HAZARDOUS WASTE CONTAINER ACCUMULATION AREA CLOSURE PLAN

STRATFORD ARMY ENGINE PLANT

550 Main Street
Stratford, Connecticut

April 15,1996

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APPENDICES

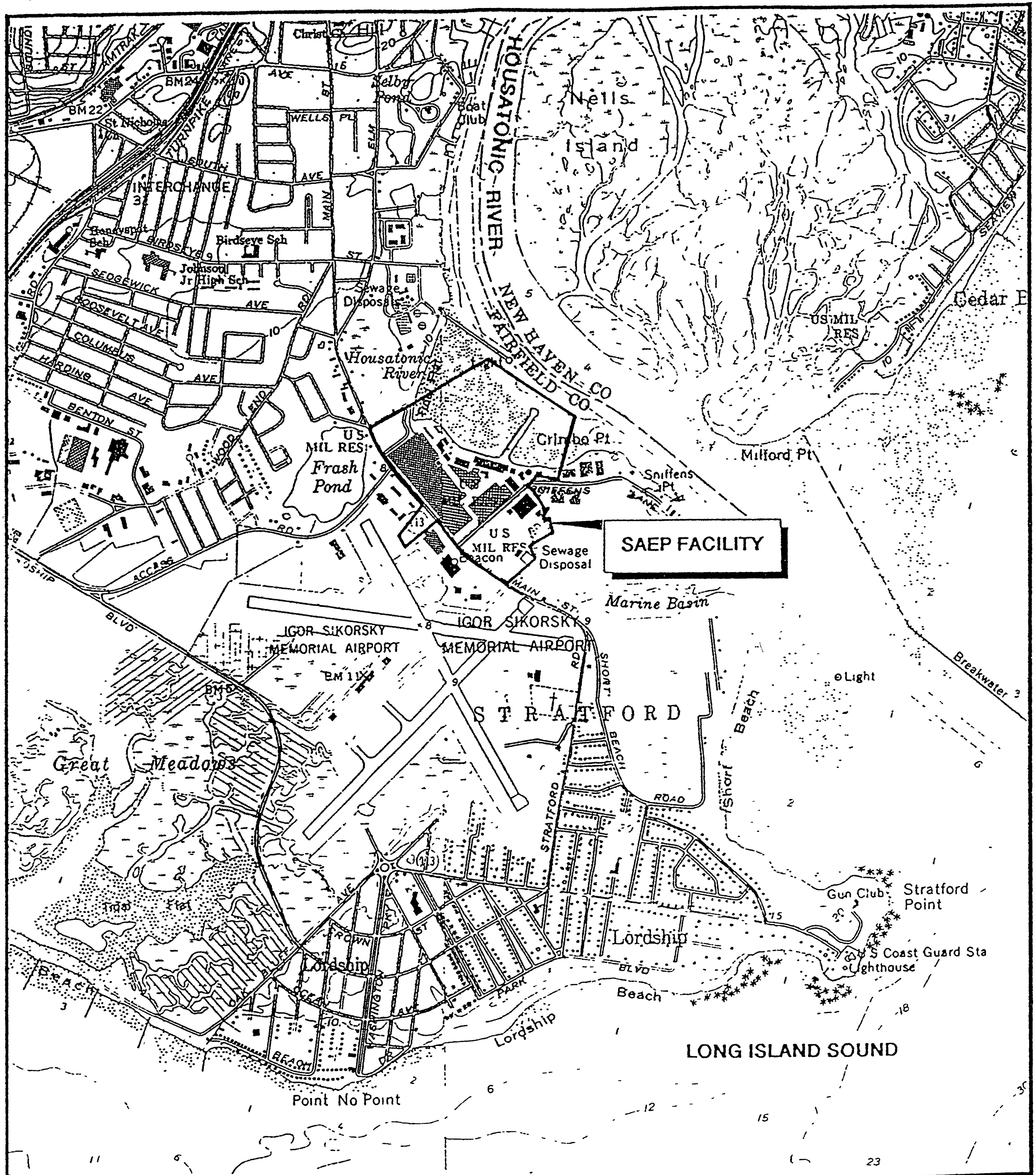
1.0 INTRODUCTION

The Stratford Army Engine Plant (SAEP) is a government-owned, contractor operated facility located in Stratford, Connecticut. The U.S. Department of the Army (USDA) owns the land, the buildings and most of the production equipment at SAEP. The Tank-Automotive and Armaments Command (TACOM) has responsibility for the jurisdiction, control and accountability of SAEP. AlliedSignal Aerospace, an operating business unit of AlliedSignal Inc., has operated SAEP under a facilities contract with TACOM since November 1, 1994.

On November 13, 1980, SAEP submitted to The U.S. Environmental Protection Agency (EPA) and the Connecticut Department of Environmental Protection (DEP) a RCRA Part A Permit Application. SAEP submitted a closure plan for the two surface impoundments in September 1987.

Still in existence at the facility is a hazardous waste container accumulation area located in the southern portion of the facility adjacent to the Chemical Wastewater Treatment Plant. This area was constructed and intended to operate as a less than 90 day waste accumulation unit. During an EPA RCRA inspection conducted in the mid 1980's, a concern was raised as to whether it was being allowed to accumulate wastes for greater than 90 days and should be managed under EPA interim status authorization along with the surface impoundments.

This container accumulation area was constructed in 1983 and operated for approximately one year, ceasing use in 1984. No wastes have been stored there since that time. AlliedSignal has not been able to identify any records that would document that waste was not allowed to accumulate for longer than 90 days. For this reason, AlliedSignal intends to close the area as described in this plan.



MAP SOURCE:
FROM BRIDGEPORT & MILFORD, CT. USGS QUADRANGLE MAP, 1970 & 1960, PHOTOREVISED 1984.

