a meeting at the Nashville field office with you and your technical staff, to discuss our responses and answer any questions you may have. Since the site specific standard request is a new concept, we want to make sure it has been addressed and completed in the required manner. Due to everyone's busy schedule, we would appreciate a two week notice of the meeting date.

If you have any questions, please call me at (404) 512-6874.

Respectfully yours,

Gary G. Umbehagen

Gary G. Umbehagen
Project Engineer
Amoco Oil Company-Atlanta Dist.

C. B. Kindrick, AOC Chicago, MC PO642J2
V. J. Kremesec, AOC Chicago, MC PO642Q2
J. M. Murzyn, AOC Chicago, MC PO642N2
C. B. Olson, AOC Chicago, MC PO641Q2
J. W. Peterson, AOC Chicago, MC PO641K2
S. B. Thomas, AOC Chicago, MC PO642H2
G. J. Wurtz, AOC Chicago, MC PO642L2

SITE SPECIFIC STANDARD REQUEST
FORMER AMOCO STATION #4365
1330 VULTEE BLVD-NASHVILLE, TN.

The following nineteen responses are addressed in the order stated by Technical Guidance Document-008 to apply for a site specific standard under Tennessee's Division of Underground Storage Tanks reference handbook dated January 1992.

1. **Determine the soil permeability, as required in the Division's Environmental Assessment Guidelines.**
   Soils at the subject property are generally residuum materials derived from weathering of the underlying bedrock formation, consisting of silty to sandy clay. An undisturbed soil sample of this material from soil boring S-8 (figure 1) was laboratory analyzed (as per TDUST requirements) to have an extremely low vertical water permeability of 9.4 x 10E-8 cm/sec (figure 2).

2. **Determine the ground water classification of the aquifer or water source (i.e. drinking water supply or non-drinking water supply), as required in the Division's Environmental Assessment Guidelines.**
   TDUST's requires that the limits of the UST site's petroleum contamination must be defined to TDUST's drinking water action levels. Ground water was only encountered in two of the August 1991 soil borings on the site. These borings were then subsequently converted into monitoring wells MW-1 and MW-2 (figure 1). Numerous attempts to get offsite access to place additional monitoring wells were not successful. Mr. Troy Estes and Mr. Mike Langrek (both of TDUST), stated on November 1, 1991 that since efforts to fully define the contamination plume could not be accomplished due to the lack of obtaining offsite access, that Amoco could discontinue this task and continue forward with TDUST's ground water classification procedure.

   Step 1 of TDUST's ground water classification procedure states that a water survey must be performed in the area around the UST site. When selecting the area to be surveyed, the direction of groundwater flow and the geologic characteristics of the affected area shall be taken into consideration. Field surveys, personal contacts and a records search shall be performed when conducting this survey. If any affected aquifer or water source is being used by the citizens of the state, then the affected aquifer or water source shall be classified as a "drinking water supply". Because ground water was encountered in only two locations on Amoco's property, USGS topographic quadrangles (Nashville East and Antioch) were reviewed to distinguish the apparent flow direction. Based on

the topographic relief from these maps, the apparent flow direction should be to the W-SW. Geologic data developed during the assessment activities indicate that ground water at the subject facility is not continuous across the site. Instead, when it is present, it appears to be isolated in small pockets associated with the irregular soil-bedrock interface. Information from the cored borings suggest that bedrock is generally competent and unweathered. Based on this data, it is thought that the ground water at this site is either temporarily stored on site within areas of deeper bedrock weathering or flows downgradient to the soil-bedrock interface.

The limits of the area potentially impacted by the subject site activities are shown on Ground Water Classification Study Area Map (figure 3). This area was determined based on the assumption that ground water may move offsite to the W-SW and that the outer boundaries of the study area are formed by a series of surface streams located topographically downgradient, south, west and north of the site. These streams are assumed to be cut-off boundaries since they represent the interface of shallow groundwater zones and the existing ground surface.

A review of the records for existing drinking water wells in the defined study area was conducted on January 3, 1992 under the Record of Water Wells in the Nashville East and Antioch Quads. Only water wells located within 3,000 feet from the property were considered. Within this defined area only two wells were identified (see Figure 3): A) Well Number 03708002 located at the old Metro Nashville Airport and B) Well Number 03709093 located at the old Vultee Aircraft Co. (now the Textron Aerostructures). According to Mr. Joseph Meador of the Metro Nashville Airport Authority, the well located at the airport is not being utilized and has not been utilized since the land was purchased by the airport authority in the mid-1950's. Mr. Steve Dunn (Environmental Engineer for Textron) stated that he was not aware of the presence of the subject well, or of any other ground water well being used on the Textron property for either industrial or drinking water purposes. In addition to checking the records for water wells within 3,000 feet of the property, water well drilling contractors were contacted to determine if they had installed any wells in the area (Henry Drilling, Clark Drilling and Miller Drilling). None of the drilling companies had records for installing any wells within the 3,000 foot area except for Henry Drilling, which installed one well at the Corron and Black facility near Elm Hill and McGavock Pike. That well was used exclusively to supply an on-site lake.

After completing the above well search, Ogden Environmental personnel completed a drive-through survey of the study area to determine a visual search for wells. During the drive-through survey, personal contact was also made with several

area residents and business owners to determine the possible existence of any ground water wells. The drive-through survey revealed no visually observable water wells. Discussions with the area residents and business owners also revealed no known use of ground water wells.

Therefore, based on the records search, personal contacts and the drive-through survey, there does not appear to be any ground water wells in the study area which would supply drinking water for human consumption.

Step 2 of the TDUST's ground water classification procedures requires that affected aquifer of water source be tested for primary and secondary drinking water standards of rule 1200-5-1, by analyzing the water from an well upgradient of the leak. As directed by Mr. Troy Estes of TDUST, ground water was sampled from up-gradient monitoring well MW-2 (figure 1) for analysis. Results of the analysis showed that the ground water did not contain primary contaminants above the stated standards. However, three of the secondary standards were exceeded in the allowable levels of iron, manganese and turbidity.

Therefore, based on the ground water failing three of the secondary drinking water standards and the fact that there were no ground water wells, the aquifer is identified as a non-drinking water source. Step 3 (pump test) was not required since Step 2 determined the aquifer's non-drinking water classification.

3. **Determine the land use in the area prior to the site being used to store petroleum.**
Prior to Amoco having a service station at the subject property, the site was a Gulf service station. Prior to the building of the Gulf station, the land was previously used as farmland. Evidence for this history came from a personal interview by Ogden Environmental with a Mr. Hayes Beard of Marion Construction Company. Mr. Beard previously worked for the gentleman who bought the farmland property in 1954. Additional evidence for this area previously being farmland came from the interview Ogden had with Mr. Joseph Meador of the Metro Nashville Airport Authority (which is located approximately 1500 feet due east of subject property). As earlier stated, Mr. Meador claimed the site where the airport now exists was previously farmland, until it was purchased by the Airport Authority in the mid-1950's.

4. **Determine the current and projected future uses of the surrounding land.**
The current uses of the surrounding land to the subject property is a combination of commercial, residential and industrial. Vultee Blvd. contains mostly light commercial buildings such as the convenience store (Eddie's Market) located 90 feet due east and a former Exxon service station

located 200 feet due south. Textron Aerostructures (approx. 380 feet) and Nashville Airport (1,500 feet) are located to the east. A residential area is located to the north (approx. 280 feet north of the UST). At the present time, there are no known upcoming changes for the future uses of the surrounding land. Therefore, it is assumed the surrounding land will continue to be used for commercial, residential and industrial purposes.

5. **Determine the extent of petroleum contamination in both the soil and ground water to the appropriate cleanup levels in the regulations.**
Since the ground water has been shown to be a non drinking water source and the soil permeability to be 9.4 x 10E-8 cm/sec, the TDUST cleanup guidelines for soil and ground water under these characteristics are as follows.

Soil:	B.T.X.	500 ppm	TPH 1000 ppm
Ground Water:	Benzene	0.070 ppm	TPH 1.0 ppm

Based on these guideline levels there is only one soil point (T-2) which exceeds the levels (Figure 4, 5 and 6). There is no ground water data exceeding these levels.

6. **Determine the background level of petroleum contamination in both the soil and ground water in the area.**
Based on data in figures 5 and 6, the background levels of the petroleum contamination are as follows.

	BENZENE	TOULUENE	ETHYL-BENZENE	XYLENE	TOTAL BTX	TPH LOW	TPH HIGH
Soil (ppm)	ND	ND	ND	ND	ND	<5.0	<5.0
Water (ppm)	ND	ND	ND	ND	ND	<50.0	<50.0

7. **Determine the current and projected future uses of the ground water at the petroleum site and surrounding area.**
As presented, ground water is not continuous across the service station site. The ground water that is present is not suitable as a drinking water source since it exceeds three of the secondary drinking water standards, based on the ground water sample collected from the upgradient monitoring well MW-2. Furthermore, the very low hydraulic conductivity would prevent large volumes of ground water from being extracted. Therefore, no current or projected future uses of the ground water are expected at the service station site.

As discussed earlier in the water use survey, there are no

ground water wells used for human consumption within the surrounding area based on the records search, personal contacts and visual observation in the drive-through survey. Furthermore, the ground water has been shown to exceed three of the secondary drinking water standards. Therefore, no current or projected future uses of the ground water are expected in the surrounding area.

8. **Determine the depth to groundwater at the petroleum site.**
As shown in the earlier assessment work done on the site, ground water is not continuous across the area. This characteristic is probably due to either: 1) the irregular nature of the underlying bedrock (i.e. the elevation of the soil/bedrock interface at a particular location relative to the adjacent bedrock surface elevation and/or the extent of bedrock weathering at a particular site location) and/or 2) the lack of sufficient recharge. Depth to ground water has been shown to vary from 25.0 feet below the surface in monitoring well MW-1, to 48.0 feet below the surface in monitoring well MW-2. Further evidence of the ground water's discontinuity is reflected in the fact that water elevation in MW-1 is 23 feet higher in elevation than compared with MW-2, despite the fact that MW-1 is topographically downdip of MW-2.

9. **Determine the ground water recharge area and the recharge rate for the petroleum site and the surrounding area**
Recharge for the entire area is related to the amount of infiltration associated with the annual precipitation. According to "The Water Encyclopedia" by van der Leeden et al 1990, the city of Nashville receives 48.49 inches of annual rainfall. However, due to the hilly nature of the area (elevation difference of 180 feet based on a high of 600 feet at Textron Plant and a low of 420 feet by Mill Creek) the vast majority of this rainfall will not infiltrate into the soil, but is instead lost to surface runoff. Most of the soil in the surrounding area is best described as containing mostly clay sized material. Clays have very poor vertical permeability values (as shown by the lab analysis of soil boring S-8 that exhibited a permeability value of 9.4 x 10E-8 cm/sec), which would allow only a minute amount of rainfall to infiltrate into the soil. Furthermore, the warm-hot climate of the Nashville area would cause a significant amount of the rainfall to evaporate back into the atmosphere. Even with some minor degree of water infiltration, a considerable amount would be captured by tree, shrub and grass roots.

Reviewing all the above variables suggests that there probably would not be much rainfall infiltration for the area. However, if there was some infiltration for the site, the recharge area would be one of two areas: 1) the subject site itself or 2) from surrounding areas of higher topographic relief. The subject site is mostly covered with an asphalt/concrete surface, which would not allow rainfall to

infiltrate. Therefore, the only other recharge source area would have to be a surrounding area of higher topographic relief. According to the available topographic map (figure 3), the only area with a possibly higher elevation is located directly east of the site by the Textron complex and the Nashville Airport (surface elevation 600 feet). Both of these sites contain numerous buildings as well as significant amounts of concrete and asphalt surfaces, which would combine to limit the amount of rainfall that could infiltrate in this recharge area. Drainage ditches also surround the area to insure that most of the rainfall that falls in this area is channelled away towards the tributaries of Mill Creek. This same topographic high area would also be the recharge area for the land surrounding and downgradient of the service station.

The lack of a sufficient recharge area and the previously described variables which limit infiltration are good explanations for the ground water discontinuity across the site. Therefore, in order to answer the second and third parts of question 9 (i.e. give the recharge rate for the petroleum site and the recharge rate of the surrounding areas) the most appropriate response would be that the recharge rate for both is negligible.

10. **Determine the hydrology of the petroleum site and the surrounding area.**

As discussed previously the surface soils in the surrounding area of the subject site are generally residuum materials derived from weathering of the underlying bedrock. These soils are mostly composed of clay sized particles with varying amounts of silt and some sand. Such material result in poor aquifer characteristics (as seen in the laboratory calculated vertical water permeability of 9.4 x 10E-8 cm/sec).

The underlying bedrock expresses an irregular surface, probably due to weathering. Isolated within the lower elevations of the irregular surface are small areas of ground water (as seen from the soil borings and monitoring wells on the site). Due to the isolated occurrence of ground water there are not enough elevation measurements to determine ground water flow direction. Topographic maps suggest that the flow direction should be to the W-SW. Recharge of water to the area is generally negligible due to the high runoff (very hilly area), poor vertical permeabilities of the clay to allow infiltration, and having recharge zones which are covered with asphalt/concrete surfaces.

11. **Determine the proximity, quality and current and projected future uses of the surface waters in the vicinity of the petroleum site.**

There are several surface streams present within the general area of the petroleum site (figure 3). Mill Creek is a constant surface water body, located approximately 5,000 feet west of the site (shown on the topographic map as a solid,

wide line). There are minor, seasonal tributaries to Mill Creek located to the north (4,000 feet), south (2,100 feet) and the west (2,000 feet). According to the topographic maps these minor tributaries appear to only contain water during rainy periods when they collect the surface runoff and transport it to Mill Creek (as shown on the topographic map as thin, dashed lines). There is a small pond approximately 2,100 feet west of the site. This pond appears in a topographic low area within one of the seasonally minor tributaries.

The quality of the surfaces waters should be similar to other surface waters present around cities the size of Nashville and contain normal runoff contamination from the surrounding residential, commercial and municipal areas. As with the rain throughout most of the United States, the rainfall that supplies these surface waters probably contains varying amounts of contamination. Furthermore, the city of Nashville (and/or the cities upstream of Nashville) probably use Mill Creek as a discharge point for their municipal sewers, which input additional contamination.

The current uses of the surface waters are probably the same as other surface waters of this size (i.e. small boat transportation, sewer discharge zones, fishing, etc). There are no known upcoming changes to these uses, so it is reasonable to suggest that these same uses will continue into the future.

12. **Determine the acute toxicity of the waste petroleum product by performing a bioassay (chronic toxicity bioassays may also be required).**

The U.S. Fish and Wildlife Service has conducted bioassays of benzene, ethylbenzene, toluene, and xylene on rainbow trout, channel catfish, and bluegills in their Columbia, Missouri research laboratory. The tests conducted were LC_{50} tests. An LC_{50} test determines the lethal concentration of a chemical required for half of the fish to die in 96 hours. The results follow:

Benzene	96 hours LC_{50}(mg/l)
Rainbow Trout	9.2
Channel Catfish	425
Bluegill	100

Ethyl Benzene	
Rainbow Trout	14
Channel Catfish	210
Bluegill	88

Toluene

Rainbow Trout	24
Channel Catfish	240
Bluegill	170

Xylene

Rainbow Trout	8.2
Bluegill	13.5

This information was published by W.W. Johnson and M.T. Finley in 1980 as a "Handbook of Acute Toxicity of Chemicals to Fish and Aquatic Invertebrates", by the U.S. Department of Interior, Fish, and Wildlife Service, Resource Publication 137 (Washington D.C.)

Interpreting acute toxicity data varies among authorities, according to Amoco's Corporation ecotoxicologist. In general, LC_{50} values of less than 1 mg/l are interpreted to mean that the material is "very toxic". Values above 1000 mg/l are usually characterized as being "practically non-toxic". The values reported for BTEX are intermediate on these scales.

According to the site assessment report, there is no observed hydraulic gradient to carry groundwater offsite. Even if groundwater does flow offsite, the hydraulic conductivity of the soil is extremely low (9.8E-8 cm/sec). Such a low value would require an extremely long time before possibly reaching any distant aquatic biological receptors, if at all. Furthermore, natural biodegradation from microorganisms present in soil and water would rapidly degrade the BTEX components (relative to the non-existent or slow groundwater flow time) such that levels at distant receptors should be non-toxic.

13. **Describe the physical and chemical characteristics of the petroleum contamination.**

Based upon the data presented in the CAP, the following general observations are made on the physical and chemical characteristics of the petroleum contamination. This contamination is expressed on Figures 4 and 5 in BTEX and TPH concentration levels. The contamination, at concentrations above action levels, is confined to a small diameter soil column on the western edge of the tank field. The contamination is believed to be weathered gasoline for three reasons: there is no recent evidence of spillage; in the removal of the old tanks, much of the subsurface was exposed to the atmosphere so weathering would occur; and the low

headspace concentrations with respect to the TPH soil concentration suggests the lighter ends (high vapor pressure components) are no longer present.

Movement of this contamination by surface water infiltration and subsequent transport through groundwater is highly unlikely. First, the conductivity of the soil is extremely low (9.8E-8 cm/sec) so contaminant migration will be very slow. Groundwater has been observed to be isolated and discontinuous across the site, so there is no established gradient to cause migration. Because the surface is covered with asphalt or concrete which minimizes surface water infiltration and because no groundwater was detected when soil boring T2 was drilled to auger refusal (soil from this boring has the TPH soil concentration which exceeds action levels), migration to any groundwater is unlikely. Finally, vertical migration will be stopped by the generally competent bedrock beneath the site.

Movement of the contamination is limited to molecular diffusion through the soil matrix. This is probably the reason that extremely low levels (below the most stringent action levels) of hydrocarbon are measured by headspace analysis of soil boring samples across the site. It is important to note that molecular diffusion is not a direct function of the soil conductivity, but is related to the volume of air filled pore space and the molecular diffusion coefficient in air (Palmer, C.D. and Johnson, R.L.; EPA/625/4-91/026, Chapter 11). The rate of molecular diffusion is reduced by the natural retardation mechanisms of adsportion to organic matter in soil and partitioning to immobile pore water. It is important to also note that as diffusion of hydrocarbon species moves away from the source, oxygen is diffusing in. This event will promote natural aerobic biodegradation, which further minimizes the spread of the contaminants.

14. **Perform an Exposure Assessment to determine the effect of the petroleum contamination on all potential receptors (e.g. humans, aquatic species, animals, and plants).**
The contaminated soils above action levels occur 15 ft. below a concrete or asphalt surface. Thus, direct dermal exposure or ingestion of the soil by humans or animals is impossible. Oral exposure by drinking contaminated water is unlikely for the reasons given in Question 13 and because there are no water wells in the area. Plant root systems are not possible. Since there are no surface water bodies in proximity to the site and since transport by groundwater is unlikely, exposure of aquatic species is impossible.

The only exposure route possible is by vapor diffusional transport to a building near the site in which exposure would occur by inhalation. The closest building is 90 ft. west of the source, soil boring T2. It is a convenience store

The second method will calculate the length of time that it will take to reach 1% of the source concentration adjacent to the building which is nearest the source. This is termed the Diffusional Time Approach. It takes into account the natural retardation mechanisms for adsorption to the soil organic matter and partitioning to immobile pore water. It does not account for natural biodegration; and so, it is very conservative.

MASS FLUX APPROACH

The allowable mass flux to the convenience store is calculated by multiplying the allowable concentration by the air volume in the store by the number of air changes per day. The convenience store is approximately 40x30x10 $ft.^3$ and has 12 complete air changes per day (Johnson, P.C. and Ettinger, R.A.; Env. Sci. Tech. 1991; and M. Wells, Amoco toxicologist). The allowable fluxes to the building are thus: 0.377 gm/day benzene; 36.7 gm/day toluene; and 5.7 gm/day total xylene.