0 1000 2000 FT
SCALE

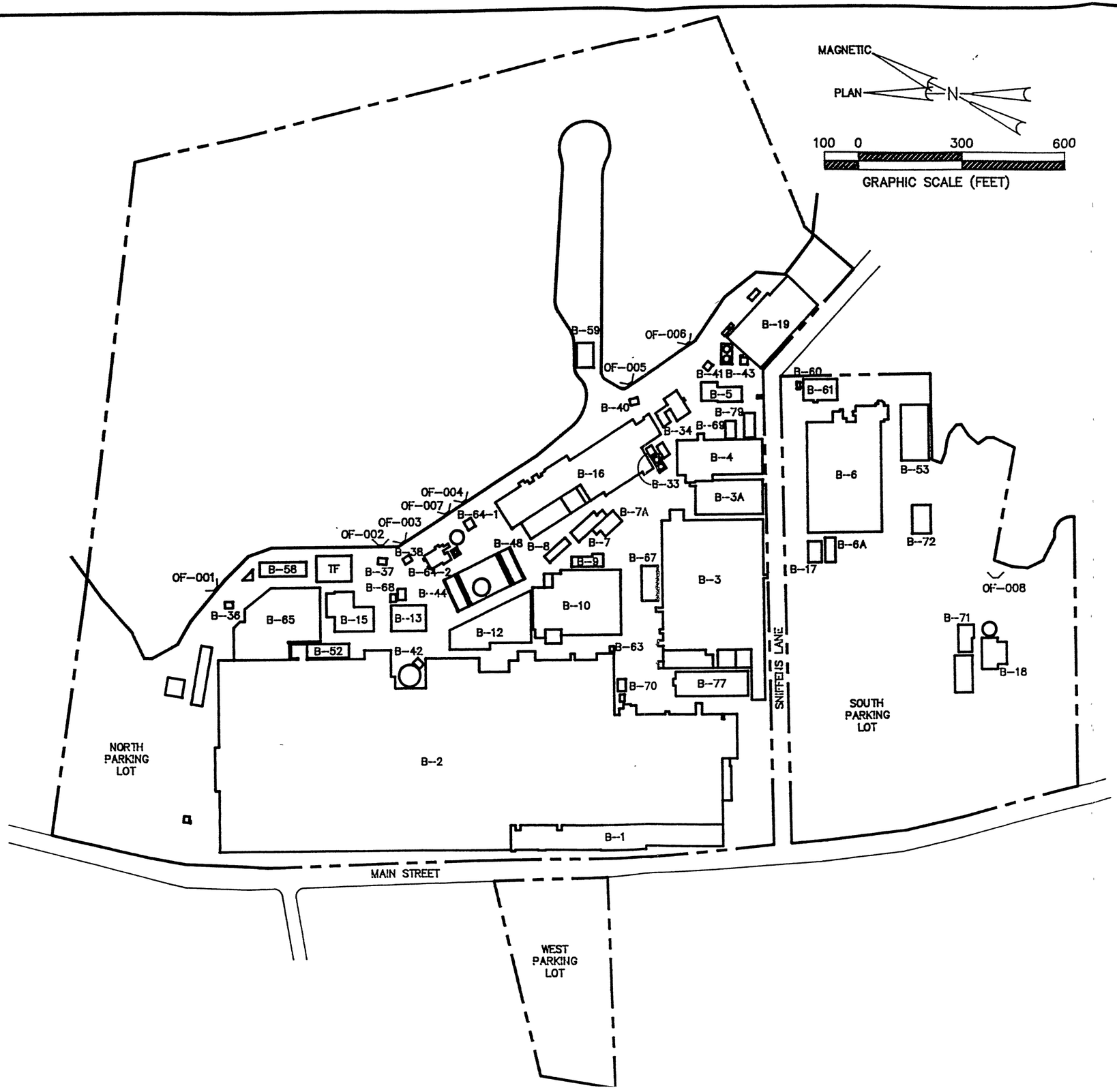
CT

WOODWARD – CLYDE CONSULTANTS
ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

FACILITY LOCATION
STRATFORD ARMY ENGINE PLANT
STRATFORD, CONNECTICUT

DR. BY: BAS	DATE: JANUARY 1993	PROJ. NO:	FIGURE NO.:
CK'D BY: MEJ	DATE: JANUARY 1993	89C114NN	1–2

Figure 2-1



BUILDING NUMBER	BUILDING NAME
B-1	MAIN ADMINISTRATIVE & GOVERNMENT OFFICES
B-2	MANUFACTURING OPERATIONS
B-3	RESEARCH & DEVELOPMENT ENGINEERING
B-3A	ENGINEERING LABORATORIES
B-4	STORES AND AGT-1500 REPAIR
B-5	FUEL SYSTEM TEST
B-6	ENGINE ENVIRONMENTAL & COMPONENT TEST
B-6A	ENGINE MECHANICAL COMPONENT TEST
B-7	ENGINE FUEL SYSTEM TEST
B-7A	ENGINE FUEL SYSTEM TEST
B-8	VOLATILE STORAGE
B-9	AUTOMOTIVE MAINTENANCE
B-10	RECUPERATOR MANUFACTURE
B-12	MAINTENANCE DEPARTMENT
B-13	SCRAP & MATERIAL RECLAMATION
B-15	LUBRICATION STORAGE & FIRE HOUSE
B-16	PRODUCTION & DEVELOPMENTAL TEST CELLS
B-17	ENGINEERING TEST FACILITY
B-18	CHEMICAL WASTE TREATMENT PLANT (CWTP)
B-19	COMPONENT TEST FACILITY
B-33	COOLING TOWER PUMP STATION
B-34	FUEL PUMPING STATION
B-36	STORM DRAIN PUMPING STATION (OF-001)
B-37	STORM DRAIN PUMPING STATION (OF-002)
B-38	STORM DRAIN PUMPING STATION (OF-003)
B-40	STORM DRAIN PUMPING STATION (OF-004)
B-41	STORM DRAIN PUMPING STATION (OF-005)
B-42	SPRINKLER BOOST PUMP STATION (400K GAL.)
B-43	FUEL PUMPING STATION
B-44	STORES & CARPENTER SHOP
B-48	ENGINE CONTAINER REBUILD
B-52	STORES & ADJUNCT TO B-2
B-53	SURPLUS EQUIPMENT STORAGE
B-58	QUALITY & TESTING FACILITY
B-59	ENGINEERING STORAGE
B-60	HI-PRESSURE NATURAL GAS PUMPING STATION
B-61	REFRIGERATION PLANT
B-63	CWTP PUMPING STATION
B-64-1	OIL ABATEMENT PLANT PUMP HOUSE
B-64-2	OIL ABATEMENT TREATMENT PLANT (OATP)
B-65	STORAGE FACILITY
B-67	GENERAL STORES
B-68	EMERGENCY GENERATOR
B-69	USACE RESIDENT ENGINEER
B-70	CYANIDE DESTRUCTION FACILITY (CDF)
B-71	CWTP SOLIDS HANDLING
B-72	FUEL PUMPING STATION
B-77	OFFICE
B-79	SSE BUILDING

LEGEND

PROPERTY LINE

Woodward-Clyde Consultants
ENGINEERS, GEOLOGISTS, AND ENVIRONMENTAL SCIENTIST

GOVERNMENT-OWNED LAND AND BUILDINGS
STRATFORD ARMY ENGINE PLANT
STRATFORD, CONNECTICUT

DRN BY EAB	DATE APRIL 1991	PROJECT NO. 89MC114M	FIG. 2-2
CHK'D BY JJH	DATE APRIL 1991		

2.0 SITE BACKGROUND

2.1 FACILITY DESCRIPTION

The SAEP facility is located in Stratford, Connecticut, on the Stratford Point peninsula in the southeast corner of Fairfield County. The facility property lies on the borders of the Bridgeport and Milford United States Geological Survey (USGS) Quadrangles (Figure 2-1). Latitudinal and longitudinal coordinates of SAEP are approximately 41 10' North and 73 07' West. The property consists of approximately 126 acres including an estimated 49 acres of riparian rights along the Housatonic River (See Figure 2-2 for facility layout).