The potential flux through the soil is given by (Johnson and Ettinger, 1991):

$$(\text{FLUX}) = A\ (C_{source} - C_{soil\ at\ bldg.})\ D^{eff}/L$$

where A is the area available for diffusion (cm^2), C_{source} is the concentration of the hydrocarbon species at the source (gm/cm^3), $C_{soil\ at\ bldg.}$ is the concentration of the hydrocarbon species adjacent to the building (gm/cm^3), D^{eff} is the effective diffusion coefficient defined below (cm^2/sec), and L is the distance from the source to the building (cm).

The length from the source of contaminated soil to the building is 90 ft. The area available for diffusion is conservatively estimate as 40x30 ft^2 - 40 ft is the approximate frontage; 30 ft is the approximate depth of contamination. The effective diffusion coefficient is given by (Palmer and Johnson, EPA/625/4-91/026,Chapter 11):

$$D^{eff} = \Theta_a^{3.33}\ D_{air} / \Theta_T^2$$

where Dair is the diffusion coefficient in air (cm_2/sec), Θ_a is the air filled porosity, and Θ_T is the total porosity. The diffusion coefficient for benzene is 0.087 cm^2/sec; toluene is 0.078 cm^2/sec; xylene 0.072 cm^2/sec. The value for benzene was used throughout. The soil is a clay which generally has a total porosity of 35-50% - the assumed value for these calculations is 40%. Clays generally retain their pore water so a value of 20% was assumed for the air filled porosity. With these values, the effective diffusion coefficient has a value of 0.0025 cm^2/sec. To conservatively estimate the flux,

the hydrocarbon concentrations adjacent to the building are assumed to be zero.

The most difficult term to determine is the hydrocarbon species vapor concentration at the source. There was no direct measurement of the individual concentration. To estimate the concentration, a computer model of vapor/liquid/solid equilibria was used with a composition of weathered gasoline to match the measured soil concentration of sample T-2-7+ and the total PID vapor concentration by headspace analysis of soil samples from the lower depths of soil boring T2 (approximately 300 ppm) taken during Aug. 5-14, 1991. This procedure requires adjustment of the fraction of organic matter in the soil and the mass fractions of benzene, toluene, and total xylene in the weathered gasoline. After several trial and error adjustments, the vapor concentrations of benzene, toluene, and xylene at the source are estimated to be 0.07E-6, and 0.7E-6, and 0.16E-6 gm/cm^3, respectively. To match total vapor concentration and TPH soil concentration, it was necessary to assume a soil organic matter content of 5%. This is within literature bounds but is on the high side for soils at depth. A possible explanation is that surface soil may have been placed in this area during tank installation. Alternatively, the mass of high molecular weight gasoline components could be increased to match the TPH. This probably would not dramatically effect the vapor concentrations.

Based upon the vapor concentrations, the maximum mass fluxes through the soil were calculated and are compared in Table 1 to the allowable fluxes.

Table 1

COMPONENT	ALLOWABLE FLUX TO BLDG, gm/day	MAXIMUM MASS FLUX THROUGH SOIL, gm/day
Benzene	0.377	0.0061
Toluene	36.72	0.061
Xylene	5.7	0.014

The comparison of values in Table 1 indicates that the allowable mass flux of benzene is 67 times greater than that which can be passed through the soil, 600 times for toluene and 407 times for total xylene. Thus, the concentrations of hydrocarbons in the building should always be well below acceptable risk and hazard quotient levels.

DIFFUSION TIME APPROACH

An estimate for the time required for a hydrocarbon species to

diffuse for the source and reach 1% of the source concentration adjacent to the building can be calculated from (Freeze, R.A. and Cherry, J.A.; "Groundwater", 1979, p.393:

$$\frac{1 - C_{soil\ at\ bldg.}}{C_{source}} = \mathrm{erfc}\left(\frac{L}{2(D^{*}t)^{-1/2}}\right)$$

D^{*} is an effective diffusion coefficient modified to account for retardation by adsorption to soil organic matter and partitioning to immobile pore water (Palmer and Johnson, EPA/625/4-91/026, Chapter 11):

$$D^{*} = \frac{\Theta_a^{2.33}\ D_{air}}{\Theta_T^{2}\ R_A}$$

where R_A is the gas phase retardation coefficient that is defined by

$$R_A = 1 + \frac{(\Theta_T - \Theta_a)}{\Theta_a K_H} + \frac{P_b K_p}{\Theta_a K_H}$$

where P_b is the bulk density of the soil (ug/cm^3), K_p is the adsorption coefficient (ug adsorbed/gm soil/ug/ml solution), and K_h is the Henry's Law coefficient. For benzene (which is most likely the quickest moving), the adsorption coefficient has a value of 83 ug/gm/ug/ml and a dimensionless Henry's Law coefficient of 0.3. The bulk soil density is calculated to be 1.59 gm/cm^3. Taking the conservative approach that the soil matter has a very low organic matter content of 0.1%, the retardation coefficient is calculated to be 6.5. From equation 4, the time required for benzene to reach 1% of it's source concentration at the building is calculated to be 9 years. During this time, natural biodegradation will also be occurring so it is unlikely that benzene will achieve significant concentration levels adjacent to the building.

16. **Explain why the petroleum contamination cannot or should not be remediated to the appropriate cleanup levels in the regulations.**

The exposure assessment (question 14) identified the only potential exposure pathway to be inhalation of vapors in the nearest building by a worker. The calculations in the previous question (15) show that, even if vapor reached the nearest building, the concentrations would be well below acceptable risk and hazard levels. Thus, there is no need to remediate this site.

An alternative computation will further illustrate the point. The maximum TPH concentration is 3000 mg/kg. Assuming this occurs in a soil column 2m in radius and below 15ft to a 30 ft depth (both conservative estimates based on actual soil

analysis), this contamination if spread throughout the soil volume beneath the service station, would have a concentration of only 20 mg/kg. This is well below even the most stringent action level in the state. Even spreading across the site is not far-fetched because diffusion occurs simultaneously in all directions with concurrent adsorption, partitioning to water, and biodegradation mitigating the spread.

17. **Explain the actions to be taken if a Site Specific Standard was granted for the site and a problem developed in the future (e.g. vapors in a building, an impacted water well, free product in a underground utility, etc.).**
If a situation arose (i.e. vapors in a building, an impacted water well, free product in an underground utility, etc...), an investigation as to the source of the contamination would be conducted. If appropriate, a re-evaluation of the potential risk to human health and the environment would be performed. Any remedial action would be based on the data acquired during the investigation and re-evaluation stages. If determined that remediation is necessary and appropriate, the most efficient methods for cleanup will be used.

18. **Determine the site specific contamination concentration for both soil and groundwater which should be applied to the petroleum site (the level which would not adversely effect human health or the environment).**
For soil, the proposed site specific standard should be 5000 ppm TPH. At this concentration, there will likely be mobile free product which would enhance migration of the contamination to possible groundwater. Vapor concentrations, however, would still be below levels which would pose a risk to nearby buildings. For BTX in the soil, it is proposed that the state non-drinking water standard of 500 ppm remain applicable.

For groundwater, it is proposed that the state non-drinking water standard of 0.07 ppm benzene and 1.0 ppm TPH remain applicable.

19. **Describe how the site specific contaminant concentrations were determined.**
The soil concentrations were determined using the same computer model and parameter values described in question 15. It is assumed that cleanup should be performed when there is potential for free product to migrate. This is assumed to occur when 5% of the pore space is filled with free product. The mass of weathered gasoline was increased in the model until this value was reached. The soil concentration at that point was calculated to be approximately 5000 ppm TPH.

SUMMARY OF LABORATORY TEST RESULTS

					UNIT WEIGHT (PCF)		ATTERBERG LIMITS				Project: Amoco - Vultee Blvd. Project Number:046150100 Date: January 16, 1992
Hole No.	Sample No.	Sample Type*	Depth	Natural Moisture (%)	Wet	Dry	Liquid Limit (%)	Plasticity Index (%)	USC	ASTM D 5084-90 Permeability	Soil Description
S-8	ST-4	ST	32.5-34.5	42.3	108.41	76.2				9.4×10^{-8}	
S-8	ST-6	ST	47.0-49.0							Untestable	

*ST-SHELBY TUBE SAMPLE, SS-SPLIT SPOON SAMPLE, B-BAG SAMPLE
**TEST RESULTS REPORTED ON OTHER SHEETS:

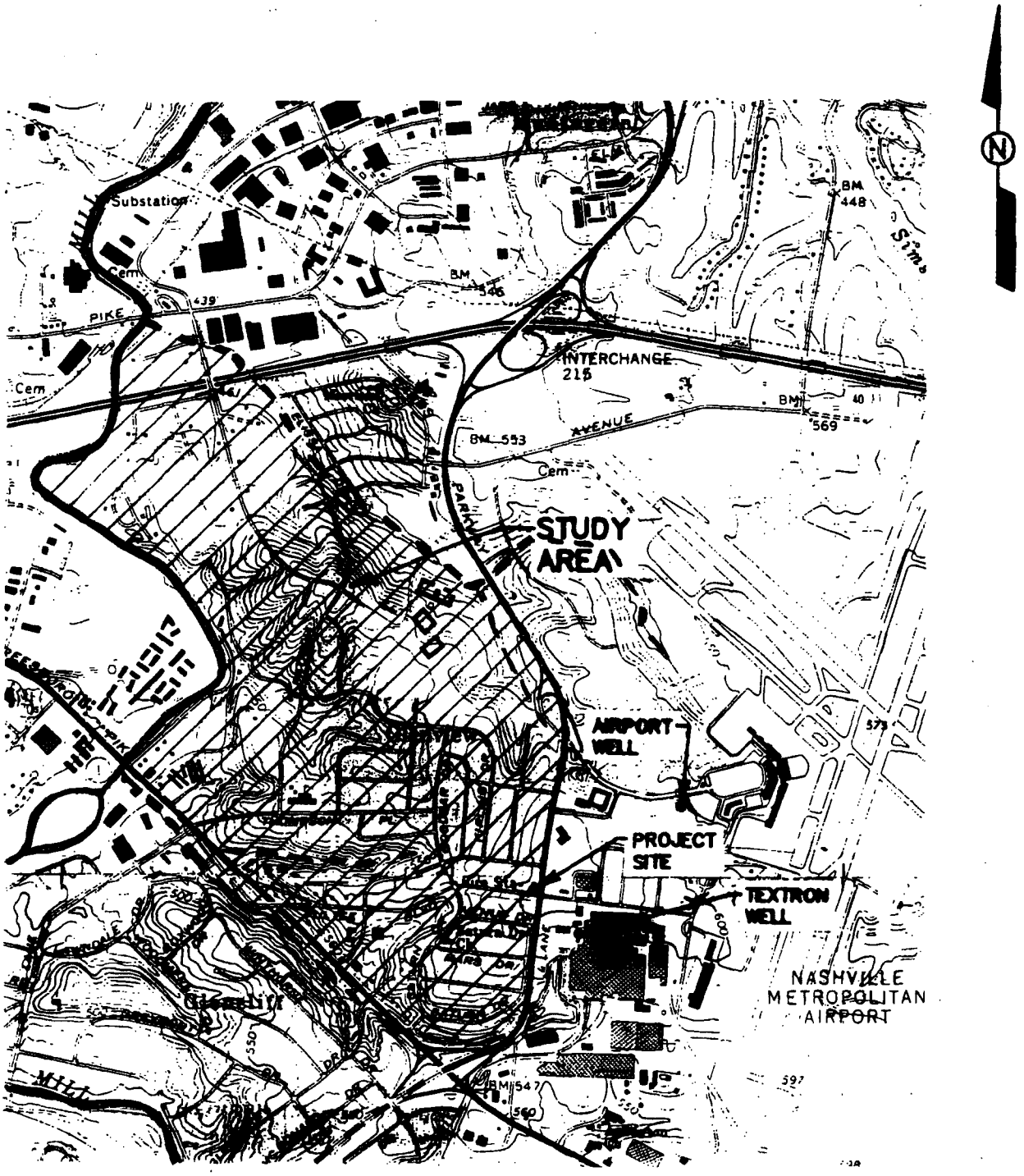
C-CONSOLIDATION
S-SIEVE OR GRAIN SIZE ANALYSIS
U-UNCONFINED COMPRESSION TEST
P-PROCTOR TEST
D-DIRECT SHEAR TEST
T-TRIAXIAL TEST

DATA CHECKED BY WA

GATS William C Ard

GA TECHNICAL SERVICES, INC.

FIGURE 2



GROUND–WATER CLASSIFICATION STUDY AREA MAP

FORMER AMOCO STATION NO. 4365
1330 VULTEE BLVD.
NASHVILLE, TENNESSEE
SCALE: 1" = 2,000'

OGDEN ENVIRONMENTAL AND ENERGY SERVICES

PROJECT NO. 0–4615–0100–0000

FIGURE 3

Avco Aerostructures TEXTRON

CLH - 3/23
JCO 3-27
MFL
File
(new file)

Avco Aerostructures/
Subsidiary of Textron Inc.

Box 210
Nashville, TN. 37202
615/361-2000

March 21, 1989

Mr. Chuck Head
Director of UST
Tennessee Department of Health and Environment
Division of Solid Waste
UST Program
Doctor's Building, Second Floor
706 Church Street
Nashville, TN 37219

Dear Mr. Head:

I would like the opportunity to schedule a meeting with you to discuss some environmental data we discovered during an extensive site assessment conducted in 1988 at our main plant facility located on Vultee Boulevard. The goal of our discussion will be to determine if soil remediation is required at two separate locations where we found elevated levels of total petroleum hydrocarbons (TPH). If remediation is required, we will formulate with you a plan of action.

The first location is at our east property line which adjoins with property owned by the Metropolitan Airport Authority. We believe the elevated TPH levels in this area may be attributed to leaking underground storage tanks on the Airport Authority's property. The second location is on the western part of our property in the immediate area of some stoddard solvent storage tanks. We believe the source here may have been a faulty oil/water separator rather than a leaking underground storage tank.

In any event, we will try to schedule a meeting with you during the week of March 27, 1989. If we can provide any additional information on this subject, please call me at 615/361-2196.

Sincerely,

Steven H. Dunn
Staff Engineer

SHD:js

RECEIVED
MAR 23 1989
UNDERGROUND STORAGE
TANK PROGRAM

5-190056

VMS 6/23
JEH 7/19
MRT 6-27
VMS 6/7/19

TEXTRON Aerostructures

Textron Aerostructures/
Subsidiary of Textron Inc.

P.O. Box 210
Nashville, TN 37202
615/361-2000

File: Avco or Textron Davidson Co.

March 30, 1989

Mr. Jim Osmond
Tennessee Department of Health and Environment
UST Program
Doctor's Building, Second Floor
706 Church Street
Nashville, TN 37219

Dear Mr. Osmond:

During the last half of 1988, Textron Aerostructures performed an extensive environmental assessment of the Vultee Boulevard Plant. We were assisted in the study by a competent local environmental engineering company. The assessment was initiated because of our concern for the environment and how it may have been affected by the operation of a large industrial metal finishing facility for nearly fifty years.

All aspects of the plant's environmental impact to the community were reviewed for compliance with air emissions, wastewater discharge, disposal facilities, non-hazardous solid waste, RCRA regulated hazardous wastes, underground storage tanks, soil and ground water, etc. Of all the areas studied, we have only two areas of significant concern.

These two areas are those of soil contamination at our eastern property line adjoining the Airport Authority, and that in a small portion of land near our mid-western property line. Both of these areas show elevated levels of total petroleum hydrocarbons (TPH).

The soil and groundwater investigation included drilling 23 soil test borings and installation of six groundwater monitoring wells. The groundwater wells were distributed generally near property borders and at locations where soil contamination was suspected. The soil boring locations were selected based on suspected contamination. We have provided excerpts from the engineering study for your review.

Based on our environmental assessment, we believe the following plan of remedial action should be taken by Aerostructures.

I. Soil contamination at the east property line

- Report the data to the State's UST Program Group and to the Airport Authority.

II. Soil contamination at the mid-western property line

- Report the data to the State's UST Program Group
- Appropriate funds for further investigation
- Select engineering firms for new test system design and for remediation plan design
- Obtain the State's approval of the remediation plan
- Obtain Textron Corporate approval for expenditures of funds
- Select a contractor to construct a new fuel test system
- After the new test system is proven functional, begin site remediation including removal of the associated UST's.
- Obtain the State's approval of the UST closure

We have scheduled a meeting with you on March 30, 1989. At that time, we wish to review with you our plan of action and discuss any other aspects of the environmental assessment that you wish. If we may provide any additional information to you, please call me at 615/361-2196.

Sincerely,

Steven H. Dunn
Staff Engineer

SHD:js

Attachment

ENVIRONMENTAL ASSESSMENT SITE
ACTIVITY SUMMARY
OF THE
TEST FUEL UNDERGROUND STORAGE
TANK AREA
FOR
TEXTRON AEROSTRUCTURES

2-190056

NASHVILLE ENVIRONMENTAL
RECEIVED
NOV 20 1992
TENNESSEE DEPARTMENT
OF ENVIRONMENT
AND CONSERVATION
FIELD OFFICE

190058

ENVIRONMENTAL ASSESSMENT SITE ACTIVITY SUMMARY OF THE TEST FUEL UNDERGROUND STORAGE TANK AREA FOR TEXTRON AEROSTRUCTURES

by

AVCO CORPORATION
d/b/a
TEXTRON AEROSTRUCTURES
Post Office Box 210
Nashville, Tennessee 37202

with assistance provided by:

BARGE, WAGGONER, SUMNER AND CANNON
162 Third Avenue, North
Nashville, Tennessee 37201

October, 1989

SECTION 6

SOIL AND GROUND WATER INVESTIGATION

During the months of June, July and August, 1988, ERM-Southeast, Inc. personnel conducted a general soil and ground water investigation of the Textron Aerostructures facility located on Vultee Road in Nashville, Tennessee as part of the environmental assessment of the plant site. This investigation was conducted to assess general hydrogeologic conditions and ground-water quality at the Vultee Boulevard facility. The investigation included the drilling of 23 soil test borings and the installation of six ground-water monitoring wells. The investigation also included the collection and laboratory analyses of soil samples from the soil test borings and ground-water samples from the monitoring wells. Figure 6-1 depicts the general layout of the Textron facility and the locations of the soil borings and ground-water monitoring wells. A summary description of the field procedures and sampling results is provided in the following report.

6.1 GENERAL HYDROGEOLOGIC CONDITIONS

The anticlinal Nashville Dome encompases most of middle Tennessee and is expressed topographically as a large basin known as the Central Basin. Textron is located near the center of the Basin and is underlain by Ordovician-aged limestones, named in descending order: the Bigby-Cannon Limestone, the Hermitage Formation, the Carters Limestone, the Lebanon Limestone and the Ridley Limestone. According to the geologic map of the Antioch Quadrangle (Wilson, 1964) in which Textron is located, the Hermitage Formation is exposed over the majority of the Textron site with the Bigby-Cannon Limestone being exposed only over the northern extension of the Textron site. Figure 6-2 provides a map of the surficial geologic units in the immediate vicinity of the Textron site.

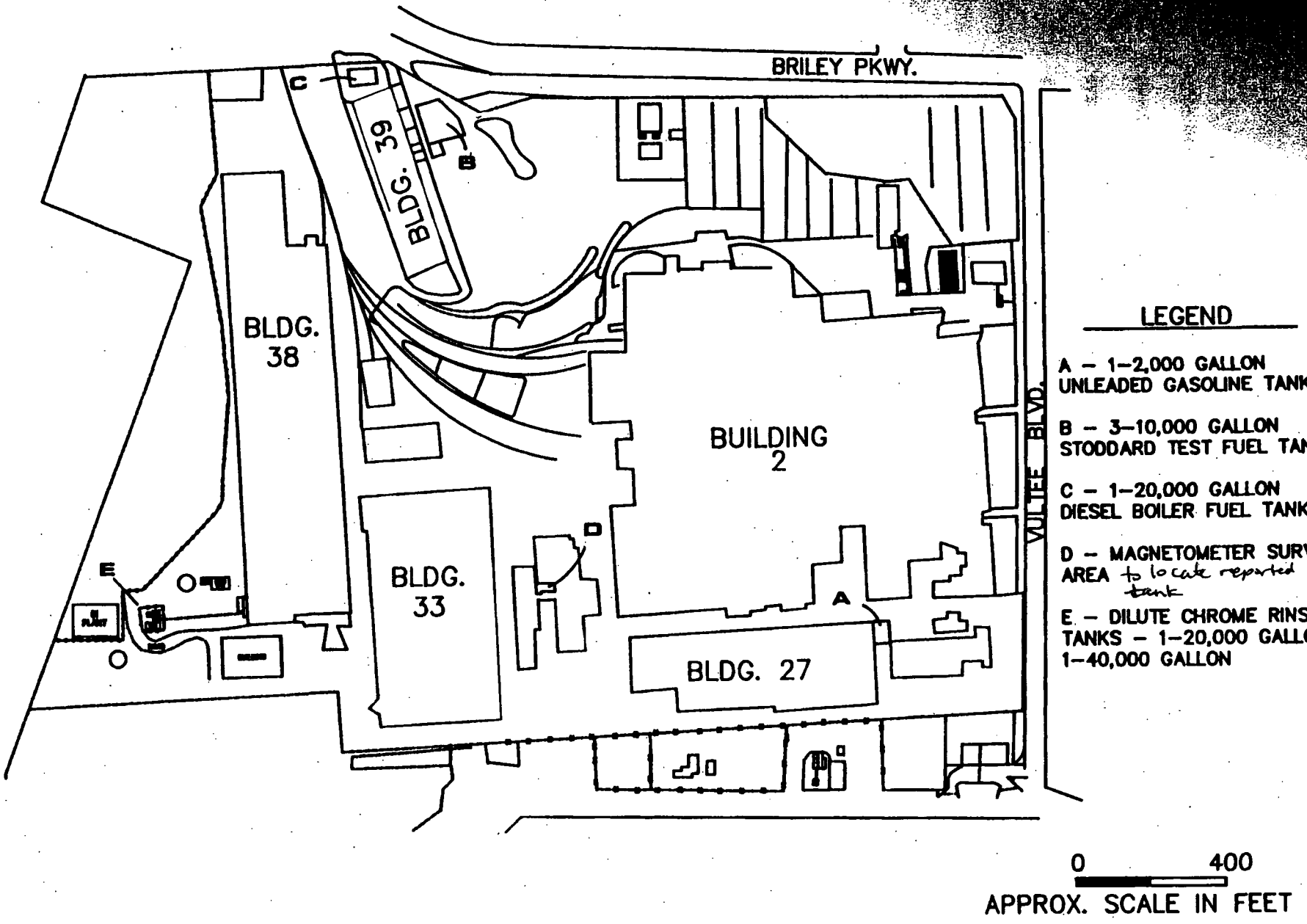
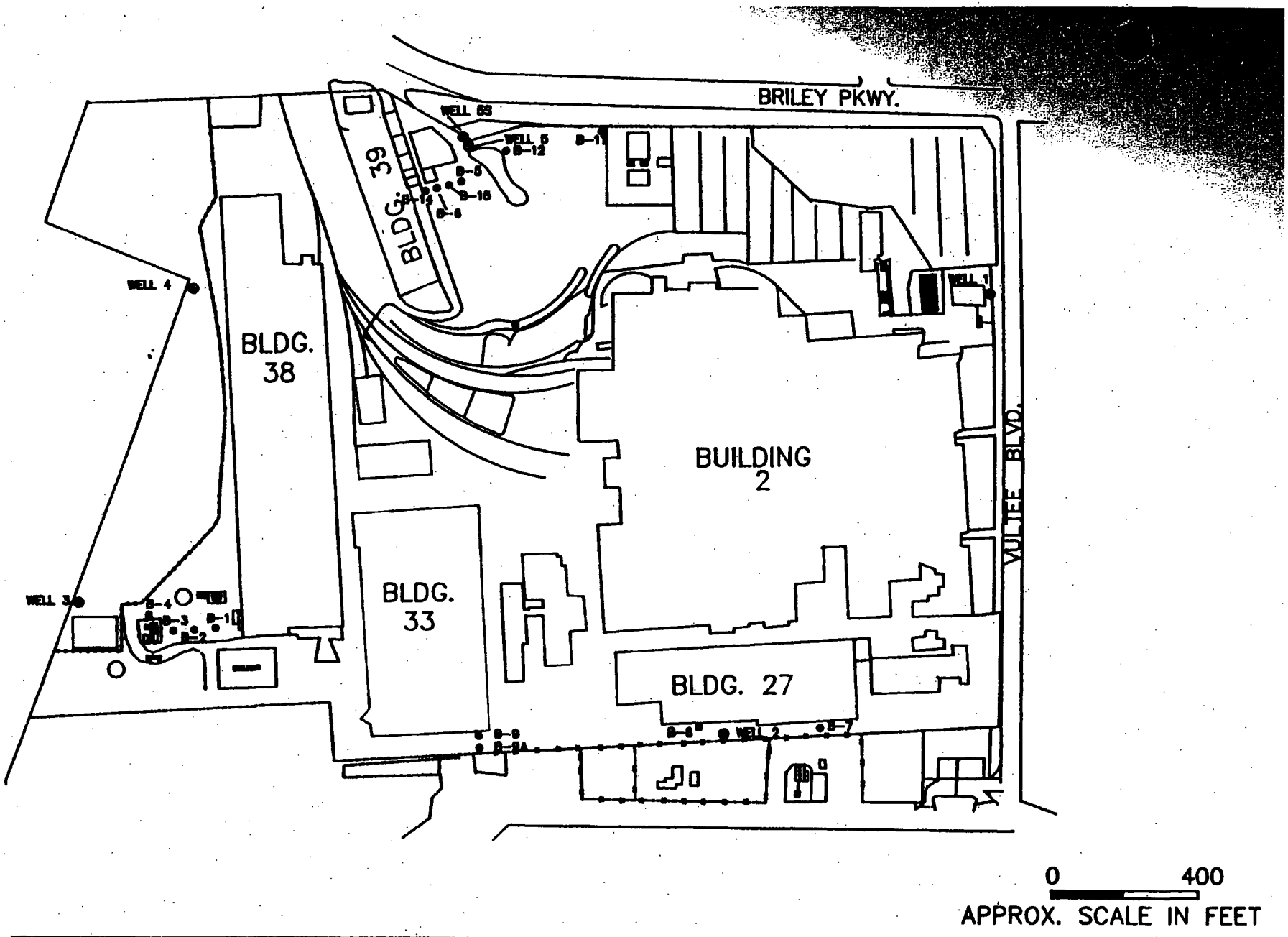


FIGURE 5–1. APPROXIMATE LOCATION OF TANK AREAS

TEXTRON, INC. – VULTEE BLVD. FACILITY
NASHVILLE, TENNESSEE

ERM–SOUTHEAST, INC.
BRENTWOOD, TENNESSEE



δ-1. APPROXIMATE LOCATIONS OF TEST BORINGS AND WELLS

TEXTRON, INC. – VULTEE BLVD. FACILITY
NASHVILLE, TENNESSEE

ERM–SOUTHEAST, INC.
BRENTWOOD, TENNESSEE

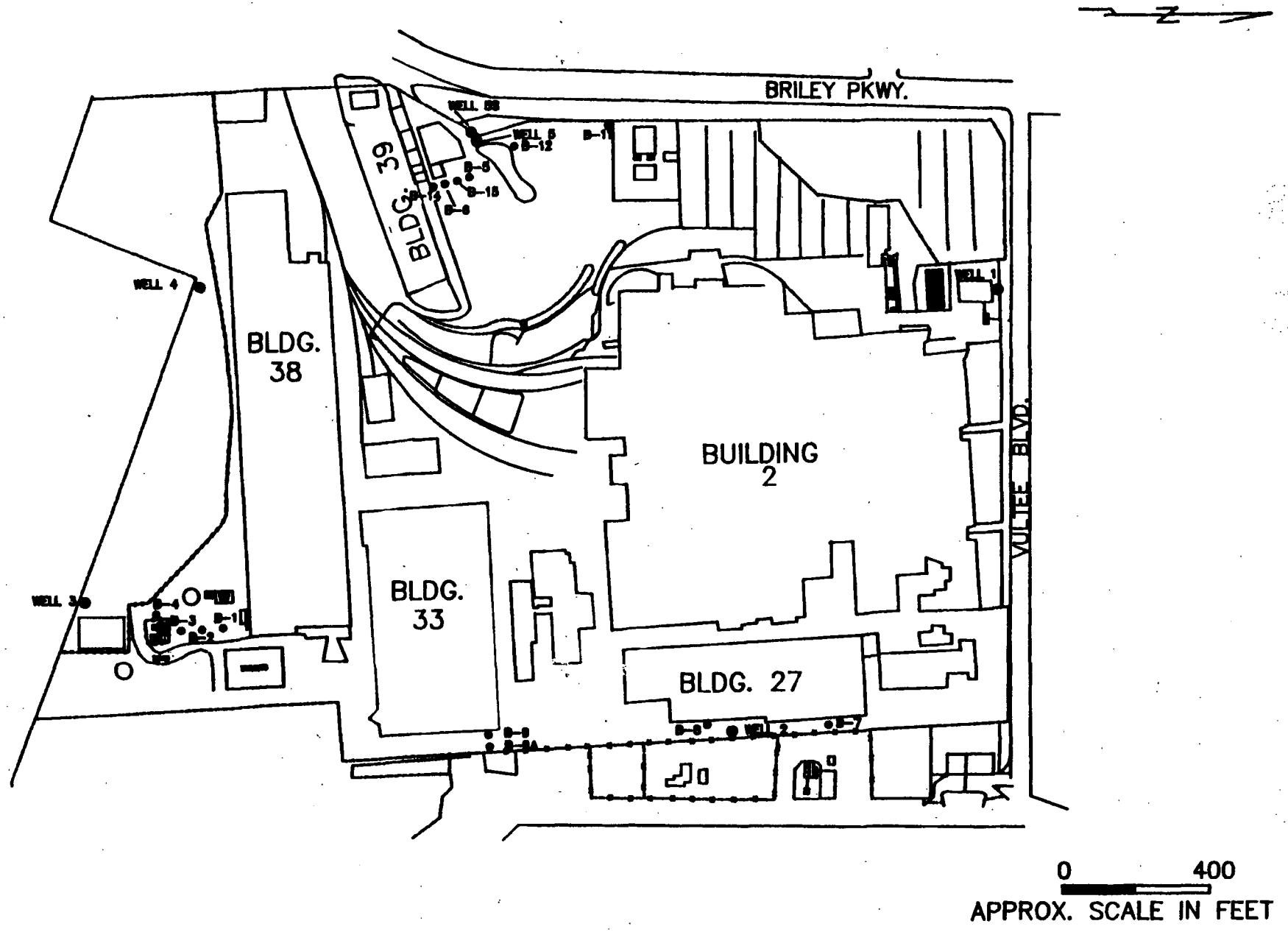


FIGURE 6-1. APPROXIMATE LOCATIONS OF TEST BORINGS AND WELLS

TEXTRON, INC. – VULTEE BLVD. FACILITY
NASHVILLE, TENNESSEE

ERM–SOUTHEAST, INC.
BRENTWOOD, TENNESSEE

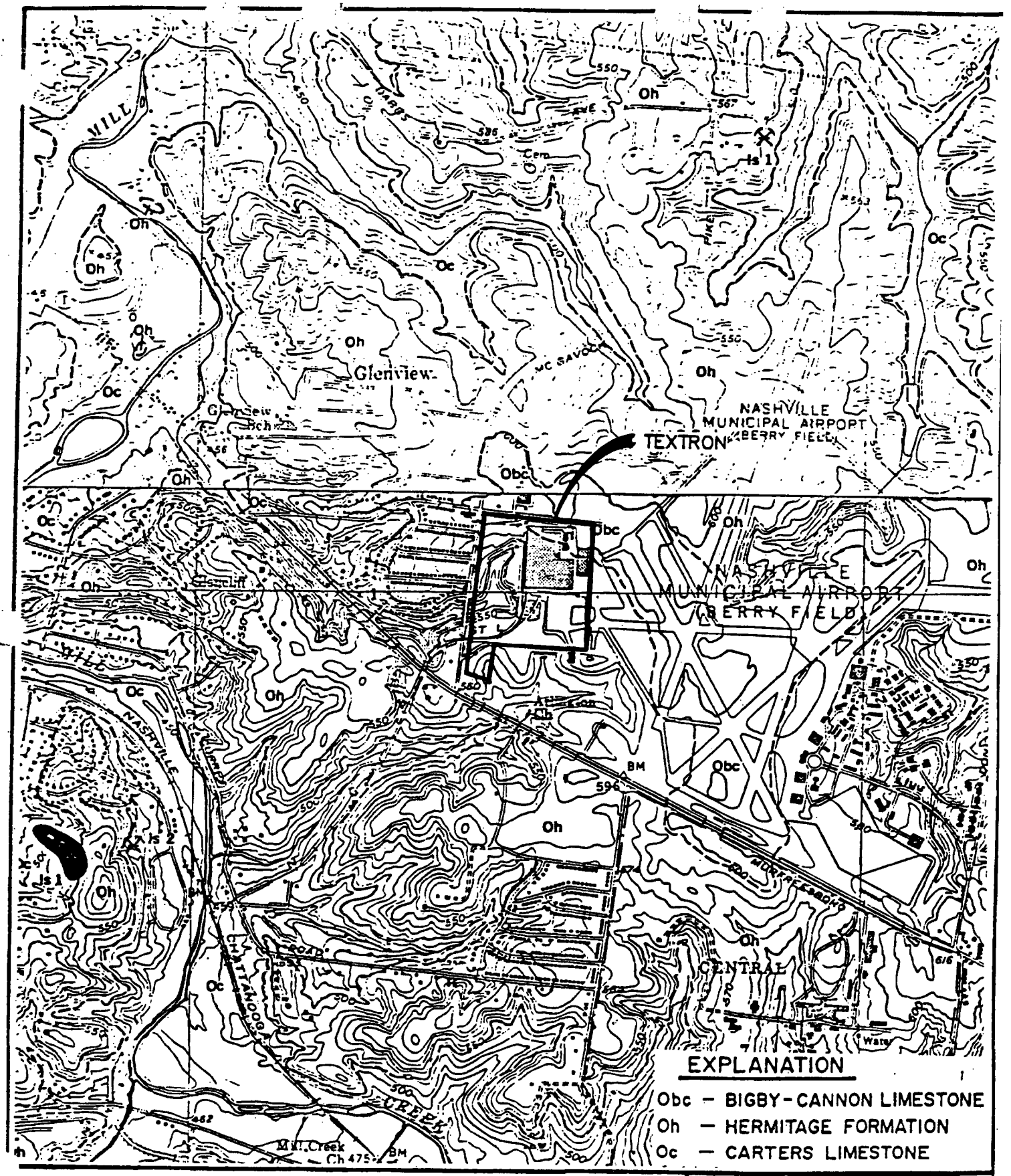


FIGURE 6–2. SURFICIAL GEOLOGY

TEXTRON, INC. – VULTEE BLVD. FACILITY
NASHVILLE, TENNESSEE

ERM-SOUTHEAST, INC
BRENTWOOD, TENNESSEE

With regard to the lithologic characteristics of the geologic formations underlying the Textron site, the Hermitage Formation is comprised of three facies: the upper unit is a coquina facies with disseminated silt and shale partings, medium-gray to brownish-gray, medium-bedded, and characterized by numerous brachiopod shells and is usually 0-20 feet thick. The middle laminated argillaceous limestone facies, as much as 60 feet thick in this area, is sandy, medium-gray to dark-gray, and very fine- to medium-grained. The Curdsville Limestone Member at the base, which is as much as 10 feet thick, is a medium-dark gray, fine- to medium-grained, thin-bedded, fossiliferous limestone with thin shale partings.

The Carters Limestone which underlies the Hermitage Formation consists of two members. The upper member is only about 10 feet thick and is composed of medium-light gray to brownish-gray, very fine-grained, thin-bedded limestone with thin shale partings. The lower member, which is 50-80 feet thick, is identical to the upper unit except that it is medium- to thick-bedded with minor amounts of dolomite and chert lenses. A 6- to 12-inch bentonite bed (T-3) separates the two members. Beneath the Carters is the Lebanon Limestone which is typically 60-100 feet thick and consists of medium- to dark-gray, very fine-grained with some medium-grained beds interbedded, thin-bedded, fossiliferous limestone commonly containing dolomitic fucoids.

Structually, no major structural features (i.e., faults, folds, etc.) are known to be present in the immediate vicinity of the Textron site. The underlying carbonate bedrock is essentially horizontally bedded. However, some secondary joints and fractures are present within the bedrock with the joint sets typically trending to the northeast and to the northwest.

6.2 OCCURRENCE AND MOVEMENT OF GROUND WATER

The occurrence and movement of ground water in the carbonate bedrock of the Central Basin in the immediate vicinity of the Textron facility is controlled by secondary openings in the bedrock such as joints, fractures, bedding planes and solutional openings. A schematic diagram depicting the occurrence and movement of ground water in secondary openings in

typical carbonate bedrock is provided in Figure 6-3. Typically the occurrence and distribution of these secondary openings are seldom uniform due to differences in lithologies and structural controls. Regionally, ground water is most likely to be encountered in the Carters Limestone especially the upper Carters. However, due to the argillaceous nature of the Hermitage and Lebanon Formations, these units are generally poor ground-water producing units, except where extensively fractured. In areas like the vicinity of the Vultee Boulevard facility, where the Hermitage is the surficial unit, the argillaceous nature of the unit serves as a confining unit restricting ground-water movement downward to the Carters.

As a result of the movement of ground water being controlled by secondary openings in the underlying bedrock it is difficult to predict the direction of ground-water movement on a small scale, i.e., in the immediate vicinity of the Textron plant site. However, on a more regional scale ground-water movement would be expected to occur from the broad upland areas and ridges to lower topographic areas such as nearby surface streams which serve as ground water sinks. Two such substantial surface streams which do exist in the general vicinity of the Textron site include Mill Creek, which is located south and west of the site and the Cumberland River which is located northwest of the Textron facility. Both of these features, as well as Percy Priest Lake to the east, would have an influence on the direction of ground water movement. The regional direction of ground water movement would be expected to be towards either Mill Creek or the Cumberland River. ?