2.2 SITE HISTORY

The SAEP property was used for agriculture until 1929 when the first manufacturing facility was built on about 26 acres. The property has been used for development, manufacture and assembly of aircraft or engines since 1929, and the plant history has been categorized into the following periods:

1929 to 1939: Sikorsky Aero Engineering Corporation developed and manufactured sea planes at the Stratford plant.

1939 to 1948: Chance Voight Aircraft located its operations at the Stratford plant in 1939 and the company became known as the Vought-Sikorsky Aircraft Division. Sikorsky developed the first helicopter but left the plant in 1943 because of overcrowding. Chance Vought developed the "Corsair" for the U.S. Navy and mass produced Corsairs during World War II. Chance Vought vacated the Stratford Plant in 1948.

1948 to 1951: The Stratford plant was idle.

1951 to 1976: The U.S. Air Force procured the plant in 1951 and named it Air Force Plant No. 43. The Bridgeport Lycoming Division of the Avco Corporation was contracted by the Air Force to operate the plant. Avco manufactured radial engines in the 1950's and turbine engines in the 1960's and 1970's.

1976 to October 31, 1994: The plant was transferred from the U.S. Air Force to the Army in 1976; at that time the plant was renamed the Stratford Army Engine Plant (SAEP). Avco was contracted by the Army to develop the AGT-1500 engine to power the Abrahms tank. Avco also developed and manufactured marine and industrial turbine engines. Avco Corporation merged with Textron in December 1985 and subsequently renamed the division Textron Lycoming.

November 1, 1994 to Present: AlliedSignal Incorporated purchased the business from Textron and assumed operational control of the facility on November 1, 1994. In July 1995, the U.S. Army Base Realignment and Closure Committee recommended that SAEP be closed. The decision for site closure was finalized in September 1995. AlliedSignal

intends to cease operation of the facility and turn control of it over to the U.S. Government on June 1, 1997.

2.3 ENVIRONMENTAL SETTING

The land use immediately surrounding the property is residential, commercial, light industrial and recreational. The facility is bordered by a ballfield, and beyond it, residences to the north; a tidal flat and the Housatonic River to the east; Main Street, commercial property and Sikorsky Memorial Airport to the West; to the south on the Housatonic River are tidal flats and marsh, a marine basin, condominium complex and restaurant adjacent to the Housatonic River and Long Island Sound.

The property is located within a 100-year flood plain. The facility is protected by a flood dike and pump houses used to pump out storm water drainage. The dike is 2 feet above the 100-year flood elevation of 10 feet. The dike is expected to prevent flood waters from significantly impacting the facility during a 100-year flood.

The goundwater classification in this area is GB. There are no known drinking water wells located within one mile of the facility or drinking water intakes in the vicinity.

2.4 REGIONAL GEOGRAPHY

SAEP is located in a geological province known as the Connecticut Valley Synclinorium that consists primarily of metamorphic and volcanic rocks. Rock exposures do not occur in the site vicinity but it is believed that Schist underlies the area. On the basis of geologic correlations with surrounding areas, bedrock is estimated to occur more than 100 feet below sea level. Well drillings have confirmed 120 feet+

Glaciation affected the southern Connecticut area. Deposits of till and stratified sand and gravel were deposited in the region as the glaciers retreated. Glacial streams left deltaic sand deposits along coastal Connecticut, including the site vicinity. The Housatonic River has eroded much of the glacial sands from its channel while depositing recent alluvian and estuarine and tidal flat sediments. Locally, the bedrock is overlain by estuarine sediments. These gray silts, sands, clay fine organic matter, bits of plants and broken shells comprise a mud with a maximum thickness to 60 feet. Area swamp deposits of muddy peat are located seaward, thickening towards the southern end of the facility.

A large part of the area, including SAEP, consists of artificial fill deposited over all younger deposits (i.e. swamp, estuarine sediments, glacial deposits). Artificial fill is believed to include railroad, road, building construction fill and large accumulations of trash. Artificial fill is typically at least 5 feet thick.

2.5 SITE GEOGRAPHY

Based upon previous site investigations, at least five or six distinct stratigraphic units can be identified at the site. These units, from shallow to deep, are artificial fill, peat and silt alluvium, estuarine silt, glacial deposits and bedrock. The glacial deposits can be divided into four sediment groups: relatively uniform sands, gravelly sands, gravels and occasionally varved silts. The stratigraphic units are described below. Figure 2-3 provides a geologic cross section of the area of the facility in which the container storage area is located.

2.6 HYDROGEOLOGY

Groundwater flow in the deep zone, at a depth of 80 to 100 feet below grade, is from the west toward the east and southest against the almost constant headboundry of Long Island Sound. High tide does significantly impact groundwater levels inland. As a result of the negligible hydraulic gradient, the linear flow in the deep aquifer is low.

Groundwater flow in the shallow zone of the aquifer is east toward the Housatonic River and south toward the Marine Basin. The shallow zone is greatly altered by the buried utilities, building foundations and a dike. The flow levels rise and fall in response to tidal and seasonal changes. Variations in the tidal change result in only a flattening of the hydraulic gradient during the short periods of change.

Near the area of the regulated units there is a layer of peat between the shallow and deep aquifer which cause a rather complex effect on the flow of the shallow aquifer. The flow above the peat is under a more pronounced hydraulic gradients and is radial ranging from east and northeast flow toward the south, west and northwest. Outside the lateral limits of this peat the rate of migration is as described in the paragraphs above.

2.7 SURFACE WATER HYDROLOGY

Several surface water bodies are located in the vicinity of SAEP: Long Island Sound, the Housatonic River, Frash Pond, Marine Basin and an associated drainage ditch and scattered wetland areas. Each of the surface water bodies is described below.

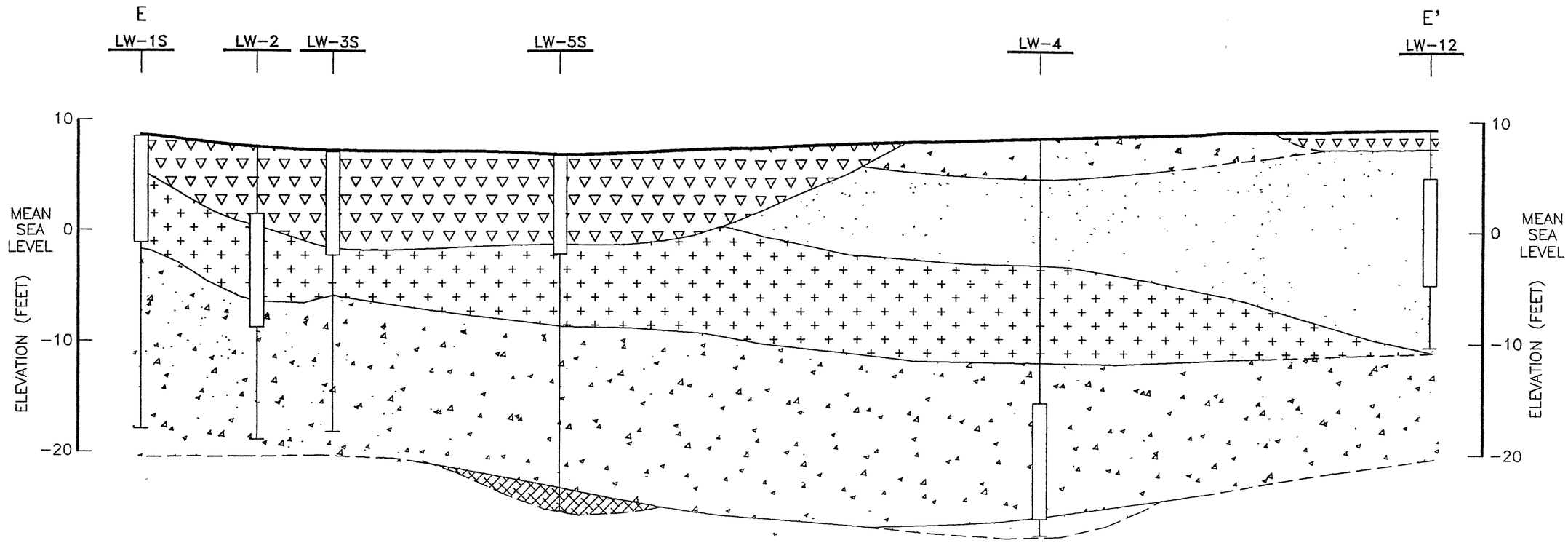
Long Island Sound is located less than a mile south of the site. Water level differences between high and low tide are typically about 7 feet. Because of the numerous fresh water rivers that empty into the sound, the salinity of Long Island Sound water ranges from about 24 to 28 parts per thousand.

The Housatonic River is the dominant drainage system in the area. The river is located east of the site, flowing southward into Long Island Sound. In the vicinity of the site, the river is an estuary with low and high tides that range from approximately o to 7 feet above mean sea level. The salinity of the river decreases rapidly upstream, but in the area adjacent to SAEP the salinity ranges from about 17 to 20 parts per thousand.

Frash Pond, located less than 200 feet northwest of SAEP, drains southward via a man-made ditch into the Great Meadows Marsh (southwest of Sikorsky Memorial Airport). Tidal gates were constructed in the ditch to keep the slow unidirectional into the marsh. The gates, however, are reportedly leaking considerable amounts of brackish water back into the pond during high tide. Consequently, the pond is subject to substantial tidal activity and is classified as brackish.

Marine Basin is an inland water body connected to the Housatonic River and is located about 1000 feet southeast of SAEP. A drainage system extends from the north into the basin and one drainage ditch abuts the southeastern edge of the site. The SAEP Chemical Wastewater Treatment Plant drains directly into this ditch. Marine Basin and the associated drainage ditch are subject to tidal activity.

Wetland areas are mainly associated with the Housatonic River in the form of tidal marshes and intertidal flats, although a brackish to freshwater wetland area is found around Frash Pond. Intertidal flats, mostly devoid of vegetation, occur along the shoreline of the Housatonic River and the coast of Long Island Sound while tidal marshes occur southwest of Sikorsky Airport. The riparian rights area of the site is considered intertidal flats.



NOTE:
THE GENERALIZED SOIL PROFILE REPRESENTS AN INTERPRETATION OF BORINGS DONE BY WOODWARD-CLYDE CONSULTANTS (1992) AND BORINGS DONE BY OTHERS. ACTUAL SUB-SURFACE CONDITIONS MAY VARY.