6.3 FIELD METHODS AND OBSERVATIONS SOIL TEST BORINGS

The test boring program was conducted in essentially two phases. The initial phase of drilling and sampling consisted of test borings at five initial ground-water monitoring well locations located around the perimeter of the plant site. The initial phase consisted of the drilling of five monitoring wells; four test borings (B-1 through B-4) near the dilute chrome rinse tanks and piping; and two borings (B-5 and B-6) in the vicinity of an area south of the closed landfill near a reported "septic tank-drain field" associated with aircraft wing testing in

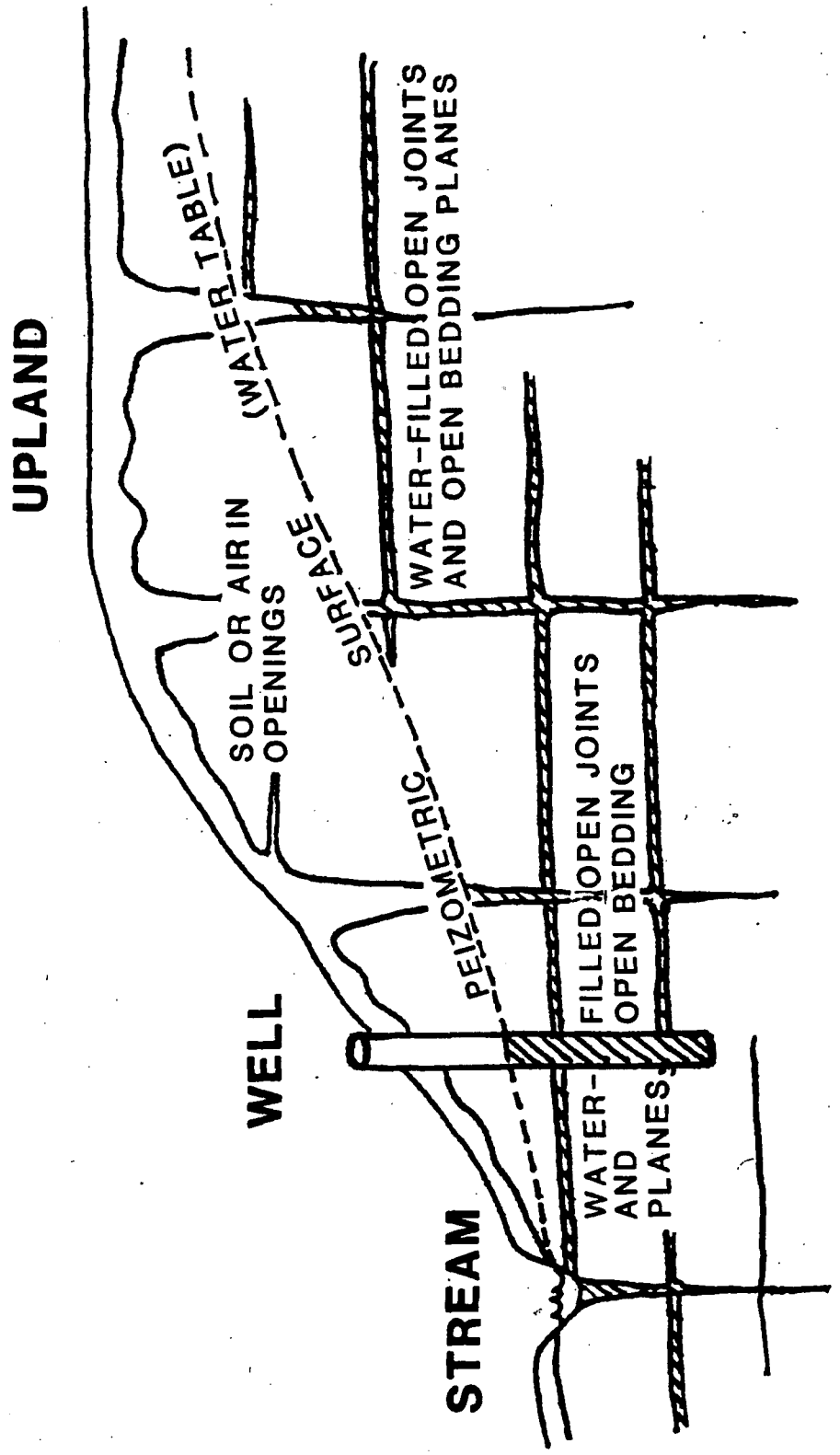


FIGURE 6-3. SCHEMATIC DIAGRAM DEPICTING OCCURRENCE AND MOVEMENT OF GROUND WATER IN SECONDARY OPENING

TEXTRON, INC. – VULTEE BLVD. FACILITY
NASHVILLE, TENNESSEE

ERM–SOUTHEAST, IN
BRENTWOOD, TENNESSE

Building 39. This initial test boring program provided a preliminary assessment of soil conditions at these locations at the plant site. The second phase of drilling and soil sampling consisted of drilling four test borings (B-7, B-8, B-9 and B-9a) along the eastern perimeter of the plant site; seven additional test borings (B-10 through B-16); and one additional monitoring well boring (Well 5S) in the vicinity of the closed landfill and the test fuel tanks. These second phase soil borings provided supplemental information further defining subsurface conditions and potential areas of hydrocarbon contamination initially discovered by the first phase of test borings.

Each of the test borings was drilled to bedrock refusal by the hollow-stem auger method. Split-spoon samples were collected at 5-foot intervals in the monitoring well test borings for Well 1 through Well 5, and test borings B-1 through B-6; at 2.5-feet intervals in soil borings B-7 through B-16; and continuous intervals in monitoring well test boring Well 5. Appropriate decontamination procedures for downhole drilling tools were undertaken to provide assurances of the individual quality of samples collected. For the borings associated with the dilute chrome rinse tanks, drilling equipment, including drill bits, rods, augers, etc. was steam-cleaned between collection of each sample. The decontamination procedures associated with all other areas of the plant were similar with the additional procedures of solvent rinsing and distilled water rinsing.

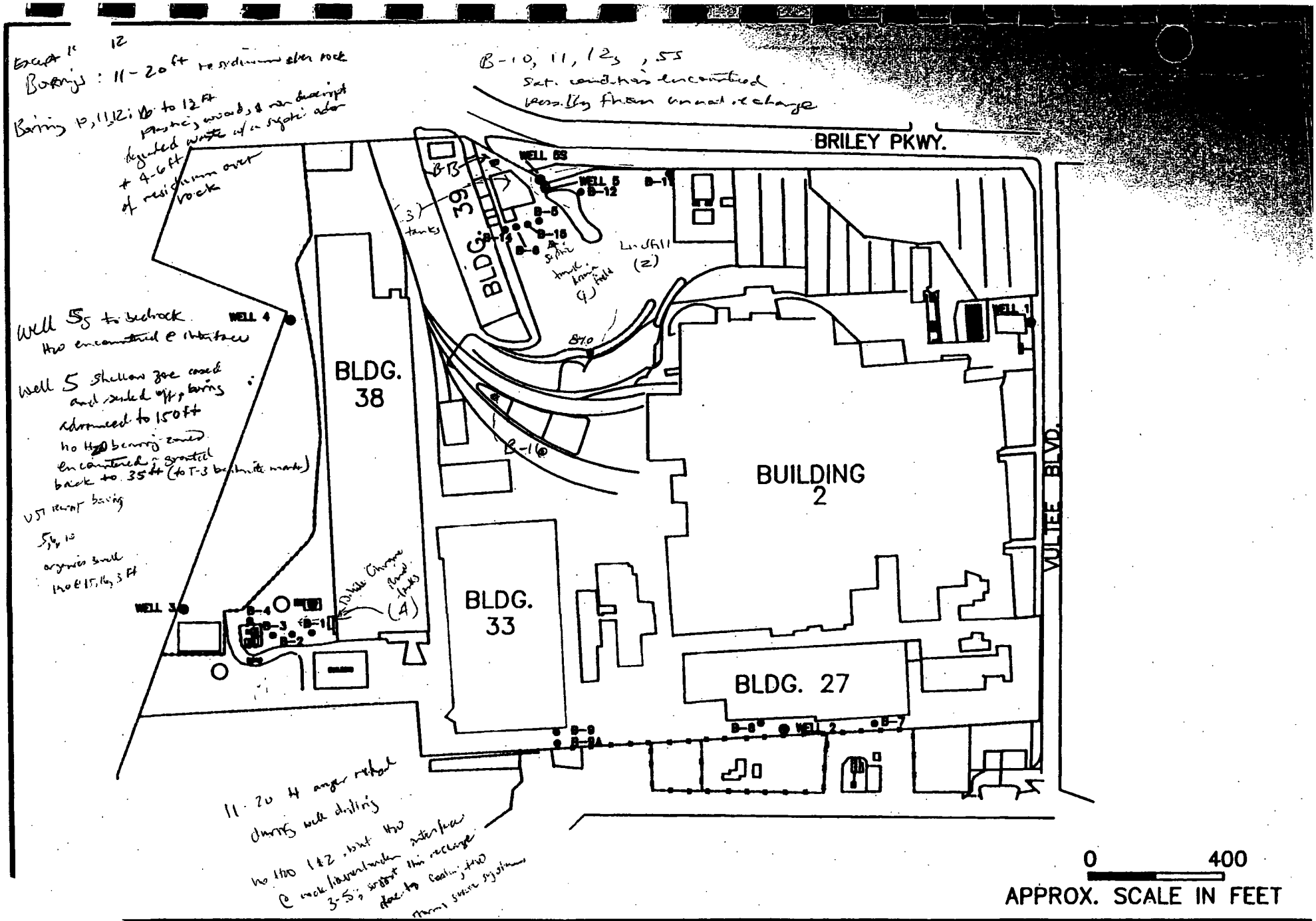
Soil samples were collected by inserting a precleaned split-spoon sampler inside the hollow-stem augers and driving the sampler into the undisturbed soil beneath the auger bit. The split-spoon sampler was then retrieved and a precleaned stainless steel spoon was used to remove each soil sample from the sampler and place the soils in the appropriate sample container. Disposable latex gloves were used by sampling personnel during the collection of individual soil samples. Following sample collection, the glass sample containers were immediately placed on ice and cooled to approximately $4^{o}C$ to preserve the samples until analyses could be conducted by a laboratory.

6.4 SOIL ANALYSES

In accordance with the project scope provided by Textron all soil samples collected during the drilling of the test borings in the dilute chrome rinse tank area were physically inspected (visual and olfactory) and transported under chain-of-custody to Specialized Assays located in Nashville, Tennessee for analyses of total chromium and total extractable chromium. Field inspection procedures for all other samples collected during the drilling of the other test borings were similar with the additional procedure of field organic screening by either a portable, flame ionzation detector (FID) or photoionization detector (PID). The field organic screening was used to provide a quick assessment of potential concentrations of organic compounds contained within the soil samples. After a soil sample was collected, a portion of the sample was placed in an air-tight plastic bag and allowed to equilibrate for a period of approximately ten minutes. A probe from the field screening meter was then inserted into the sealed air space above the sample and a sample reading was recorded. Field screening readings are provided in subsequent sections in conjunction with the area descriptions. Field screenings readings for each soil sample are also included on the drilling logs found in Appendix E. Following completion of the test borings, the "worst case" sample with the highest field screening reading from each boring was submitted to Specialized Assays for laboratory analysis. Analytical parameters and results for the soil samples are discussed for four areas of the plant site in the following sections.

6.4.1 Monitoring Well Test Borings

On June 16-17, 1988, test borings were drilled in the overburden at the five monitoring well locations selected for the Vultee Boulevard facility property. Figure 6-4 shows the approximate locations of these monitoring well test borings for Well 1 through Well 5 locations. The test borings discussed below were drilled and sampled through the overburden by the hollow-stem auger method prior to being advanced into bedrock by the air rotary drilling method to investigate ground-water conditions and to install the monitoring wells. A



δ-1. APPROXIMATE LOCATIONS OF TEST BORINGS AND WELLS

TEXTRON, INC. – VULTEE BLVD. FACILITY
NASHVILLE, TENNESSEE

ERM–SOUTHEAST, INC.
BRENTWOOD, TENNESSEE

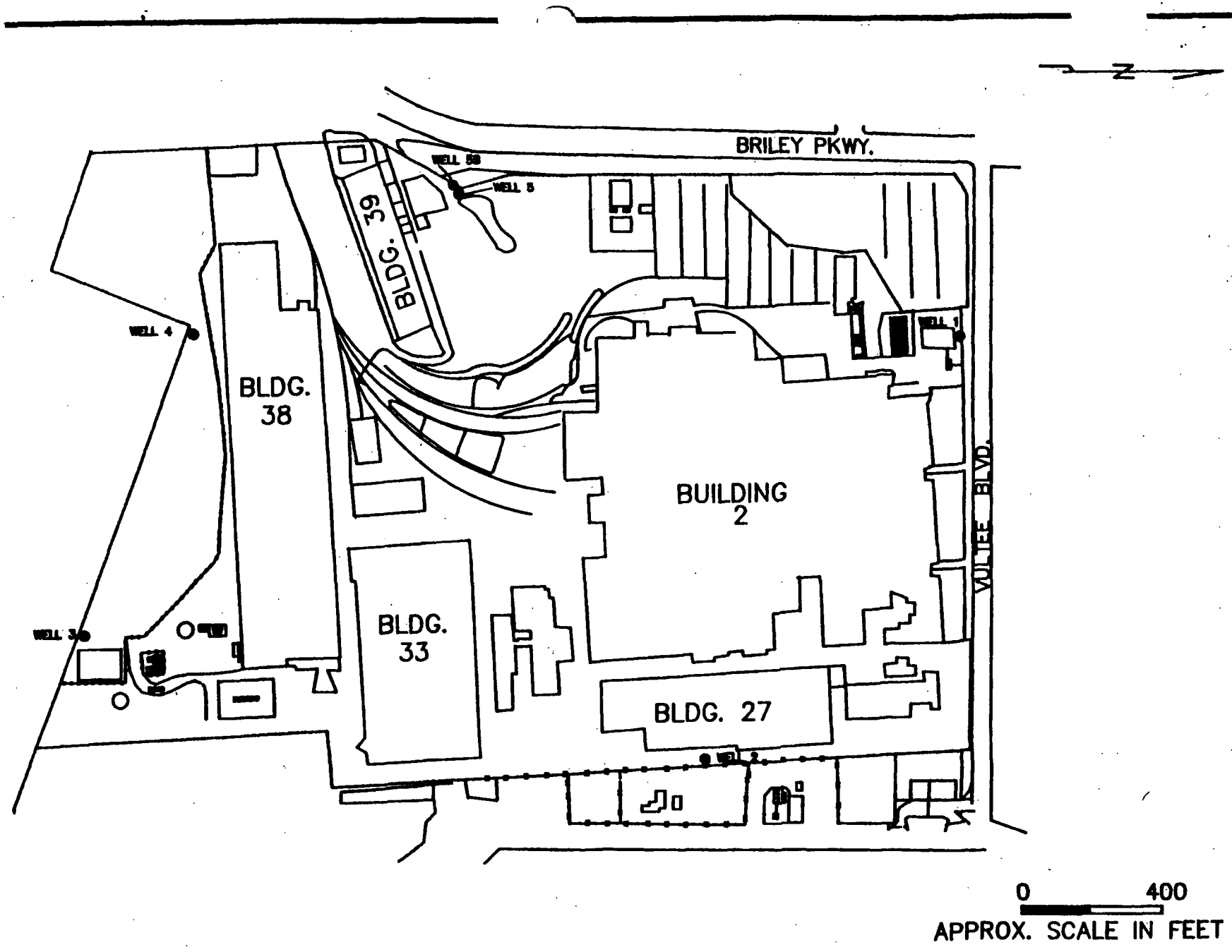


FIGURE 6–4. APPROXIMATE LOCATIONS OF MONITORING WELL TEST BORINGS

TEXTRON, INC. – VULTEE BLVD. FACILITY
NASHVILLE, TENNESSEE

ERM–SOUTHEAST, INC.
BRENTWOOD, TENNESSEE

description of the conditions encountered during the air rotary bedrock drilling is summarized in Section 6.5 of this report.

In general, relatively uniform subsurface conditions were encountered across the facility in the monitoring well test borings. Generally, residual silty clay with increasing relative moisture content with depth was encountered. Auger refusal on carbonate bedrock was encountered at depths of 11 to 20 feet. Although no measurable ground water was encountered in the test borings from Wells 1 and 2, ground water was measured after completion in wells 3, 4, and 5. This ground water apparently occurs along the interface of the overburden and the bedrock. Owing to the presence of major non-contact cooling water/storm sewerage systems in the approximate vicinity of the three monitoring well test borings with measureable ground water, it is believed that this ground water is the result of artificial recharge along a zone of weathered rock along the bedrock-overburden interface. This observation is also discussed in Section 6.4.4 of this report on the Fuel Tank Area.

Each of the soil samples that was collected from these borings was screened for organic compounds by using either a PID or FID in order to select one sample from each boring for subsequent laboratory analyses. Table 6-1 provides the field screening results for each sample collected from these borings. The sample with the highest field organic screening concentration was subsequently analyzed in the laboratory for total petroleum hydrocarbons, PCB's, volotile organic compounds, and EP toxicity metals. Specifically, the Well 1/SS-2, Well 2/SS-1, Well 3/SS-4, Well 4/SS-4, and Well 5/SS-3 samples were selected from the field organic screening procedure for laboratory analyses. Table 6-2 provides a summary of the compounds detected in the samples selected from each of the monitoring well test boring locations. Analytical reports for these samples are provided in Appendix E.

As shown in Table 6-2, the samples from the Well 1, 3, and 4 locations exhibited low reported concentrations of the compounds detected, especially total petroleum hydrocarbons. The barium concentractions reported are the probable result of naturally occurring barium which is commonly detected in the residual overburden of the Nashville area. The origin of

TABLE 6-1

SUMMARY OF FIELD SCREENING RESULTS
MONITORING WELL SOIL BORINGS

Textron Inc.
Vultee Boulevard Facility
Nashville, Tennessee

Sample Identification	Sample Depth (feet)	Test Instrument	Reading (ppm)
Well 1, SS-1	0-1.5	FID[1]	150
Well 1, SS-2	4.5-6.0	FID	220
Well 1, SS-3	9.5-11.0	FID	28
Well 2, SS-1	1.0-2.5	PID[2]	0.8
Well 2, SS-2	4.0-5.5	PID	0.4
Well 2, SS-3	9.0-10.5	PID	0.4
Well 2, SS-4	14.5-15.0	PID	0.4
Well 2, SS-5	19.0-20.0	PID	0.6
Well 3, SS-1	0.5-2.0	PID	0.5
Well 3, SS-2	5.0-6.5	PID	0.6
Well 3, SS-3	9.0-10.5	PID	1.0
Well 3, SS-4	14.0-15.5	PID	1.6
Well 4, SS-1	0.3-1.8	PID	0.4
Well 4, SS-2	4.5-5.0	PID	0.4
Well 4, SS-3	9.0-10.5	PID	0.6
Well 4, SS-4	14.5-15.0	PID	0.8
Well 5, SS-1	0.5-2.0	PID	0.2
Well 5, SS-2	4.0-5.5	PID	5.0
Well 5, SS-3	9.0-10.5	PID	13.2
Well 5, SS-4	15.5-17.0	PID	50.0

[1] Flame Ionization Detector (OVA)

[2] Photoionization Detector (HNU)

TABLE 6-2

SUMMARY OF ANALYSES
TEST BORING SOIL SAMPLES
MONITORING WELL LOCATIONS
JUNE 16-17, 1988

Textron Inc.
Vultee Boulevard Facility
Nashville, Tennessee

Location/Sample/Depth	Concentration[1]
Well 1, SS-2, 0-1.5 feet	
Total Petroleum Hydrocarbons	15.7
Well 2, SS-1, 1.0-2.5 feet	
Total Petroleum Hydrocarbons	344
1,1-Dichloroethane	0.014
Toluene	0.020
Barium	0.031 mg/l
Well 3, SS-4, 14.0-15.5 feet	
Total Petroleum Hydrocarbons	6.1
Trichloroethylene	0.018
Barium	0.025 mg/l
Well 4, SS-4, 14.0-15.5 feet	
Total Petroleum Hydrocarbons	7.9
Barium	0.097 mg/l
Lead	0.15 mg/l
Well5, SS-3, 9.0-10.5 feet	
Total Petroleum Hydrocarbons	1,713
Barium	0.16 mg/l

the trichloroethylene concentration of 0.018 mg/kg reported for the sample from Well 3 is uncertain. This compound does not occur naturally and could be present due to artificial recharge of the overburden by leakage from the Vultee Boulevard facility non-contact cooling water/storm drainage sewerage system. It should be noted that trichloroethlyene was not reported in a ground-water sample from the monitoring well subsequently installed in the bedrock at the Well 3 location which suggests that this low concentration of the compound may be limited to the "perched" zone present in the overburden above the overburden-bedrock interface.

Similarily, the origin of the lead EP toxicity concentration reported for the sample from the Well 4 location is also uncertain. This concentration of extractable lead represents the sole detection of lead in any of the soil samples from the five monitoring well test borings. Consequently this concentration can be considered elevated relative to the rest of the samples. Since lead can occur naturally in the overburden in the Nashville area, it is uncertain whether this reported lead concentration is the result of areally variable, naturally occurring conditions or the result of artificial recharge within the overburden by plant processes or the non-contact cooling water/storm sewerage system. In any event, none of the reported concentrations of the compounds detected in the samples from the test borings in the Well 1, 3, and 4 locations exceed soil remedial action criteria issued by the Tennessee Division of Solid Waste Management for hazardous metal concentrations or the Tennessee Underground Storage Tank Program's criteria for total petroleum hydrocarbons.