LEGEND
- FILL
- PEAT
- SILT
- SAND AND SILTY SAND
- SAND AND GRAVEL

MONITORING WELL WITH SCREENED INTERVAL

LW-2

LOCATION OF APPROXIMATE STRATIGRAPHIC BOUNDARY. DASHED WHERE INFERRED

GEOLOGIC CROSS-SECTION E-E'
STRATFORD ARMY ENGINE PLANT
STRATFORD, CONNECTICUT

WOODWARD-CLYDE CONSULTANTS
CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS
WAYNE, NEW JERSEY

DR.BY	MG	SCALE	AS SHOWN	PROJ.	89C114NN
CK'D.BY	RLC	DATE	MAY 21 1993	FIG.NO.	3-6

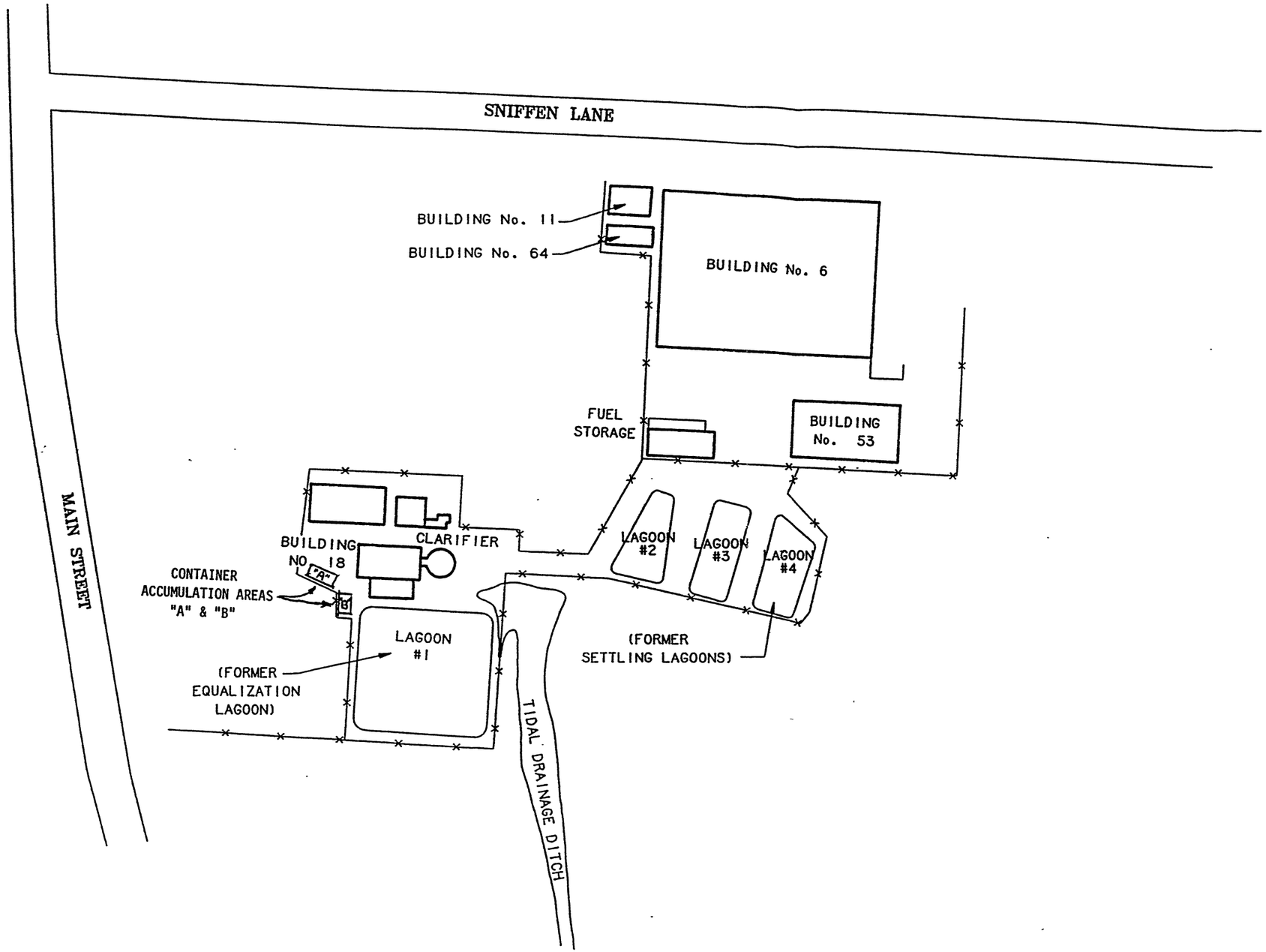
File name: F:\STRAT\E-G.DWG Last edited: 93/05/27 @ 09:35

Figure 2-3

3.0 CONTAINER ACCUMULATION AREAS

3.1 DESCRIPTION OF UNITS

AlliedSignal intends to close two container accumulation areas that are located at the southern portion of the facility, adjacent to the Wastewater Treatment Plant (See Figure 3-1, Appendix A). The areas consist of poured concrete floors, reinforced with 1/2 inch rebar. The thickness varies between 10 1/2 to 12 inches. Area A covers 398 sq. ft. and has a maximum inventory capacity of 52, 55 gallon drums on pallets (2860 gallons). Area B covers 201 sq. ft. with a maximum inventory capacity of 24, 55 gallon drums on pallets (1320 gallons). Containment is provided by 7 1/2 inch thick by 31 inch high block walls. Access to the pads are protected by berms. Each floor surface is sloped to a steel lined collection sump in the event of a release. The floors and lower walls have been epoxy coated to increase impermeability. Both areas are protected from precipitation by corrugated metal roofs.



N

LEGEND:

BUILDING

FENCE LINE

0 100 200

SCALE IN FEET

SCALE: 1" = 160'

Figure 3-1

CONTAINER ACCUMULATION AREAS

NO.	DATE	REVISIONS	CHK BY:	DATE
0	11/14/91	ISSUED FOR PERMIT APPLICATION	JED	

R SURFACE IMPROV DWG: LL119103

(02215.04.H

WehranEnviroTech

4.0 SITE CHARACTERIZATION

4.1 CONSTITUENTS OF CONCERN

The hazardous waste container accumulation areas were frequently inspected by an employee trained in hazardous waste management and the results recorded at least weekly. A records review indicates no incidents of spills or releases into the bermed areas.

A list of Constituents of Concern (COC) was derived by reviewing all hazardous waste manifests generated during the period of time the areas were used for waste accumulation. These wastes were compared to those constituents listed in 40 CFR 265 Appendix VIII.

The primary types of wastes generated historically at SAEP include various types of oils and aviation fuels, metal bearing wastes generated in machining operations and from plating activities, chlorinated solvents from parts degreasing and volatile non-halogenated solvents from painting operations.

4.2 SECONDARY CONTAINMENT STRUCTURE

On August 23, 1995, AlliedSignal began closure activities on the hazardous waste container accumulation areas. A visual inspection of the floors indicated an absence of cracking or deterioration. Minimal staining was present. Those stains noted were predominantly due to metal containers oxidizing and contacting the epoxy coating.

The containment structures were thoroughly swept and power washed to provide dirt free surfaces. Two inch core samples were taken from the areas (Figure 4-1, Appendix A). Sampling was based upon one per 100 sq. ft. of surface area with a minimum of three being taken. Area A had four samples taken. The locations included two areas that had minor surface staining, one adjacent to the metal lined collection sump and one other randomly chosen. Area B had three samples taken. One was located adjacent to the collection sump, one where the epoxy coating had deteriorated and a third at a randomly chosen location.

Visual examination of the cores revealed that any staining was limit to the surface of the epoxy. No other signs of contamination was seen throughout the cores. All borings were then subject to analysis for volatiles utilizing a portable organic vapor analyzer (Airco International Gases, Model 105; Calibrated 8/22/95). All borings and containment surface areas were below the detection limit of the equipment.

The concrete cores were immediately transported to Milford Materials Test Laboratory in Milford, Connecticut for analysis. Based upon the COC's derived, the request for analysis included:

- Total Petroleum Hydrocarbons
- Total TCLP Metals
- EPA Method 8010 for Halogenated Hydrocarbons

- EPA Method 8015 for Volatile Non-halogenated Hydrocarbons

Analytic results (Figure 4-2) were compared to the December 1994 State of Connecticut DEP Proposal for the Connecticut Clean-up Standards Regulations. The results were significantly below all values for the Direct Exposure Criteria for Soil. When compared against the Pollutant Mobility Criteria for Soil for GB groundwater areas, sample 950823-1, taken from container Area A, exceeded the TCLP limit for Silver by .01 mg/l (0.16 vs. 0.15 limit). Sample 950824-3, taken from container Area B exceeded the limit for silver by 0.15 mg/l (0.51 vs. 0.36 limit). All results for total metals fall within the ranges of concentration typically found in eastern U.S. soils (Elements in North American Soils; Dragun and Chiasson, 1991; Table 4-1) with the exception of the total silver contents of samples 950824-2 and 950824-3. Halogenated and non-halogenated organics as well as total petroleum hydrocarbons were well within all limits.

AREA "A"
Sampling Locations

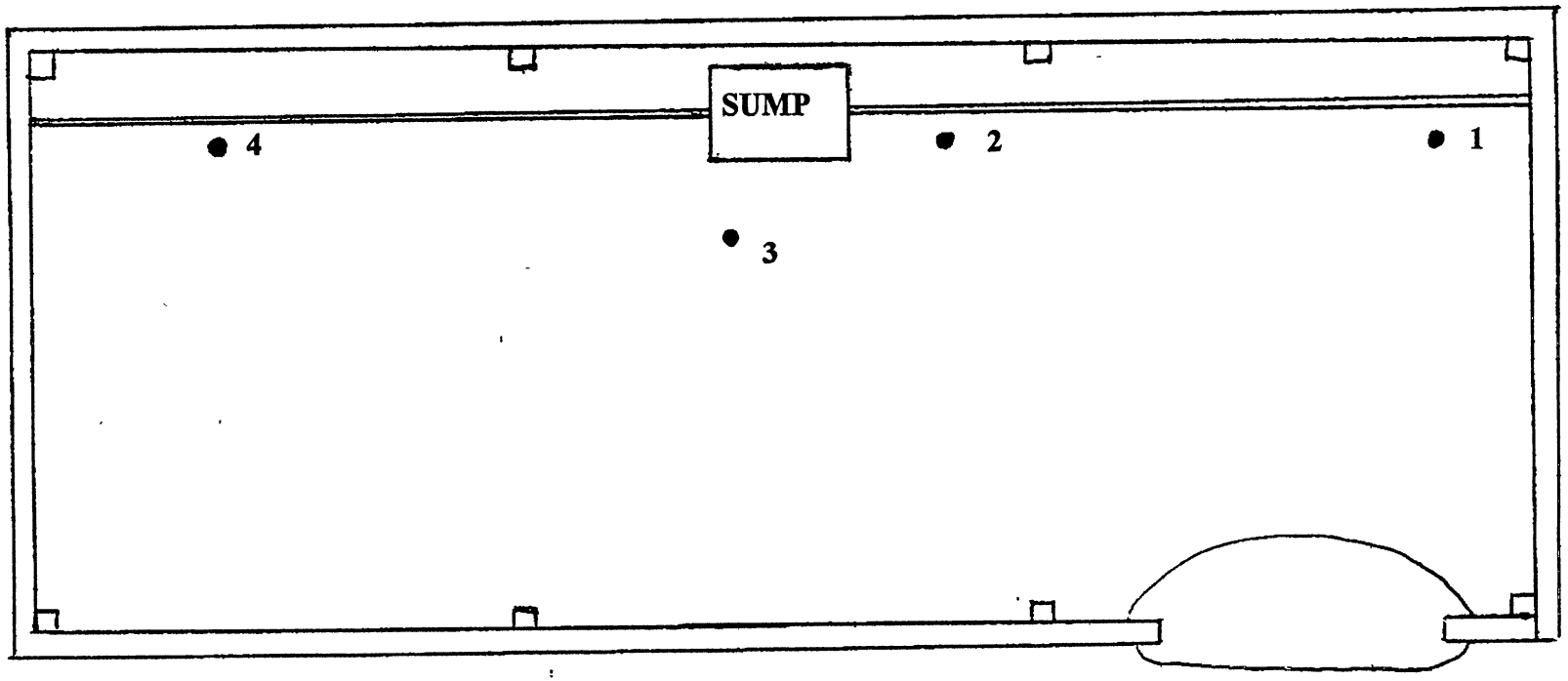


Figure 4-1

Interior Demensions:
Length - 32' 3"
Width - 12' 4"
Area - 398 sq. ft.
Sump - 2' X 3'
Access Opening - 6'

AREA "B"
Sampling Locations

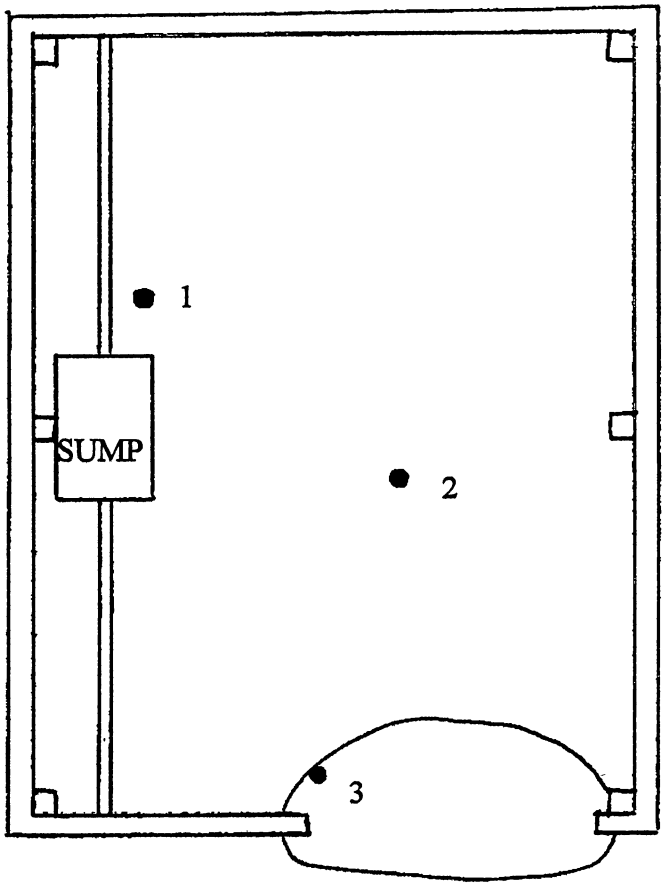


Figure 4-1

Interior Dimensions:
Length - 16 ' 4"
Width - 12' 4"
Area - 201 sq. ft.
Sump 2' X 3"
Access Opening - 6'

MILFORD MATERIALS TESTING LABORATORY, INC.

655 Plains Rd. • Milford, Connecticut 06460

Phone (203) 877-3163 Fax (203) 876-8162

Flexline (Ct) 1-800-352-1399

Mail to PO Box 493
Milford, Conn 06460

September 8, 1995
Test M63992

TO: AlliedSignal
550 South Main St.
Stratford, CT 06497

FROM: Dominic Mastrone

ATT: Mr. Scott Jacob, Dept. 1M

RE: Exam of four concrete samples, POH350182, Received 8/24/95

TEST	RESULTS			
Mass Analysis Metals	ID 950823-1	2	3	4
Arsenic	ND< .01	ND< .01	ND< .01	ND< .01 ppm
Barium	90.2	111.0	63.1	56.8 ppm
Cadmium	.80	.80	1.1	.99 ppm
Chromium	15.0	21.2	14.9	18.8 ppm
Lead	23.2	20.6	15.7	18.0 ppm
Mercury	ND< .01	ND< .01	ND< .01	ND< .01 ppm
Selenium	ND< .01	ND< .01	ND< .01	ND< .01 ppm
Silver	ND< .01	ND< .01	ND< .01	ND< .01 ppm
Acetone	350	300	140	175 ppb
Total Petroleum Hydrocarbon	16.0	72.0	56.0	20.0 ppm

The samples were analyzed as per EPA Method 8010 & 8015. The results are on the following pages in ppb.