Further inspection of Table 6-2, however, indicates hydrocarbon contamination in the vicinity of the Well 2 and 5 locations. As shown on Table 6-2, the reported total petroleum hydrocarbon concentrations of 344 and 1,713 mg/kg for the samples from the test borings for Well 2 and Well 5 are significantly elevated above the total petroleum hydrocarbon concentrations reported for the samples from the test borings for Wells 1, 3, and 4. Owing to the presence of these volatile organic compounds only in the sample from the Well 2 test

boring and to the distance between the Well 2 and the Well 5 locations, two different sources of hydrocarbons are indicated.

The observed hydrocarbon concentrations at the Well 2 and 5 locations expanded the scope of the initial test boring and monitoring well installation program. Additional borings near these locations were added by Textron to the project scope to provide additional information on the possible sources of hydrocarbons at these two locations. These two areas are discussed in greater detail regarding the East Perimeter (Section 6.4.3) and the Test Fuel Tank Areas (Section 6.4.4).

6.4.3 East Perimeter Area

As indicated in Section 6.4.1 of this report regarding monitoring well test borings, laboratory analyses of the soil sample from the Well 2 boring indicated elevated hydrocarbon concentrations in the vicinity of this location. Total petroleum hydrocarbons, 1-1-dichloroethane, and toluene were detected in this sample at reported concentrations of 344, 0.014, and 0.020 mg/kg, respectively. The Well 2 location is situated on the northern portion of the east perimeter of the Vultee Boulevard facility between the Budget Rental Car underground storage tanks and the reported AVITAT aviation fuel underground storage tanks.

Based on the indicated presence of hydrocarbon compounds at the Well 2 location, the initial project boring program was expanded to supplement the preliminary information obtained from the Well 2 location and to estimate potential sources of the hydrocarbons. Potential sources include Textron's 2,000-gallon storage tank, the reported AVITAT aviation fuel storage tanks, and the Budget Rental Car storage tanks. Although not in the general area of the Well 2 location, Delta operated, until recently, aviation fuel underground storage tanks along the control portion of the Vultee Boulevard Facility's eastern perimeter. These tanks were removed by Delta in June, 1988.

The expanded test boring program along the eastern facility perimeter included four additional borings. All of these borings were conducted on Textron property. One of the borings was located adjacent to the reported AVITAT tank area, one was located south of the Well 2 location and near the Budget tank area, and two borings were located near the former Delta tank area. Figure 6-6 shows the approximate locations of the borings conducted along the eastern perimeter and of the potential sources of hydrocarbons. The field procedures used conducting this supplementary program were similar to those employed in the initial program except that samples were collected at 2.5-foot intervals rather than 5-foot intervals.

After collection, field organic screening was conducted to select a "worst case" sample for subsequent laboratory analyses, Table 6-4 summarizes the field FID readings for the samples

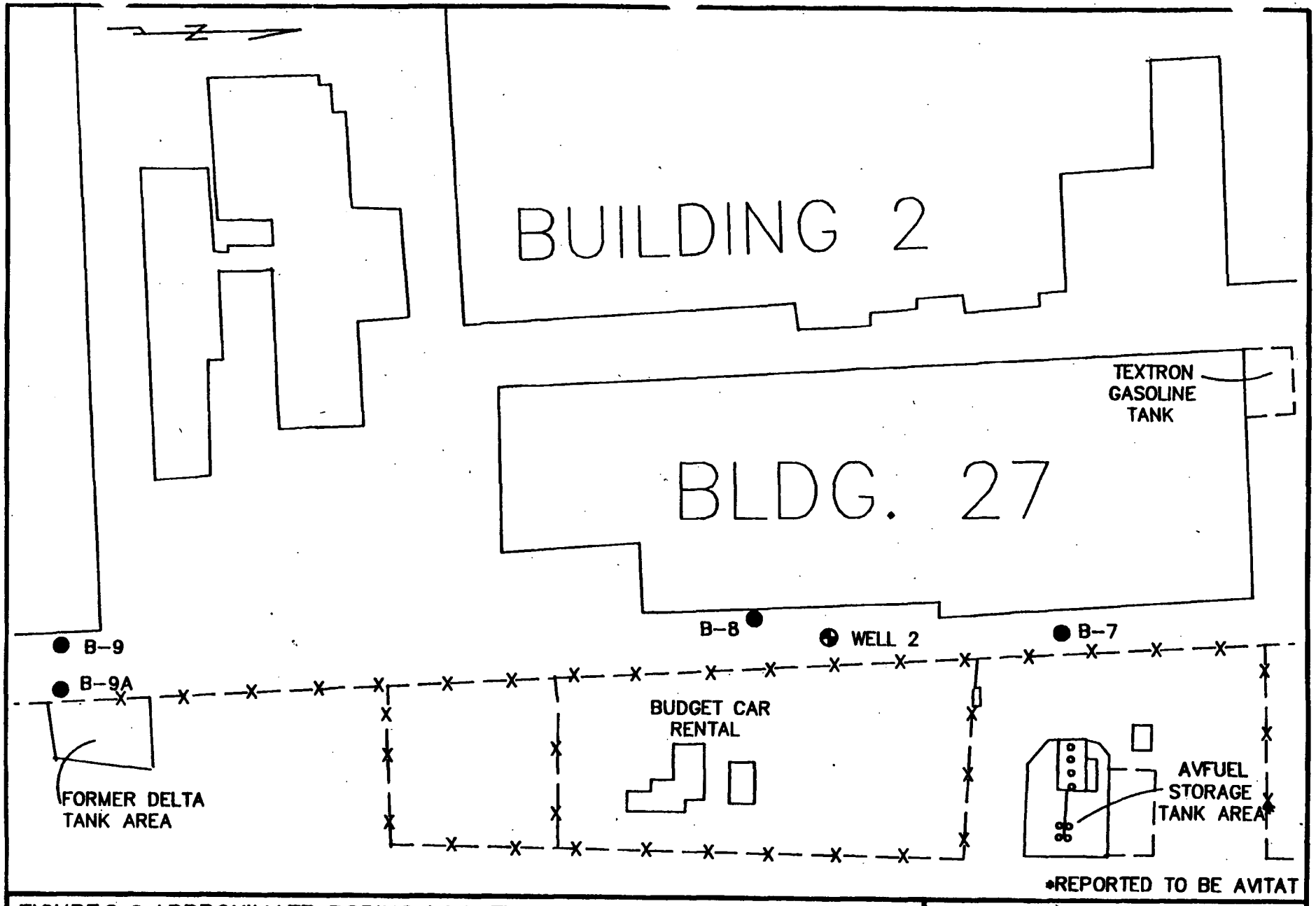


FIGURE 6-6. APPROXIMATE BORING LOCATIONS
EASTERN PERIMETER AREA
TEXTRON, INC. – VULTEE BLVD. FACILITY
NASHVILLE, TENNESSEE

ERM-SOUTHEAST, INC.
BRENTWOOD, TENNESSEE

TABLE 6-4

SUMMARY OF FID TEST RESULTS
EAST PERIMETER AREA

Textron Inc.
Vultee Boulevard Facility
Nashville, Tennessee

Sample Identification	Sample Depth (feet)	FID Reading (ppm)
B-7, SS-1	1.0-2.5	11.0
B-7, SS-2	4.5-6.0	12.0
B-7, SS-3	6.0-7.5	12.0
B-7, SS-4	9.0-10.5	12.0
B-7, SS-5	11.0-13.0	12.0
B-8, SS-1	1.0-2.5	<1
B-8, SS-2	4.0-5.5	<1
B-8, SS-3	6.0-7.5	1.1
B-8, SS-4	8.0-10.0	<1
B-8, SS-5	11.5-13.5	5.8
B-8, SS-6	13.5-15.0	12.0
B-8, SS-7	16.5-18.0	28.0
B-9, SS-1	3.8-5.3	3.0
B-9, SS-2	6.0-7.5	8.0
B-9, SS-3	9.0-11.0	10.0
B-9, SS-4	13.5-15.0	12.0
B-9, SS-5	16.0-17.5	16.0
B-9, SS-6	19.0-20.5	10.0
B-9a, SS-1	2.4-3.9	8.0
B-9a, SS-2	6.0-7.5	9.0
B-9a, SS-3	9.0-11.0	28.0
B-9a, SS-4	13.5-15.5	12.0
B-9a, SS-5	15.5-17.5	6.0
B-9a, SS-6	19.0-21.0	4.0

from these borings. Each sample selected for laboratory analyses was subsequently analyzed for total petroleum hydrocarbons (TPH), benzene, toluene, ethyl benzene, and xylenes (BTEX). Table 6-4 provides a summary of the analytical results of the samples from the supplementary borings selected for TPH and BTEX analyses. Additionally, the reported concentrations for the compounds detected in the sample from the Well 2 test boring are included in Table 6-5 for reference.

As shown in Table 6-5, the reported TPH concentrations for the samples selected from borings B-7 and B-8 confirm the presence of hydrocarbons in the vicinity of Well 2 location. The reported BTEX analytical results reported for the B-7 and B-8 samples also indicate consistency with the Well 2 soil sample reported volatile organic compound concentrations. As noted previously, hydrocarbon odors were noted in the field during sample collection from B-8. The subsurface conditions encountered in conducting borings B-7 and B-8 were similar to those encountered in the Well 2 test boring. Specifically, the overburden at these locations consists of silty clay with variable fine sand content. Additionally, at depths approaching bedrock refusal, the overburden contained phosphatic sand and nodules. These phosphatic zones were observed in the field to be moist relative to the non-phosphatic zones. In B-8 hydrocarbon odors were noted in phosphatic zones at depth approaching bedrock refusal. Based on the field observations and the laboratory results of the selected samples from B-7, B-8, and the Well 2 test boring, the hydrocarbon concentrations appears to be greatest near the Budget location but may extend to the reported AVITAT location. However, the possibility exists that either or both are past or present contributors to the hydrocarbons observed through surface spillage or leaking tank systems. The possibility also exists that Textron is a contributor.

However, the nearest Textron underground storage tank system located approximately 550 feet northwest of Well 2 passed precision testing conducted during a separate portion of this project. No other known Textron underground sources have been reported. Surface spillage by Textron is also a possible contributor since a minor spill of "diesel" fuel was

TABLE 6-5

SUMMARY OF ANALYTICAL RESULTS
TEST BORING SOIL SAMPLES
EASTERN PERIMETER AREA

Textron Inc.
Vultee Boulevard Facility
Nashville, Tennessee

Location/Sample/Depth	Concentration (mg/kg)
Well 2, SS-1, 1.0-2.5 feet	
TPH[1]	344
1,1-Dichloroethane	0.014
Toluene	0.020
B-7, SS-5, 11.0-13.0	
TPH	59
BTEX[2]	<1
B-8, SS-7, 16.5-18.0 feet	
TPH	230
BTEX	<1
B-9, SS-4, 13.5-15.0 feet	
TPH	25
BTEX	<1
B-9a, SS-3, 9.0-11.0 feet	
TPH	<3
BTEX	<1

[1] Total Petroleum Hydrocarbons

[2] Total concentration of benzene, toluene, ethyl benzene and xylenes

observed to have occurred and been clean up in the vicinity of Well 2 prior to beginning the project.

As can be noted from Table 6-5, the second area, near the former Delta underground tank area, does not appear to contain soils contaminated by hydrocarbons. TPH and BTEX compounds are reported not to have been detected in the sample from boring B-9a which was located closer to the Delta tank area than B-9. The sample selected from B-9 for analysis exhibited a low TPH concentration, and BTEX compounds were reported not to have been detected.

As a summary of the test boring investigation of the eastern perimeter of the Vultee Boulevard Facility, the residual overburden near the reported AVITAT and Budget tank facilities contains hydrocarbons, while the overburden in the vicinity of the former Delta facility does not appear to contain hydrocarbons. Based on the reported TPH concentrations for the samples analyzed from the Well 2 test boring and B-8, remediation may be required. The TPH concentrations detected in these samples, 344 and 230 mg/kg, respectively, exceed the recommended soil removal criterion of 100 mg/kg for TPH issued by the Tennessee Underground Storage Tank Program. However, the source of these hydrocarbons could be an off-site source and not the result of operations at the Vultee Boulevard facility. Further investigation of the potential off-site sources should be conducted before potential remedial action is considered by Textron.

6.4.4 Test Fuel Tank Area

In the initial drilling program conducted during this project, three test borings were drilled to obtain preliminary information in an area of potential hydrocarbon releases associated with the test fuel system employed by Textron to test aircraft wings in Building 39. These borings are B-5, B-6, and the Well 5 test boring. Visual and olfactory observations on hydrocarbons were made during the drilling and sampling of each of these borings. Additionally, samples

from these borings which were selected for laboratory analyses based on field organic screenings were found to contain elevated concentrations of total petroleum hydrocarbons.

Based on the indicated presence of hydrocarbons at these three boring locations, the initial boring program was expanded to supplement the preliminary information and to identify the potential source(s) of the hydrocarbons in the overburden. Specifically, eight additional borings were drilled in strategic locations to assess the potential source(s) of the hydrocarbons in the overburden at the B-5, B-6, and Well 5 locations.

There are six known potential contributors of hydrocarbons in the vicinity of the detected hydrocarbons. These six potential contributors are as follows:

1. Three connected 10,000-gallon underground tanks containing stoddard test fuel for wing testing in Building 39.
2. A "septic tank-drain field" reportedly associated with the subsurface discharging of spilled test fuel from within Building 39.
3. An area containing two adjacent 20,000-gallon underground tanks containing diesel boiler fuel and mineral oil wing test fuel, both of which are ssociated with Building 39 operations.
4. Areas of known or suspected hydrocarbon contamination within the closed landfill between Building 39 and Building 2 and along Briley Parkway.
5. The surplus chemicals drum storage area.
6. Past surface spillage flow toward the non-contact cooling water/storm water drainage system to NPDES Outfall 001 adjacent to the Well 5 location.

Figure 6-7 shows the approximate locations of the test borings and potential hydrocarbon sources, described above.

The following is a general discussion of the basis for the test boring locations shown above. The Well 5, Well 5S and B-13 locations were selected to assess hydrocarbon contamination in the vicinity of Outfall 001 and are located essentially adjacent to the stoddard tanks. Well 5S was installed in this test boring to monitor hydrocarbons in the shallow ground

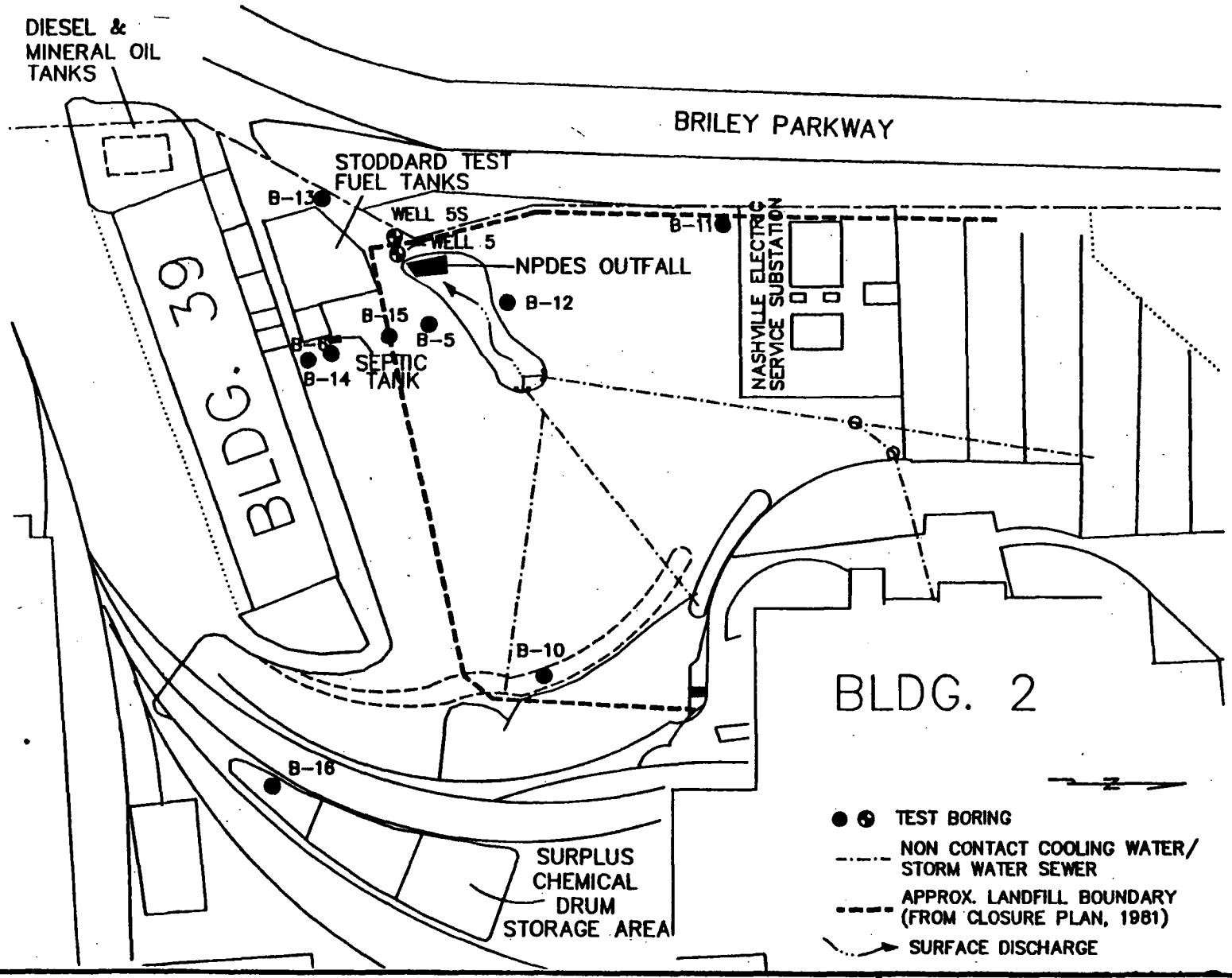


FIGURE 6-7. APPROXIMATE TEST BORING LOCATIONS
TEST FUEL TANK AREA
TEXTRON, INC. – VULTEE BLVD. FACILITY
NASHVILLE, TENNESSEE

ERM-SOUTHEAST, INC.
BRENTWOOD, TENNESSEE

water above bedrock encountered at this location. Well 5 was advanced into the bedrock and was installed with a surface casing through the shallow zone to shut off inflow from this shallow zone. Boring B-13 was located to estimate the southwestern extent of the hydrocarbons in the vicinity of the Wells 5/5S locations and to assess the mineral oil/diesel fuel tank area as a potential hydrocarbon source. Borings B-5, B-6, B-19, and B-15 were located to assess the "septic tank drainage field" as a potential source of hydrocarbons. Boring B-11 was located on the closed landfill as closely as possible to an apparently limited area of hydrocarbon contamination identified and apparently remediated in 1982 during closure of the landfill. This apparently remediated area was located approximately under the site of the current Nashville Electric Service Substation along Briley Parkway. Boring B-10 was located in the eastern margin of the landfill near a 1980 test boring logged as having a "petro chemical odor". B-10 is also located near two of the non-contact cooling water/storm drainage system sewers that extend under the landfill and that could receive surface spills from plant process areas. Boring B-16 was located within the surplus chemicals drum storage area to determine if this area could be a hydrocarbon source. Boring B-12 was located north of the Well 5/5S and Outfall 001 area to assess the northern extent the hydrocarbons at the Well 5/5S area and the potential for hydrocarbon migration to the south from the B-11/Electric substation area.

The field procedures used in drilling all of these borings was similar except that the supplementary borings were sampled at an approximate 2.5-foot interval instead of the five foot intervals used in the initial boring program. The exception to this 2.5-foot interval was the Well 5S test boring which was not sampled from the ground surface to a depth of ten feet and then continuously sampled to auger refusal at 18 feet.