Dominic Mastrone

Figure 4-2

EPA METHOD 8010
HALOGENATED VOLATILE ORGANICS

	ID 950823-1	2	3	4
Benzyl Chloride	ND< 5.0	ND< 5.0	ND< 5.0	ND< 5.0 ppb
Bis (2-chloroethoxy) methane	"	"	"	"
Bis (2-chloroisopropyl) ether	"	"	"	"
Bromobenzene	"	"	"	"
Bromodichloromethane	"	"	"	"
Bromoform	"	"	"	"
Bromomethane	"	"	"	"
Carbon tetrachloride	"	"	"	"
Chloracetaldehyde	"	"	"	"
Chloral	"	"	"	"
Chloroethane	"	"	"	"
Chloroform	"	69.1	44.5	35.0
1-Chlorohexane	"	ND< 5.0	ND< 5.0	ND< 5.0
Chloromethane	"	"	"	"
Chloromethyl methyl ether	"	"	"	"
Chlorotoluene	"	"	"	"
Dibromochloromethane	"	"	"	"
Dibromomethane	"	"	"	"
Dichlorodifluoromethane	"	"	"	"

EPA METHOD 8010
HALOGENATED VOLATILE ORGANICS

	ID 950823-1	2	3	4
1,1-Dichloroethane	ND< 5.0	ND< 5.0	ND< 5.0	ND< 5.0 ppb
1,2-Dichloroethane	"	"	"	"
1,1-Dichloroethylene	"	"	"	"
trans-1,2-Dichloroethylene	"	"	"	"
1,2-Dichloropropane	"	"	"	"
trans-1,3-Dichloropropylene	"	"	"	"
1,3-Dichloropropylene	"	"	"	"
Methylene Chloride	"	"	"	"
1,1,2,2-Tetrachloroethane	"	"	"	"
1,1,1,2-Tetrachlorothane	"	"	"	"
Tetrachloroethylene	"	"	"	"
1,1,1-Trichloroethane	"	"	"	"
1,1,2-Trichloroethane	"	"	"	"
Trichloroethylene	"	"	"	"
Trichlorofluoromethane	"	"	"	"
Trichloropropane	"	"	"	"
Vinyl chloride	"	"	"	"

EPA METHOD 8015
Non Halogenated Volatile Organics

ID	950823-1	2	3	4	
Ethanol	ND< 500	ND< 500	ND< 500	ND< 500	ppb
Diethyl Ether	ND< 200	ND< 200	ND< 200	ND< 200	ppb
Methyl Ethyl Ketone (MEK)	ND< 50	ND< 50	ND< 50	ND< 50	ppb
Methy Isobutyl Ketone (MIBK)	"	"	"	"	

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Phone (203) 877-3163 Fax (203) 876-8162

Flexline (Ct) 1-800-352-1399

Mail to PO Box 493
Milford, Conn 06460

September 19, 1995
Test M64133

TO: AlliedSignal
550 South Main St.
Stratford, CT 06497

FROM: Dominic Mastrone

ATT: Mr. Scott Jacob, Dept. 1M

RE: Exam of four concrete samples, POH350182, Received 8/24/95

TEST	RESULTS			
TCLP Extraction	ID 950823-1	2	3	4
Barium	.40	.51	.61	.30 mg/l
Chromium	.08	.10	.09	.10 mg/l
Lead	.16	.13	.10	.12 mg/l

Dominic Mastrone

635 Plains Rd. • Milford, Connecticut 06460

(203) 877-3163

CHAIN OF CUSTODY RECORD

Mail to P.O. Box 493
Milford, Conn. 06460

CLIENT ALLIEDSIGNAL AEROSPACE

SAMPLE	DATE & TIME	SAMPLE TYPE ~~LARGE CONTAINER AREA~~	NO. OF CONTAINERS	ANALYSIS REQUIRED
950823-1	8/23/95	CONCRETE CORE	1	HALOGENATED VOC'S 8011 NON-HALOGENATED VOC'S 8015 TCLP METALS - TOTAL OVL TOT. PETROLEUM HYDROCARB
950823-2	8/23/95	CONCRETE CORE	1	
950823-3	8/23/95	CONCRETE CORE	1	
950823-4	8/23/95	CONCRETE CORE	1	

RELINQUISHED BY			RECEIVED BY		
SIGNATURE	DATE	TIME	SIGNATURE	DATE	TIME
[signature]	8-24-95	8AM	[signature]	8/24/95	8AM

MILFORD MATERIALS TESTING LABORATORY, INC.

655 Plains Rd. • Milford, Connecticut 06460

Phone (203) 877-3163 Fax (203) 876-8162

Flexline (Ct) 1-800-352-1399

Mail to P.O. Box 493
Milford, Conn. 06460

September 26, 1995
Test M64062

TO: AlliedSignal
550 South Main St.
Stratford, CT 06497

FROM: Dominic Mastrone

ATT: Mr. Scott Jacob, Dept. 1M

RE: Exam of three concrete samples, POH350182, Received 8/31/95

TEST	RESULTS			
Mass Analysis Metals	**ID 950824-1**	**2**	**3**	
Arsenic	ND< .01	ND< .01	ND< .01	ppm
Barium	90.0	57.4	84.2	ppm
Cadmium	.80	1.4	1.2	ppm
Chromium	21.2	21.8	21.0	ppm
Lead	17.8	18.0	19.8	ppm
Mercury	ND< .01	ND< .01	ND< .01	ppm
Selenium	ND< .01	ND< .01	ND< .01	ppm
Silver	1.2	5.2	30.8	ppm
Acetone	90.4	113.0	75.0	ppb
Total Petroleum Hydrocarbon	8.0	44.0	16.0	ppm

The sample were analyzed as per EPA Method 8010 & 8015. The results are on the following pages in ppb.

MILFORD MATERIALS TESTING LABORATORY, INC.

655 Plains Rd. • Milford, Connecticut 06460

Phone (203) 877-3163 Fax (203) 876-8162

Flexline (Ct) 1-800-352-1399

Mail to PO Box 493
Milford, Conn 06460

EPA METHOD 8010
HALOGENATED VOLATILE ORGANICS

	ID 950824-1	2	3
Benzyl Chloride	ND< 5.0 ppb	ND< 5.0	ND< 5.0 ppb
Bis (2-chloroethoxy) methane	"	"	"
Bis (2-chloroisopropyl) ether	"	"	"
Bromobenzene	"	"	"
Bromodichloromethane	"	"	"
Bromoform	"	"	"
Bromomethane	"	"	"
Carbon tetrachloride	"	"	"
Chloracetaldehyde	"	"	"
Chloral	"	"	"
Chloroethane	"	150.0	"
Chloroform	"	ND< 5.0	"
1-Chlorohexane	"	"	"
Chloromethane	"	"	"
Chloromethyl methyl ether	"	"	"
Chlorotoluene	"	"	"
Dibromochloromethane	"	"	"
Dibromomethane	"	"	"
Dichlorodifluoromethane	"	"	"

EPA METHOD 8010
HALOGENATED VOLATILE ORGANICS

	ID 950824-1	2	3
1,1-Dichloroethane	ND< 5.0	ND< 5.0	ND< 5.0 ppb
1,2-Dichloroethane	"	"	"
1,1-Dichloroethylene	"	"	"
trans-1,2-Dichloroethylene	"	"	"
1,2-Dichloropropane	"	"	"
trans-1,3-Dichloropropylene	"	"	"
1,3-Dichloropropylene	"	"	"
Methylene Chloride	"	"	"
1,1,2,2-Tetrachloroethane	"	"	"
1,1,1,2-Tetrachlorothane	"	"	"
Tetrachloroethylene	"	"	"
1,1,1-Trichloroethane	"	"	"
1,1,2-Trichloroethane	"	"	"
Trichloroethylene	"	"	"
Trichlorofluoromethane	"	"	"
Trichloropropane	"	"	"
Vinyl chloride	"	"	"

EPA METHOD 8015
NON HALOGENATED VOLATILE ORGANICS

	ID 950824-1	2	3	
Ethanol	ND< 500	ND< 500	ND< 500	ppb
Diethyl Ether	ND< 200	ND< 200	ND< 200	ppb
Methyl Ethyl Ketone (MEK)	ND< 50	ND< 50	ND< 20	ppb
Methyl Isobutyl Ketone (MIBK)	ND< 50	ND< 50	ND< 50	ppb

TCLP Metals Extraction	ID 950824-1	2	3	
Barium	.74	.35	.68	mg/l
Chromium	.14	.14	.12	"
Lead	.08	.10	.10	"
Silver	.02	.04	.51	"

Dominic Mastrone

Milford, Connecticut 06460
(203) 877-3163

CHAIN OF CUSTODY RECORD

Mail to P.O. Box 493
Milford, Conn. 06460

CLIENT ALLIEDSIGNAL AEROSPACE

SAMPLE	DATE & TIME	SAMPLE TYPE	NO. OF CONTAINERS	ANALYSIS REQUIRED
		SMALL STORAGE PAD		
950824-1	8/24/95	CONCRETE CORE	1	- HALOG. VOLITILE HYDROCA - NON-HALOGENATED VOLATILE HYDROCARBO - TCLP METALS (TOTAL ON - TOT. PETROL. HYDROCARB
950824-2	8/24/95	CONCRETE CORE	1	
950824-3	8/24/95	CONCRETE CORE	1	

RELINQUISHED BY

SIGNATURE	DATE	TIME
A Jacob	8/31/95	8AM

RECEIVED BY

SIGNATURE	DATE	TIME
Brent H Clan	8/31/95	8AM

CONCENTRATIONS OF METALS IN SOILS OF THE EASTERN UNITED STATES

ANALYTE	SYMBOL	RANGE
ALUMINUM	Al	7000 - >100,000
ANTIMONY	Sb	<1.0 - 8.8
ARSENIC	As	<1.0 - 73
BARIUM	Ba	10 - 1500
BERYLLIUM	Be	<1.0 - 7.0
CADMIUM	Cd	ND - 4.0
CALCIUM	Ca	100 - 280,000
CHROMIUM	Cr	1.0 - 1000
COBALT	Co	<3.0 - 70
COPPER	Cu	<1.0 - 700
IRON	Fe	100 - >100,000
LEAD	Pb	<10 - 300
MAGNESIUM	Mg	50 - 50,000
MANGANESE	Mn	2.0 - 7000
MERCURY	Hg	<0.01 - 3.4
NICKEL	Ni	<5.0 - 700
POTASSIUM	K	50 - 37,000
SELENIUM	Se	<0.1 - 3.9
SILVER	Ag	ND - 5.0*
SODIUM	Na	<500 - 50,000
VANADIUM	V	<7.0 - 300
ZINC	Zn	<50 - 2900

Range is for Eastern USA soils (ppm)
* = Conterminous USA
ND - Not detected

Reference: Elements in North American Soils
James Dragun, Andrew Chiasson, 1991

lkj\89C114NN\d001t01.w51

5.0 CLOSURE

5.1 PROPOSED CLOSURE

As per 40 CFR 265.111 (Closure Performance Standard), AlliedSignal intends to close the drum accumulation area in such a way that it eliminates the need for further maintenance and provides for protection to human health and the surrounding environment. AlliedSignal proposes to demolish and transport off-site all debris for disposal in a secure landfill. The concrete pad and containment walls will be broken up using heavy equipment while utilizing a light water mist in order to minimize the release of dust.

It is anticipated that this project will generate approximately 38 yards of demolition debris. The material will be transported off-site for to be landfilled at:

Chemical Waste Management, Inc.
EPA I.D. NYD049836679
1550 Balmer Road
Model City, NY.

All waste will be manifested for tracking and recordkeeping purposes. The excavation will be back filled with clean soil, compacted to prevent post project settlement and repaved with asphalt to match the surrounding paved surface area.

Worker health and safety will be addressed and in accordance with all applicable Occupational Health and Safety Administration regulations under 40 CFR 1910.

5.2 CLOSURE COSTS/FINANCIAL ASSURANCE

As a federal government owned facility, this closure activity is exempt from the financial requirements as noted in 40 CFR 265.140(c).

5.3 CLOSURE SCHEDULE/CERTIFICATION

AlliedSignal intends to implement and complete all closure activities within 180 days of CT DEP approval of this plan. As provided in 40 CFR 265.115, within 60 days of closure completion, AlliedSignal will submit a report to the DEP certifying that the accumulation area has been closed in accordance with the approved closure plan. The certification report will include:

A. A description of all closure activities conducted;
B. Any deviation from the closure plan and justification;
C. A photographic record of each closure step;
D. Copies of all waste manifests.

The report will be signed by a representative of AlliedSignal and certified by a registered professional engineer.