With the exceptions of borings B-10, B-11, and B-12 located on the closed landfill, the subsurface conditions encountered in the remaining borings were found to consist of 11 to 20 feet of residual silty clay overlying carbonate bedrock. In borings B-10, B-11, and B-12, six to 12 feet of plastic, wood, and non-descript degraded waste material with a septic odor was encountered above four to six feet of residual silty clay overlying carbonate bedrock. The

depths to refusal on bedrock varied from 11 to 20.5 feet in all of the borings in these areas. Based on the general topography of the areas drilled, the refusal depths suggest an irregular bedrock surface trending toward the Well 5/5S and NPDES 001 Outfall area and probably reflecting the results of enhanced weathering of the bedrock along the former surface drainage system present at the site prior to landfilling.

While the relative moisture content of the samples collected was observed to increase with depth at each boring location, saturated conditions were only noted in borings B-10, B-11, and B-12 and the Well 5 and 5S test borings. The saturated conditions noted in these borings are believed to be the combined result of artificial recharge of the landfill area by leakage in the underground portions of the non-contact cooling water/storm drainage systems extending under the landfill, subsurface seepage along the above-ground portion of the drainage system flowing to the Well 5/5S and NPDES 001 Outfall area, and infiltration enhanced by the lack of grading of the debris and construction fill placed on the surface of the landfill since closure.

After collection of each sample, field organic screening was conducted to select a "worst case" sample from each boring for subsequent laboratory analyses. Table 6-6 summarizes the field screening readings in each sample. The selected samples from the initial drilling program borings were analyzed for total petroleum hydrocarbons and related organic compounds while the selected samples from the supplementary program were analyzed for TPH and BTEX. Table 6-7 summarizes the applicable analytical results for the samples selected for laboratory analyses from these boring.

Inspection of the reported TPH concentrations summarized in Table 6-7 indicates the areal extent of the hydrocarbons in the overburden is limited to the stoddard tank area and the "septic tank drainage system" suggesting one or both of these potential contributors are the source of the observed hydrocarbons. The reported TPH concentration for the sample from B-16 is elevated, but the TPH concentration reported for the sample from B-10 is sufficiently lower to suggest that hydrocarbons present below the surplus chemicals drum storage area are not migrating toward the landfill. The low reported TPH concentration from the selected

TABLE 6-6

SUMMARY OF FID TEST RESULTS
TEST FUEL STORAGE TANK AREA

Textron Inc.
Vultee Boulevard Facility
Nashville, Tennessee

Sample Identification	Sample Depth (feet)	FID Reading (ppm)
B-10, SS-1	1.0-2.5	NA
B-10, SS-2	5.0-6.5	12.0
B-10, SS-3	6.5-8.5	7.0
B-10, SS-4	9.0-10.5	10.0
B-11, SS-1	0-1.5	5.8
B-11, SS-2	3.5-5.0	11.0
B-11, SS-3	6.0-7.5	25.0
B-11, SS-4	9.0-10.5	32.0
B-11, SS-5	12.0-13.5	42.0
B-12, SS-1	1.0-2.5	NA
B-12, SS-2	4.0-5.5	NA
B-12, SS-3	6.0-8.0	NA
B-12, SS-4	8.0-10.5	NA
B-12, SS-5	11.0-13.0	3.2
B-12, SS-6	14.0-16.0	7.4
B-13, SS-1	1.5-2.0	48.0
B-13, SS-2	4.5-6.0	76.0
B-13, SS-3	6.0-8.0	42.0
B-14, SS-1	1.0-3.0	10.0
B-14, SS-2	4.5-6.0	<1.0
B-14, SS-3	6.5-8.0	14.0
B-14, SS-4	9.0-10.5	8.6
B-15, SS-1	0-1.5	<1.0
B-15, SS-2	3.5-5.0	200
B-15, SS-3	6.0-8.0	140
B-15, SS-4	9.0-11.0	12.0

TABLE 6-6 (Cont'd.)

SUMMARY OF FID TEST RESULTS
TEST FUEL STORAGE TANK AREA

Textron Inc.
Vultee Boulevard Facility
Nashville, Tennessee

Sample Identification	Sample Depth (feet)	FID Reading (ppm)
Well 5S, SS-1	9.0-11.0	250
Well 5S, SS-2	11.0-13.0	260
Well 5S, SS-3	13.0-14.5	380
Well 5S, SS-4	14.5-16.0	350
B-16, SS-1	0-1.5	2.0
B-16, SS-2	2.5-4.0	6.0
B-16, SS-3	4.0-6.0	12.0
B-16, SS-4	6.0-8.0	16.0
B-16, SS-5	10.0-12.0	120
B-16, SS-6	14.0-16.0	54
B-16, SS-7	16.0-17.5	26
B-16, SS-8	19.0-20.5	2.0

TABLE 6-7

SUMMARY OF ANALYTICAL RESULTS
TEST BORING SOIL SAMPLES
TEST FUEL TANK AREA

Textron Inc.
Vultee Boulevard Facility
Nashville, Tennessee

Location/Sample/Depth	Concentration (mg/kg)
Well 5, SS-3, 9.0-10.5 feet	
TPH[1]	1,713
VOC[2]	<.010
Well 5, Cuttings	
TPH	735
BTEX[3]	<1
Well 5-S, SS-3, 13.0-14.5 feet	
TPH	3,045
BTEX	<1
B-5, SS-5, 19.0-21.0 feet	
TPH	1,385
Chloroethane	0.017
Ethylbenzene	0.010
Toluene	0.036
1,1,1-Trichloroethane	0.075
B-6, SS-3, 9.5-10.0 feet	
TPH	90
VOC	<.010
B-10, SS-2, 5.0-6.5 feet	
TPH	27
BTEX	<1
B-11, SS-5, 12.0-13.5 feet	
TPH	25
BTEX	<1

TABLE 6-7 (Cont'd.)

SUMMARY OF ANALYTICAL RESULTS
TEST BORING SOIL SAMPLES
TEST FUEL TANK AREA

Textron Inc.
Vultee Boulevard Facility
Nashville, Tennessee

Location/Sample/Depth	Concentration (mg/kg)
B-12, SS-6, 14.0-16.0 feet	
TPH	27
BTEX	<1
B-13, SS-2, 4.5-6.0 feet	
TPH	13
BTEX	<1
B-14, SS-3, 6.5-8.0 feet	
TPH	5
BTEX	<1
B-15, SS-2, 3.5-5.0 feet	
TPH	748
BTEX	<1
B-16, SS-5, 10.0-12.0 feet	
TPH	62
VOC	<.010

[1] TPH- Total Petroleum Hydrocarbons

[2] VOC - Volatile Organic Compounds

[3] BTEX - Total Concentration of Benzene, Toluene, Ethyl Benzene and Xylenes

samples of B-10, B-11, and B-12 appear to eliminate the landfill area as a source of the high hydrocarbon concentrations in the Well 5-5S/"septic tank drainage system" area. Finally, both the low reported TPH concentration for the sample analyzed from B-13 and precision tank testing conducted as a portion of this project tend to eliminate the mineral oil/diesel fuel tanks as a primary source of the hydrocarbons.

As previously indicated, monitoring wells were installed at the Well 5 location and in the adjacent Well 5S test boring. Based on the subsurface conditions encountered in this area, ground-water occurrence appears to be restricted to the shallow zone in the overburden immediately above bedrock. After sealing off the shallow zone with surface casing, the Well 5 borehole was advanced to a total depth of 150 feet, encountering no water bearing zones at depths within the bedrock. The Well 5 borehole was then pressure grouted back to a depth of approximately 35 feet, corresponding with the T-3 bentonite marker bed in the Carters Limestone. Subsequently, a "dry" monitoring well was installed with a 10-foot screened interval above the 35-foot completion depth. Water level measurements conducted after completion of Well 5 have indicated that the upper Carters at this location has, at most, a "seepage" yield and does not appear hydraulically connected to the shallow overburden zone at this location. Additional information regarding the bedrock hydrogeology is included in Section 6.5.

Well 5S was installed adjacent to Well 5 in the shallow zone in the overburden above bedrock. Potential future ground-water remediation was considered in the construction of Well 5S. This monitoring well was constructed with a 10-foot long, 4-inch diameter, stainless steel well screen with .010-inch slots. A 4-inch polyvinyl chloride riser extends from the top of the screen to above the ground surface. Construction details for this well are provided in Appendix E. After completion, 0.6 feet of free product was measured above the water level in Well 5S. Consequently, the well was not sampled for ground-water analyses. Subsequent measurements of free product have ranged from 0.1 to 2.4 feet.

To summarize, the test fuel tank area near Building 39 contains several potential sources of the hydrocarbons identified during this assessment. These potential sources include the three stoddard solvent test fuel tanks, the septic tank test fuel discharge system, the diesel/mineral oil tank area, the surplus chemicals drum storage area and hydrocarbons potentially originating in areas of the closed landfill where hydrocarbons were previously suspected or detected. Spills from Building 39 and/or overtopping of the various tanks in the vicinity are also potential sources of the hydrocarbons. The test boring program conducted in this assessment suggests that areas of the landfill where hydrocarbons previously were detected are not the source of the hydrocarbons. Borings B-10, B-11, and B-12 drilled in strategic areas of the landfill yielded "worst case" samples with TPH concentrations of 27, 25, and 27 mg/kg, respectively. Similarly, the hydrocarbons do not appear to be a release from the diesel/mineral oil tank area since both of these tanks tested "tight". Additionally, the "worst" sample from Boring B-13, located near southwestern margin of the stoddard test fuel tank area exhibited a TPH concentration of only 13 mg/kg. However, borings B-5, B-6, and B-15, and the overburden borings for Wells 5 and 5S suggest that the septic tank drainage system and/or the stoddard tanks are the source of the observed hydrocarbons.

Releases of petroleum or petroleum products from underground storage tanks are violations of Tennessee Petroleum Underground Storage Tank Act of 1988. The stoddard test fuel tanks clearly are "petroleum underground storage tanks" under this legislation. Although "septic tanks" are specifically exempt from regulation by the Act, the petroleum discharge function of the "septic tank" in this area does not appear to meet a conventional concept of the function of a septic tank and, therefore, this potential source can also be construed to be a "petroleum underground storage tank" regulated by the Act. Consequently, the exact source of the hydrocarbons may be inconsequential.

6.5 GROUND WATER INVESTIGATION

To characterize ground-water conditions beneath the Textron facility, the five monitoring well test borings, Well 1 through Well 5, located around the perimeter of the facility were advanced into the carbonate bedrock and converted into ground water monitoring wells. Figure 6-4 in the Monitoring Well Testing Boring Section shows the relative locations of these monitoring wells on the Vultee Boulevard facility property. In addition to the five bedrock monitoring wells, one shallow ground-water monitoring well, Well 5S, was installed in the overburden adjacent to Well 5.

Ground water within the carbonate bedrock was encountered in only Well 3. Well 3 encountered an estimated ground-water flow of 7 to 8 gallons per minute in the upper Carters Limestone at a depth of 37 to 39 feet. The four other bedrock monitor wells did not encounter monitorable ground-water yields in the Carters and were drilled into the Lebanon Limestone before drilling was terminated. As previously stated, in areas around Nashville where the Hermitage Formation is exposed at the surface, it generally restricts downward ground-water movement and recharge of the Carters. The lack of monitorable ground-water yields at Wells 1, 2, 4 and 5 locations is probably attributable to this generalized regional condition. To assure that ground water did not occur within the Carters at the locations, each of these four monitoring boreholes were advanced into the underlying Lebanon Formation and allowed to sit in an open hole condition for 24 to 48 hours to confirm the relatively "dry" conditions encountered. Subsequently, the boreholes of these wells were pressure grouted from the bottom of the borehole to the T-3 bentonite marker bed in the upper portion of the Carters Limestone. Monitoring wells, screened over the upper Carters, were subsequently installed to provide permanent documentation of "dry" bedrock conditions at these locations.

Shallow ground water was encountered in the overburden at the bedrock-overburden interface during the drilling of test borings at Wells 3, 4, and 5. Shallow ground water was not encountered in the overburden at Wells 1 and 2 locations. The presumed reason for the occurrence of the shallow ground water in the overburden at Wells 3, 4, and 5 is the artificial

recharge of a weathered zone at the bedrock-overburden interface by a water supply line and/or non-contact cooling water/storm water sewer leakage within the plant. As stated in a previous section, the "spring" under Building 2 has recently been determined to be the result of a major water line leak resulting in an approximately 120 gallons per minute flow into the non-contact cooling water/storm water sewer system. This flow, along with the non-contact cooling water from the northern portion of the facility, result in a reported discharge of approximately 500 gallons per minute at NPDES Outfall 001 adjacent to the Well 5/5S location. Additionally, a reported flow of 400 gallons per minute of non-contact cooling water from the southern portion of the facility is discharged at NPDES Outfall 002 located between the Well 3 and 4 locations. In the drilling of the bedrock wells, the shallow ground water was sealed off in these wells by surface casings installed as part of the bedrock drilling process. As previously mentioned, Well 5S was installed adjacent to Well 5 to monitor the shallow ground water in the overburden.

6.6 MONITORING WELL CONSTRUCTION

Ground-water monitoring Well 5S was installed in the test boring following completion of the soil sampling. It was constructed of 4-inch diameter, schedule 40, threaded PVC pipe and equipped with a 10-ft. section of #10-slot, stainless steel well screen. A sand pack material was placed around the well screen to a height of approximately one foot above the top of the screen. An approximate 2-ft. thick bentonite pellet seal was placed immediately above the sand pack material and hydrated with distilled water. Cement and bentonite (4 to 1 ratio) grout was pumped into the annular space around the well from the bentonite seal to the surface. The riser pipe of the well extended approximately 1.5 to 2-feet above the ground surface and was equipped with a PVC cap. A lockable, steel, security cover was placed over the well and set in grout. A concrete pad poured around the security cover of the well completed the well construction.

The five bedrock monitoring wells were installed in two stages using an air rotary rig. Following the completion of the test borings, a 10-inch diameter borehole was drilled at each monitoring well test boring location to a depth of approximately five feet into the carbonate bedrock. Subsequently, a 6.25" (I.D.) PVC surface casing was installed in each borehole and pressure grouted to the surface using cement grout. The purpose of the surface casing was to prevent potential contamination in the overburden from entering the underlying bedrock during drilling and to facilitate cuttings removal from the borehole. Following an appropriate time period to allow the surface casing cement to set, each monitoring well was advanced by drilling a six-inch diameter hole until the first monitorable yield of ground water was encountered in the bedrock or an appropriate completion depth in the Lebanon Formation was encountered.

Subsequent to the completion of the borehole drilling, each bedrock monitoring well, with the exception of Well 3, was plugged back to the T-3 bentonite bed and a monitoring well was installed in each borehole following the procedure described for Well 5S. Five-foot sections of stainless steel well screens were used on monitoring Wells 4 and 5. Manhole covers were installed on Wells 1, 2, 3, and 4 and each well was finished flush with the ground surface.

Following the installation of the wells, Wells 3 and 5S were developed. Well 3 was developed by the air-lift method. The compressed air used in development was pre-filtered to preclude any compressor oil contamination. Well 5S was developed with a PVC bailer. A total of 55 gallons of product and water were bailed from Well 5S. These development methods were employed to remove drill cuttings and other materials introduced during the drilling and well installation operations. The development process also developed the sand pack and borehole of each monitoring well to minimize pumping of fine-grained formation materials. The wells were developed until the water obtained from each well was as clear of any fine-grained materials as possible.

To contain the drill cuttings and drilling fluid discharged during the drilling process, a cuttings collection system was attached to the top of the surface casing. A dump truck was

used to temporarily hold the drill cuttings until the cuttings could be placed on the surface in the landfill area at the plant site.

The drilling fluid and cuttings from drilling the surface casing for Well 5 and the cuttings and the water removed during development from the Well 5S test boring were drummed for future disposal off-site. The reported total petroleum hydrocarbon concentration of a composite sample of the Well 5 surface casing cuttings is 735 mg/kg.

6.7 GROUND-WATER SAMPLING

On July 15, 1988, ERM-Southeast, Inc. collected ground-water samples from monitoring well #3. Three volumes of standing water were bailed from the well prior to sampling with the use of an individually dedicated teflon bailer and polypropylene rope. The dedicated bailer and rope were secured inside the monitoring well for use in future sampling events. The sample was collected in precleaned glass bottles containing the appropriate preservatives. Following collection, the ground-water sample was cooled to approximately $4^{o}C$ and transported to Specialized Assays located in Nashville, Tennessee under appropriate chain-of-custody for subsequent analyses of volatile organic compounds, primary drinking water metals, base neutral extractables, acid extractables, PCB's, Pesticides, Total cyanide, phenols, conductivity and pH. Analytical results for the ground-water sample are found on Table 6-8. Copies of the analytical reports for the sample are provided in Appendix E.

Of the parameters analyzed, only low concentrations of four metals were detected in the Well 3 water sample. Table 6-8 also contains maximum concentration levels (MCLs) and recommended maximum concentration levels (RMCLs) for those parameters that have such established concentration levels. These established concentration levels are provided for comparison to the concentrations detected in the ground water samples. As can be noted from Table 6-8, none of the parameters that have established maximum levels exceed those maximum levels. Consequently, based on this information the ground water quality at this well location does not appear to be affected by on-site or off-site activities.

TABLE 6-8

SUMMARY OF ANALYTICAL RESULTS
WELL 3 GROUND-WATER SAMPLE
JULY 15, 1988

Textron Inc.
Vultee Boulevard Facility
Nashville, Tennessee

Parameter	Units	Well #3	Drinking Water Standards
Volatile Organics	ppm[1]	ND[2]	—
Base Neutral/Acid Extractables	ppm	ND	—
PCB's	ppm	ND	—
Pesticides	ppm	ND	—
Total Metals:			
Arsenic	ppm	.003	.050[3]
Copper	ppm	.010	1.000[4]
Nickel	ppm	.017	None
Zinc	ppm	.058	5.000[4]
Cyanide	ppm	ND	—
Phenols	ppm	<.05	—
pH	pH Units	7.5	—
Specific Conductance	micromhos	450	—

1 parts per million
2 Not detected at a quantitation limit of .010.
3 Maximum concentration level from Safe Drinking Water Act.
4 Recommended maximum concentration level from Safe Drinking Water Act (based solely on taste and odor criteria)

TEXTRON CORRECTIVE ACTION PLAN FOR THE TEST FUEL UNDERGROUND STORAGE TANK AREA

by

AVCO CORPORATION

d/b/a

Textron Aerostructures
Post Office Box 210
Nashville, Tennessee 37202

with assistance provided by:

DRE TECHNOLOGIES, INC.
Suite 200
Holiday Court
Franklin, Tennessee 37064
(615) 790-5600

April 1991

DRE File 4005-CAP

SECTION 4. SITE CLEAN-UP LEVELS - PROPOSED

Based on past site investigations at the Textron Aerostructures Stoddard Test Fuel Tank area, it is Textron's and its consultants opinion that the soils and associated perched water table should not be considered an aquifer nor a source of drinking water as defined in the Rules of the Department of Health and Environment, Division of Underground Storage Tanks, Chapter 1200-1-15.01 (p) "'Drinking water supply' means any aquifer or water source whose chemical characteristics meet the primary and secondary drinking water standards as defined under rule 1200-5-1 and provides a yield of at least one-half gallon per minute. This shall also include all water supply used for drinking by the citizens of the state." It is the contention of Textron Aerostructures and its consultant that the site soil, and associated perched water cannot be considered an aquifer nor a source of drinking water and therefore, the clean-up requirements should be based on those set forth in Appendix 3, Rule 1200-10-15.06 (e) 1. Based on an average site soil hydraulic conductivity of 10^{-4} to 10^{-6} cm/sec, clean-up levels in soils for non-drinking water sources are 500 ppm for total petroleum hydrocarbon (TPH) in soils and 1.0 ppm TPH in non-drinking water. Proposed permeability tests should demonstrate clean-up level requirements in the 1,000 ppm TPH category where by remediation requirements would be less and more localized.

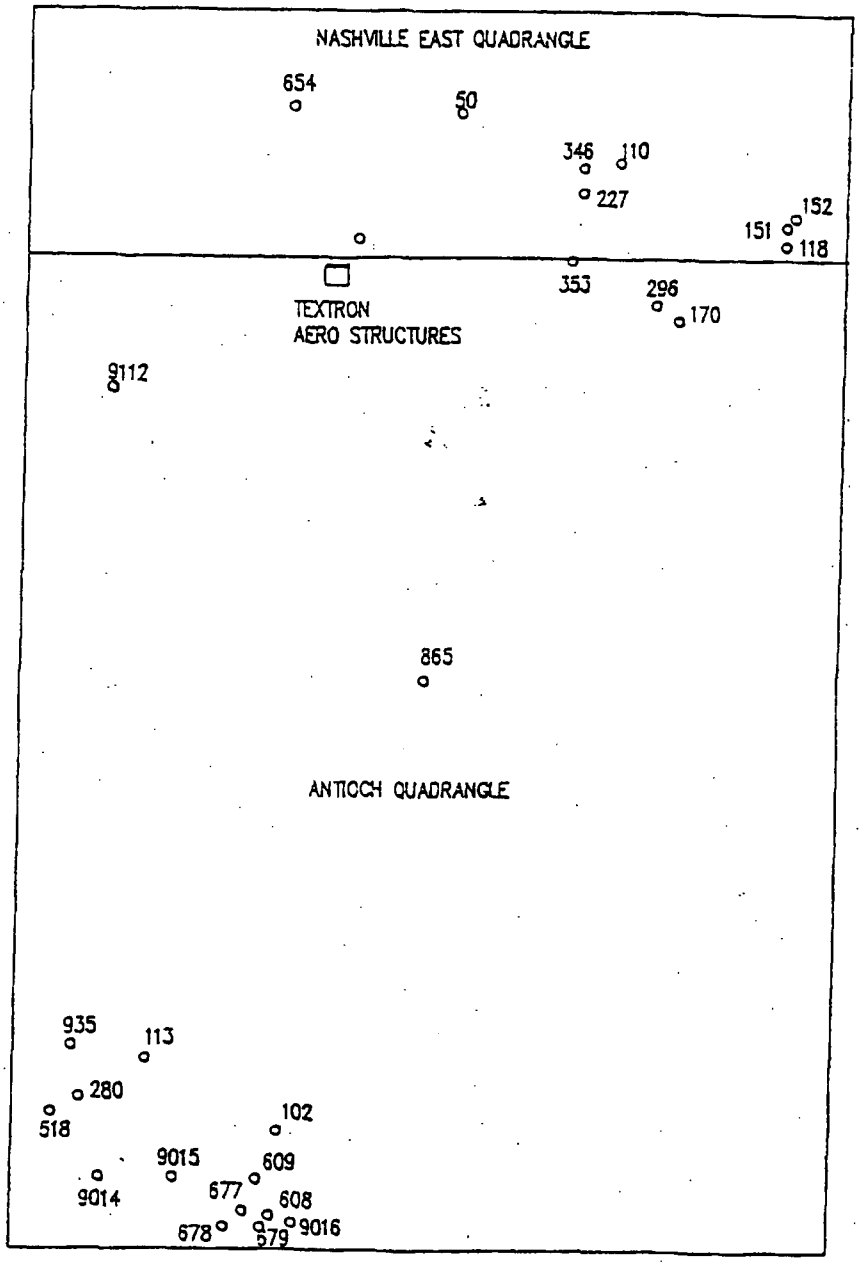
The Textron Facility is located in the Central Basin Physiographic Region of Tennessee. Aquifers in this region occur in solution cavities in limestones that have developed secondary porosity from dissolution along joints and bedding planes. Recharge to the aquifers is primarily in the outcrop areas. Soils above the limestones are sporadic in thickness, and generally thin. The hydraulic properties of these soils are not conducive to transmission of enough water to be considered a drinking water source and no known water supplies near the Textron facility from these soils are being utilized as a drinking water source.

Well records of water wells located near the Textron Facility, on file with the Tennessee Division of Water Resources, were reviewed to determine the source of drinking water and are presented in Figure 4-1. The location of the wells and associated well numbers are illustrated per Table 4-1 which lists the well number, depth of the well, depth to water, and geologic formation that water occurs. The minimum depth to water is 40 feet, however, the majority of

the drinking water found is below depths of 120 feet from surface elevation. All wells are developed in limestone aquifers, not in soils.

During the previous site investigation by DRE Technologies, pump and recovery tests were conducted and soil hydraulic conductivities were calculated using the Bower and Rice Slug Test Method. The hydraulic conductivities are presented in Table 4-2 and are illustrated on cross-sections in Figures 4-2 through 4-7. Figure 4-8 illustrates the wells used for slug tests and the calculated hydraulic conductivity for each well tested. The average calculated conductivity is 3.31×10^{-4} cm/sec. (It should be noted that a typographical error was found from the previous report and the correct hydraulic conductivity for MW-5S is 8.7×10^{-4} cm/sec instead of 8.7×10^{-3} cm/sec).

To determine the potential yield for the wells on site, recovery times and volumes from past site activities have been evaluated and converted to gallons per minute, for comparison with recovery rates and volumes from recent purge and development activities (April, 1991). All data is summarized in Table 4-3. Average yield from activities performed in February, 1990 is 0.01 gallons per minute and average yield from recent activities is 0.02 gallons per minute. This comparison again indicates that the sites perched water table cannot be considered a drinking water source, i.e., yields of 1/2 gallon per minute cannot be anticipated over a sustained period of time, i.e., 8 hours or more.



LOCATION OF ALL WELLS LISTED IN TABLE 4 - 1
FOR THE ANTIOCH AND NASHVILLE EAST QUADRANGLES.

PROJECT # 4005-CAP	D R E TECHNOLOGIES
SCALE: 1" = 1 MILE	FRANKLIN, TENNESSEE
FIGURE # 4-1	

TABLE 4-1

SUMMARY OF WELLS IDENTIFIED WITHIN AN APPROXIMATE 8-MILE RADIUS OF THE TEXTRON PLANT SITE

Well No.	Well Depth (ft)	Aquifer Depth (ft)	Yield (gpm)	Formation
8002	spring	--	25	Hermitage
9112	40	--	--	Hermitage, mid-lower
113	110	50	2	Hermitage
935	153	72	4	Carters
518	298	225	2	Carters
654	125	65	16	Carters, lower
296	145	54	1	Carters, lower
9014	35	30	--	Carters, upper
50	425	90	1	Lebanon
280	235	190	-	Lebanon
9015	65	60	-	Lebanon
608	180	50	12	Lebanon
170	160	--	--	Lebanon
102	205	203	15	Ridley
118	200	--	2	Ridley
677	186	185	15	Ridley
678	200	190	15	Ridley
679	237	235	15	Ridley
353	135	125	30	Ridley
865	225	4	--	Ridley
227	75	50	1	Ridley
110	120	107	5	Ridley
346	150	50	1	Ridley
151	200	--	--	Ridley
152	180	--	--	Ridley
609	165	160	10	Ridley
9016	195	182	--	Ridley

REFERENCE 9

TN Division of Superfund (NEAC)

Memorandum

DATE: 3/4/03

TO: TDSF File # 19-585

FROM: Pamela R. Franklin, TDSF, Nashville Field Office

Re: Call to Bill Griggs Metro Air Pollution Control

Called Bill Griggs (615-340-5653) with Metro Air Pollution Control to discuss Avco Aerostructures regulatory history. According to Mr. Griggs, the facility is in compliance and has had no violations since they began regulating the facility (he guessed Metro's permitting of the facility started around the mid-70s). The facility has spray booths (5-30 maybe) and degreasers that are permitted. Spray booths were down draft systems, now they are dry filter systems.

AEROSTRUCTURES CORPORATION

DEC 21 2001

TENNESSEE DEPT. OF ENVIRONMENTAL & CONSERVATION

David E. Jarrett
Office No. 615\361-2697
Facsimile No. 615\361-2219
E-mail: djarrett@theaerocorp.com

December 17, 2001

Mr. Barry Brawley, P.G.
Assistant Manager, Division of Superfund
Environmental Assistance Center
Tennessee Dept. of Environment & Conservation
711 R.S. Gass Blvd.
Nashville, TN 37243

WBB 12/27
BKA 12/27
File# 19-585
Copy C.O.

RE: RELEASE INVESTIGATION

Dear Mr. Brawley:

This is a follow-up to our meeting at your offices on October 30, 2001 and letter of November 9, 2001.

As we discussed, The Aerostructures Corporation believes that it has determined the source of the elevated levels of chromium in its NPDES discharge. Certain piping in connection with the NPDES outfall runs through the on-site landfill. Using surveillance cameras run through the piping we were able to determine that the lines had collapsed in several areas and solids material had entered the piping.

Solid material containing chromium is in landfill

This solids material is believed to have contained chromium. Once the sewer line was breached, the solids material leached chromium into the discharge water as that water flushed through this material. As this material has been flushed out, we have noticed a significant declining trend in chromium readings at our sampling points. We have redirected our flow from the outfall to the sanitary sewer, with the sewer authority's approval.

We have embarked upon an expensive project to redirect drainage flows outside of the landfill to prevent future cases where water may come in contact with, and leach chromium from this material. This project is nearing completion. Once the flow is redirected and the piping in the landfill is filled with grout-like material, the solids suspected to be the source of the chromium will no longer be in contact with the non-contact process water, and therefore will no longer leach chromium. We believe that it will resolve all discharge issues. We are confident on this point because prior to the storm sewer line breach chromium levels were not an issue.

In response to your concerns that precipitation infiltration or contact with groundwater may result in continued leaching of chromium, note that the landfill is capped with clay, paved parking lots and roadways, which are maintained in good condition and do not permit infiltration. Furthermore, based on prior hydrogeologic evaluations (Geologic Associates, 1981), groundwater is present in the bedrock approximately 10 to 15 feet below the base of landfill material. In addition, hydrogeologic testing performed by Geologic Associates at the site indicates that the bedrock (Hermitage Formation) itself is relatively impermeable with a conductivity on the order of 1 x 10-10 cm/sec.

We propose as an additional measure that we continue our monitoring program to confirm that the leaching has stopped. Since the NPDES outfall, being downgradient, would be the expected point of any drainage or seepage from the landfill, we believe continuing this monitoring will confirm that the issue has been corrected.

At the meeting, the State suggested that it might require us to perform groundwater sampling, including possibly contaminants other than chromium. We respectfully object to the extent the State is so inclined. First, the issue involved is unrelated to groundwater. Second, the issue involved only chromium, not any other constituents. The issue was caused by solid material infiltrating the storm sewer line, not groundwater, since previous geo-technical information indicates that groundwater is at a far greater depth. This issue will not reoccur since the sewer line is being rerouted outside of the landfill and will not be a source of infiltration or exfiltration. Also, the capped landfill further prevents stormwater infiltration into the landfill. We respectfully suggest that the State may be looking to investigate matters, i.e., groundwater, that are not the cause of the issue in question.

We again thank you for meeting with us on this matter and respectfully request that the agency take our concerns under its consideration.

Very truly yours,

David P. Jarrett
Facilities & Environmental Manager

DJP/rb

THE AEROSTRUCTURES CORPORATION

David P. Jarrett
Office No. 615\361-2697
Facsimile No. 615\361-2219
E-mail: djarrett@theaerocorp.com

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

August 13, 2001

Mr. Mike Apple, Director
Division of Solid Waste Management
Tennessee Department of Environment & Conservation
5th Floor, L&C Tower
401 Church Street
Nashville, TN 37243-1535

RE: Release Notice

Dear Mr. Apple:

A release of hexavalent chromium in the north storm sewer system which discharges to NPDES Outfall D001 was discovered on Tuesday, July 31, 2001 at approximately 2:00 P.M. while performing routine monitoring within the facility. Within minutes the flow was diverted to the sanitary sewer system. The initial chrome concentration of about 0.08 parts per million (PPM) had risen to approximately 0.8 ppm by early Wednesday morning, August 1, 2001, prompting reporting. Notifications were made to the EPA National Response Center, Tennessee Emergency Management Agency, Metro Emergency Management Agency, Tennessee Division of Water Quality Control, and Metro Water and Sewerage Services. The amount of chromium released initially is estimated to be between 0.42 and 1.11 pounds.

The source of the chromium was determined Wednesday afternoon to be infiltration into a stormwater manhole on the west side of the facility. We initially attempted to stop the flow into the manhole by selectively shutting off water lines in the immediate area and checking fire lines. Our attempts failed to slow the flow, so a contractor was hired to waterproof and seal the manhole. By Friday afternoon at about 2:00 P.M., the chrome concentration in the manhole was almost zero and the chrome in the discharge was steadily falling as well.

On Monday, August 6, 2001, instead of returning the discharge to the outfall as anticipated, we discovered the chromium infiltration had migrated and reappeared in another manhole further down the storm sewer. We then believed the chromium infiltration was being driven by non-contact cooling water leaking out of one of the storm sewer lines. A contractor was hired to televise and film the storm sewer lines on the west side of the facility so that the source of the flow could be determined and repaired by grouting and/or sliplining.

On Friday, August 10, 2001 we discovered that the three sewer lines discharging cooling water into the manhole where the chromium first appeared had collapsed at a depth of about 35 feet below

ground level. Not wanting to replace these lines at such a depth in this area adjacent to the closed landfill, we plan on installing new storm sewer lines at minimum depth, abandoning and plugging the existing lines. The remaining storm sewer lines and appurtenances will be repaired as originally planned. An engineering firm has been hired to survey, design and assist in the construction of the new storm sewers and repairs.

The average daily discharge of total chromium to the Metro sewer is approximately 1.21 pounds at an average concentration of 0.36 parts per million. The chromium concentration is steadily declining. To the best of our knowledge, there was no actual hazard to public health or the environment associated with the release and no injuries have occurred. We will provide updates of our corrective actions as they develop.

Very truly yours,

David P. Jarrett
Facilities & Environmental Manager

DPJ/rb

cc: Mr. Joe E. Holland, Tennessee Div. Of Water Quality Control
Mr. James A. Pogue, Metro Water Services
Ms. Betty Eaves, Tennessee Emergency Management Agency
Mr. Jim Thacker, Metro Emergency Management Agency
Mr. Daniel Roop, TDEC Division of Solid Waste Management
Mr. Ed Cox, TDEC Division of Solid Waste Management

NASHVILLE ENVIRONMENTAL ASSISTANCE CENTER
RECEIVED
AUG 16 200
TENNESSEE DEPT. OF ENVIRONMENTAL & CONSERVATION

10/30/01 Aerostructures Mtg.
Nashville EAC

Overhead w/ landfill boundaries + sewer lines
Discovered leak July 31st in storm sewer
Break in manhole ~ 35' deep w/ leak
Diverted to sanitary sewer w/ Metro permission
Ran TV in storm sewers - disc. 4 collapsed lines
Run non-contact cooling water (permitted) thru storm sewers. Buildup of water behind collapses.
Sewer lines run thru landfill.
To build new storm sewer line along edge of bldg in roadway and outside landfill, but in cont. fill. Will be off landfill cap. Will plug + fill old lines.
Landfill in old ravine, Reported to by up to 45' deep in places. Under parking lot.
Sewerline construction underway - to be finished by next week.

Closure report for landfill
Well 5 area showed VOCs - some investigation done relating to the two service stations to the NW across Bailey Pkwy

Deed restrictions may be in place - they will send copy
Former owner Textron - Aerostructures owned by Carlisle Group. No Phase II work done to

Extend deadline until they hear from us.

Plan on a site visit this Friday during construction.

Discussion of VOAP by Andy Shivas

REFERENCE 10

NW NE
SW SE

N

Tennessee Division of Natural Heritage

Element Occurrences by Quarter Quad

Index of Quarter Quads

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

"US•" indicates both U.S. protected and Tennessee protected species
"TN•" indicates Tennessee protected species

List generated on: Thursday October 3, 2002

NASHVILLE EAST (NE)

TN• ***ARABIS SHORTII*** (SHORT'S ROCK-CRESS)
TN• ***ARENARIA FONTINALIS*** (WATER STITCHWORT)
TN• ***CAREX DAVISII*** (DAVIS' SEDGE)
TN• ***ELYMUS SVENSONII*** (SVENSON'S WILD-RYE)
TN• ***ETHEOSTOMA LUTEOVINCTUM*** (REDBAND DARTER)

NASHVILLE EAST (NW)

US• ***ARABIS PERSTELLATA*** (BRAUN'S ROCKCRESS)
TN• ***ARENARIA FONTINALIS*** (WATER STITCHWORT)
TN• ***CAREX DAVISII*** (DAVIS' SEDGE)
US• ***CRYPTOBRANCHUS ALLEGANIENSIS*** (HELLBENDER)

NASHVILLE EAST (SE)

TN• ***ARABIS SHORTII*** (SHORT'S ROCK-CRESS)
TN• ***CAREX DAVISII*** (DAVIS' SEDGE)
TN• ***ELYMUS SVENSONII*** (SVENSON'S WILD-RYE)
TN• ***ETHEOSTOMA LUTEOVINCTUM*** (REDBAND DARTER)
TN• ***LESQUERELLA DENSIPILA*** (DUCK RIVER BLADDERPOD)
• ***NYCTANASSA VIOLACEA*** (YELLOW-CROWNED NIGHT-HERON)
TN• ***SCHOENOLIRION CROCEUM*** (YELLOW SUNNYBELL)

NASHVILLE EAST (SW)

TN• ***ARENARIA FONTINALIS*** (WATER STITCHWORT)
• ***BUTEO LINEATUS*** (RED-SHOULDERED HAWK)
TN• ***CAREX DAVISII*** (DAVIS' SEDGE)
• ***HERON ROOKERY*** (HERON ROOKERY)
• ***NYCTICORAX NYCTICORAX*** (BLACK-CROWNED NIGHT-HERON)
US• ***ORCONECTES SHOUPI*** (NASHVILLE CRAYFISH)

NASHVILLE WEST (NE)

US• ***ACIPENSER FULVESCENS*** (LAKE STURGEON)
• ***ACTITIS MACULARIA*** (SPOTTED SANDPIPER)
US• ***EPIOBLASMA BREVIDENS*** (CUMBERLANDIAN COMBSHELL)
TN• ***ICHTHYOMYZON UNICUSPIS*** (SILVER LAMPREY)
TN• ***IXOBRYCHUS EXILIS*** (LEAST BITTERN)
• ***LITHASIA GENICULATA*** (ORNATE ROCKSNAIL)
TN• ***LONICERA PROLIFERA*** (GRAPE HONEYSUCKLE)
TN• ***TRIFOLIUM REFLEXUM*** (BUFFALO CLOVER)
TN• ***VITIS RUPESTRIS*** (SAND GRAPE)

NASHVILLE WEST (NW)

• ***HERON ROOKERY*** (HERON ROOKERY)
TN• ***ICHTHYOMYZON UNICUSPIS*** (SILVER LAMPREY)
TN• ***LONICERA PROLIFERA*** (GRAPE HONEYSUCKLE)
• ***NYCTICORAX NYCTICORAX*** (BLACK-CROWNED NIGHT-HERON)
TN• ***TRIFOLIUM REFLEXUM*** (BUFFALO CLOVER)

NASHVILLE WEST (SE)

TN• ***ARENARIA FONTINALIS*** (WATER STITCHWORT)
TN• ***ASTRAGALUS TENNESSEENSIS*** (TENNESSEE MILK-VETCH)
US• ***CYCLEPTUS ELONGATUS*** (BLUE SUCKER)
US• ***EPIOBLASMA BREVIDENS*** (CUMBERLANDIAN COMBSHELL)
TN• ***ETHEOSTOMA LUTEOVINCTUM*** (REDBAND DARTER)
US• ***FALCO PEREGRINUS*** (PEREGRINE FALCON)
TN• ***ICHTHYOMYZON UNICUSPIS*** (SILVER LAMPREY)
US• ***LESQUERELLA GLOBOSA*** (SHORT'S BLADDERPOD)
TN• ***LONICERA PROLIFERA*** (GRAPE HONEYSUCKLE)
TN• ***OPHISAURUS ATTENUATUS LONGICAUDUS*** (EASTERN SLENDER GLASS LIZARD)
US• ***THRYOMANES BEWICKII*** (BEWICK'S WREN)
TN• ***TRIFOLIUM REFLEXUM*** (BUFFALO CLOVER)
TN• ***VITIS RUPESTRIS*** (SAND GRAPE)

NASHVILLE WEST (SW)

TN• ***ARENARIA FONTINALIS*** (WATER STITCHWORT)
TN• ***ASTER PRAEALTUS*** (WILLOW ASTER)
TN• ***ASTRAGALUS TENNESSEENSIS*** (TENNESSEE MILK-VETCH)
TN• ***ICHTHYOMYZON UNICUSPIS*** (SILVER LAMPREY)
TN• ***LILIUM MICHIGANENSE*** (MICHIGAN LILY)
TN• ***LONICERA PROLIFERA*** (GRAPE HONEYSUCKLE)
TN• ***TRIFOLIUM REFLEXUM*** (BUFFALO CLOVER)
TN• ***TYTO ALBA*** (COMMON BARN-OWL)

NEDDY MTN (NE)

TN• ***ACER SACCHARUM SSP LEUCODERME*** (CHALK MAPLE)
TN• ***CYPRIPEDIUM ACAULE*** (PINK LADY'S-SLIPPER)
TN• ***PANAX QUINQUEFOLIUS*** (AMERICAN GINSENG)

NEDDY MTN (NW)

TN• ***HEUCHERA LONGIFLORA VAR ACEROIDES*** (MAPLE-LEAF ALUMROOT)

NEDDY MTN (SE)

TN• ***HEUCHERA LONGIFLORA VAR ACEROIDES*** (MAPLE-LEAF ALUMROOT)

NEDDY MTN (SW)

TN• ***CYPRIPEDIUM ACAULE*** (PINK LADY'S-SLIPPER)

ALTO (NW)

US• ***HEMITREMIA FLAMMEA*** (FLAME CHUB)
TN• ***IRIS PRISMATICA*** (SLENDER BLUE FLAG)
US• ***PLEUROBEMA GIBBERUM*** (CUMBERLAND PIGTOE)
US• ***TOXOLASMA CYLINDRELLUS*** (PALE LILLIPUT)

ALTO (SE)

TN• ***GLYCERIA ACUTIFLORA*** (SHARP-SCALED MANNAGRASS)
US• ***HEMITREMIA FLAMMEA*** (FLAME CHUB)
• ***MEDIONIDUS CONRADICUS*** (CUMBERLAND MOCCASINSHELL)
TN• ***NEOBECKIA AQUATICA*** (LAKE CRESS)
• ***ORCONECTES AUSTRALIS*** (A CRAYFISH)
TN• ***RANUNCULUS FLABELLARIS*** (YELLOW WATER-CROWFOOT)
US• ***TOXOLASMA CYLINDRELLUS*** (PALE LILLIPUT)
• ***TOXOLASMA LIVIDUM*** (PURPLE LILLIPUT)
TN• ***TRILLIUM PUSILLUM VAR PUSILLUM*** (LEAST TRILLIUM)

ALTO (SW)

US• ***HEMITREMIA FLAMMEA*** (FLAME CHUB)
TN• ***IRIS PRISMATICA*** (SLENDER BLUE FLAG)
TN• ***IXOBRYCHUS EXILIS*** (LEAST BITTERN)
TN• ***LEJEUNEA SHARPII*** (SHARP'S LEJEUNEA)
• ***LEPTOXIS SUBGLOBOSA UMBILICATA*** (UMBILICATE ROCKSNAIL)
US• ***LEXINGTONIA DOLABELLOIDES*** (SLABSIDE PEARLYMUSSEL)
• ***LITHASIA LIMA*** (WARTY ROCKSNAIL)
• ***PLEUROBEMA OVIFORME*** (TENNESSEE CLUBSHELL)
TN• ***RANUNCULUS FLABELLARIS*** (YELLOW WATER-CROWFOOT)
US• ***TOXOLASMA CYLINDRELLUS*** (PALE LILLIPUT)

ANTIOCH (NE)

TN• ***ASTRAGALUS TENNESSEENSIS*** (TENNESSEE MILK-VETCH)
US• ***DALEA FOLIOSA*** (LEAFY PRAIRIE-CLOVER)
US• ***ECHINACEA TENNESSEENSIS*** (TENNESSEE CONEFLOWER)
TN• ***LEAVENWORTHIA EXIGUA VAR EXIGUA*** (GLADE-CRESS)
US• ***ORCONECTES SHOUPI*** (NASHVILLE CRAYFISH)
TN• ***PERIDERIDIA AMERICANA*** (THICKET PARSLEY)
TN• ***PHLOX BIFIDA SSP STELLARIA*** (GLADE CLEFT PHLOX)
TN• ***SCHOENOLIRION CROCEUM*** (YELLOW SUNNYBELL)
TN• ***TALINUM CALCARICUM*** (LIMESTONE FAME-FLOWER)
TN• ***ZANTHOXYLUM AMERICANUM*** (NORTHERN PRICKLY-ASH)

ANTIOCH (NW)

TN• ***ARENARIA FONTINALIS*** (WATER STITCHWORT)
US• ***ORCONECTES SHOUPI*** (NASHVILLE CRAYFISH)
TN• ***TALINUM CALCARICUM*** (LIMESTONE FAME-FLOWER)

ANTIOCH (SE)

TN• ***ARENARIA FONTINALIS*** (WATER STITCHWORT)
US• ***ORCONECTES SHOUPI*** (NASHVILLE CRAYFISH)
TN• ***PHLOX BIFIDA SSP STELLARIA*** (GLADE CLEFT PHLOX)

ANTIOCH (SW)

US• ***ORCONECTES SHOUPI*** (NASHVILLE CRAYFISH)

APPLETON (NW)

• ***BUTEO LINEATUS*** (RED-SHOULDERED HAWK)
US• ***HELIANTHUS EGGERTII*** (EGGERT'S SUNFLOWER)

APPLETON (SW)

TN• ***ARENARIA LANUGINOSA*** (WOOLY SANDWORT)

ARDMORE (NW)

TN• ***PLATANTHERA FLAVA VAR FLAVA*** (SOUTHERN REIN-ORCHID)

ARLINGTON (SE)

US• ***LIMNOTHLYPIS SWAINSONII*** (SWAINSON'S WARBLER)
TN• ***PRENANTHES CREPIDINEA*** (NODDING RATTLESNAKE-ROOT)
TN• ***ULMUS CRASSIFOLIA*** (CEDAR ELM)

ARMOREL (SE)

US• ***STERNA ANTILLARUM ATHALASSOS*** (INTERIOR LEAST TERN)

ASHLAND CITY (NE)

NW NE SW SE

O

Tennessee Division of Natural Heritage

Element Occurrences by Quarter Quad

Index of Quarter Quads

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

"US•" indicates both U.S. protected and Tennessee protected species
"TN•" indicates Tennessee protected species

List generated on: Thursday October 3, 2002

OAK GROVE (SE)

TN• ***EUONYMUS OBOVATUS*** (RUNNING STRAWBERRY-BUSH)

OAK HILL (NE)

US• ***AIMOPHILA AESTIVALIS*** (BACHMAN'S SPARROW)
TN• ***AMBYSTOMA BARBOURI*** (STREAMSIDE SALAMANDER)
TN• ***ARENARIA FONTINALIS*** (WATER STITCHWORT)
TN• ***ASTRAGALUS TENNESSEENSIS*** (TENNESSEE MILK-VETCH)
US• ***DALEA FOLIOSA*** (LEAFY PRAIRIE-CLOVER)
TN• ***HYDRASTIS CANADENSIS*** (GOLDENSEAL)
TN• ***PANAX QUINQUEFOLIUS*** (AMERICAN GINSENG)
TN• ***PERIDERIDIA AMERICANA*** (THICKET PARSLEY)
US• ***THRYOMANES BEWICKII*** (BEWICK'S WREN)

OAK HILL (NW)

REFERENCE 11

(257)
NASHVILLE, TENN. Vol. 24

261

APR. 1940

VULTEE BLVD COUNTY RD.

ADD'L SHEET

APR. 1940

VULTEE AIRCRAFT INC
NASHVILLE DIVN
Admittance Refused

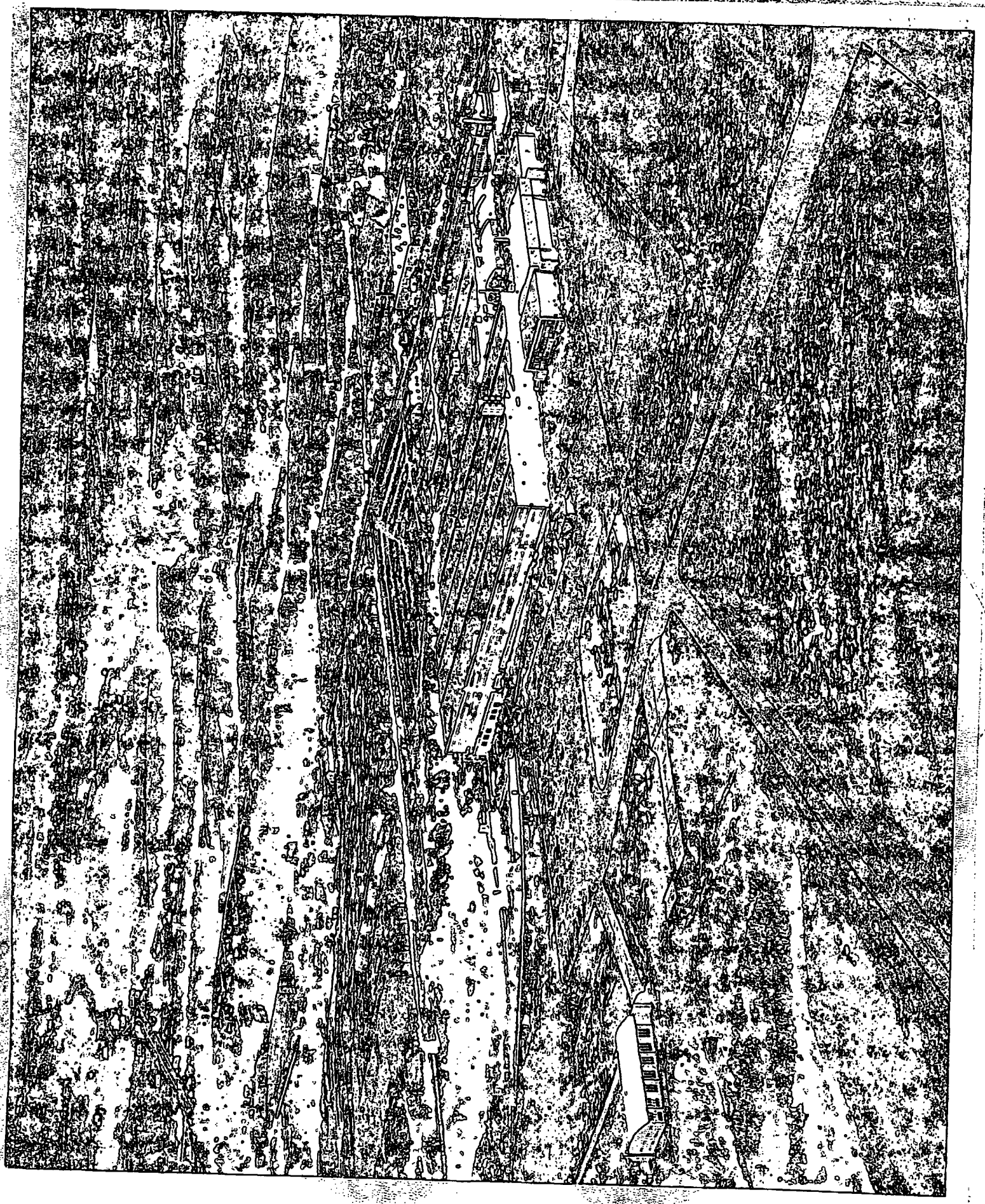
FLAG DIG IS
WATCHMAN, WRN CLOCK, HEAT, STEM
FUEL, COAL, POWER, FIRE, CHEM, EXTRGS
CH WATER

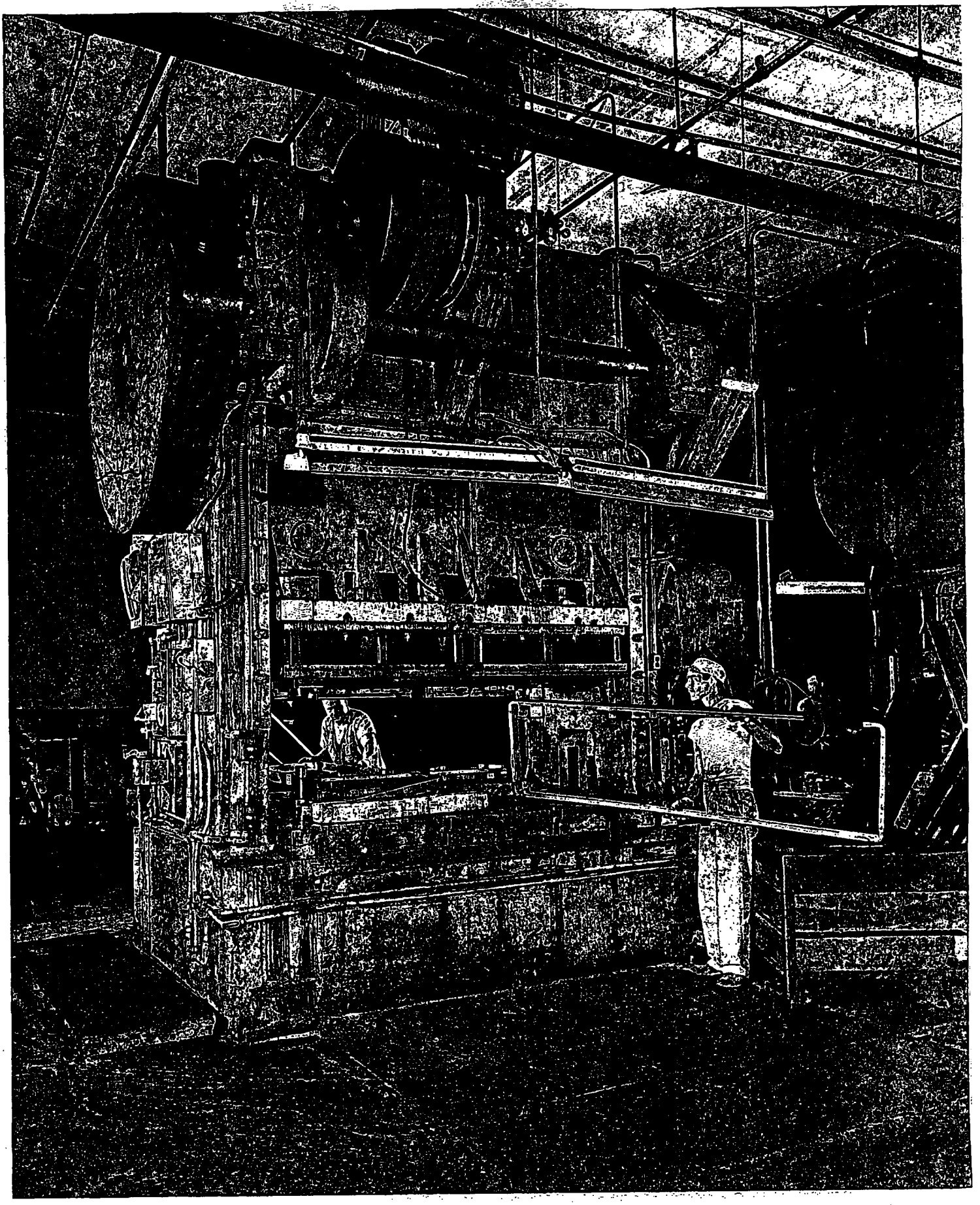
HANGAR

HANGAR

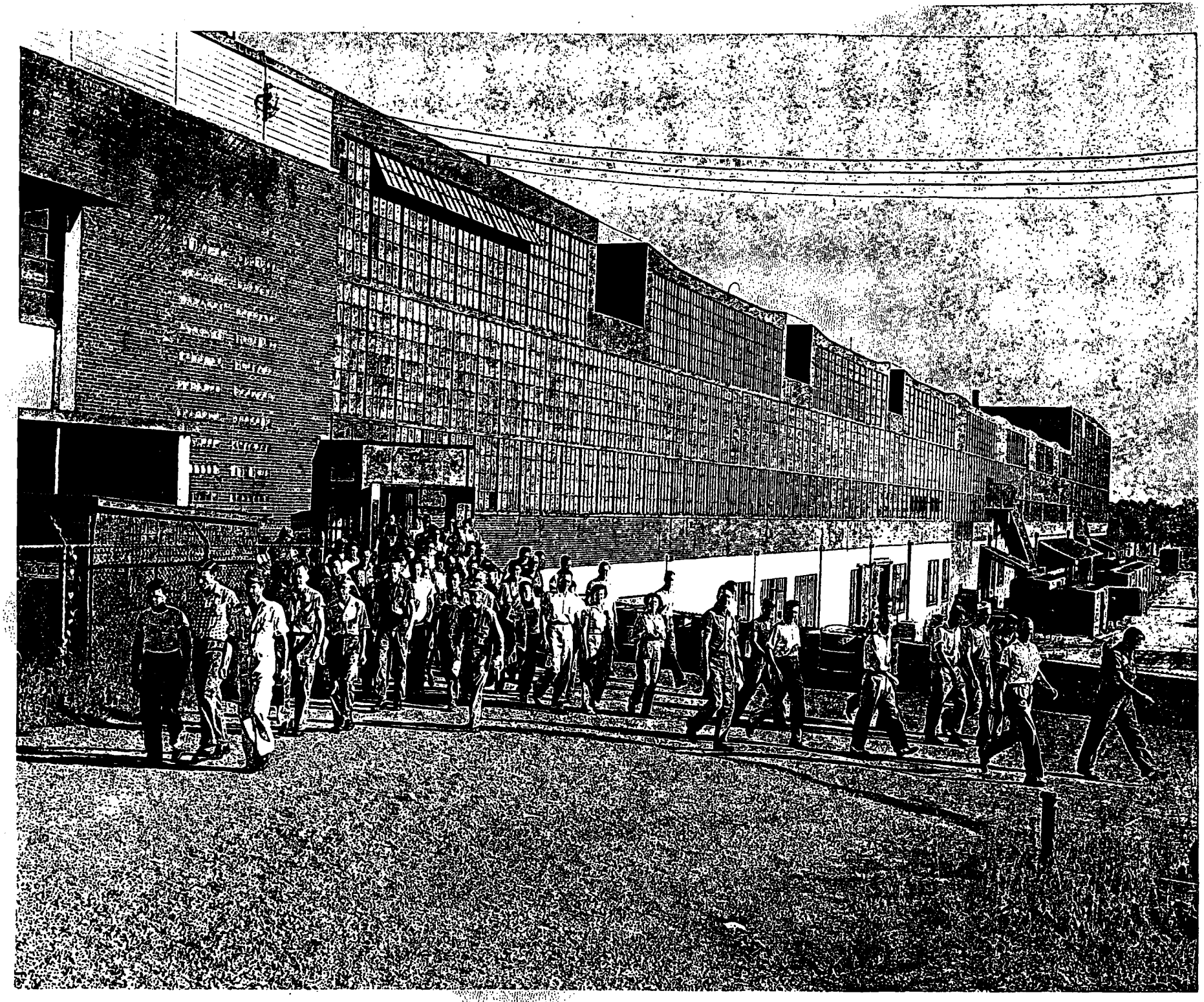
THIS DETACHMENT NOT
CORRECTED SINCE APR 1940

Located 7½ Miles S.E. of Court-110





PRODUCTION YES...
But
Safety
First



U.S. EPA REGION IV

SDMS

Unscannable Material Target Sheet

DocID: 10660173 Site ID: TND004042057

Site Name: Construction Corporation

Nature of Material:

Map:	☐	Computer Disks:	☐
Photos:	☑	CD-ROM:	☐
Blueprints:	☐	Oversized Report:	☐
Slides:	☐	Log Book:	☐

Other (describe): Site Photos

Amount of material: _____

* Please contact the appropriate Records Center to view the material *