SDMS Document
94575

Lower Passaic River Study Area

DIRECT DISCHARGE PRP CASES FOR THE LOWER PASSAIC RIVER STUDY AREA

PRP EXTRACTION FORM AND EVIDENCE CONCERNING:

ITT Avionics Division

PREPARED FOR:

LOWER PASSAIC RIVER STUDY AREA
COOPERATING PARTIES GROUP

SUBMITTED TO:
USEPA REGION II

May 18, 2006

945750001

DIRECT DISCHARGE PRP CASES FOR THE LOWER PASSAIC RIVER STUDY AREA

ITT Avionics Division INDEX OF EVIDENCE

Tab No.	Year	Day and Month	Description
1	2000		NJDEP Community Right To Know Survey for 2000
2	2006	18-Jan	Dun & Bradstreet Comprehensive Report
3	1996	6-Dec	H2M Group correspondence to NJDEP re: Remedial Investigation Report and Action Work Plan for ITT Avionics
4	2001	31-Oct	NJDEP correspondence to ITT Avionics re: LNA Application
5	1990	January	Discharge Investigation and Corrective Action Report re: ITT Avionics Division. Prepared by H2M Group
6	2001	31-Mar	NJDEP Communications Center Notification Report re: ITT
7	1986	22-Aug	ITT correspondence to City of Clifton Health Department re: hazardous substance discharge report
8	1994		NJDEP Community Right To Know Survey for 1994
9	1988		NJDEP Community Right To Know Survey for 1988
10	2002	15-Apr	Correspondence from H2M Group to NJDEP re: ITT Avionics Division NJPDES Permit # NJ0076023
11	1997	September	Remedial Action Report for ITT Avionics Division. Prepared by H2M Associates, Inc.
12	2002	31-Oct	NJDEP correspondence to Director of Environmental Health & Safety for Clifton, New Jersey re: Surface Water GPA Mod
13	1996	June	Remedial Investigation Report and Remedial Action Work Plan for ITT Avionics Division. Prepared by H2M Associates
14	1945		City of Clifton Sanitary Sewers map
15	1975	29-Apr	ITT Avionics Division - Boiler Bow Down Piping "Clifton Plant"
16	1992	31-Mar	Permit # NJ0020214 with effective date of 5/1/1992 and expiration date of 4/30/1997
17	1976		Report upon Overflow Analysis to Passaic Valley Sewerage Commissioners - Yantacaw Street, Clifton
18			On-Line document re: Blowdown water

Tab No.	Year	Day and Month	Description
19	2006	3-May	On-Line document re: Chem-Alliance Plant Tour & Regulatroy Information

LOWER PASSAIC RIVER STUDY AREA
PRP DATA EXTRACTION FORM

ITT AVIONICS DIVISION

CURRENT MAILING ADDRESS/CONTACT INFO:

ITT Industries, Inc.
(A subsidiary of ITT Industries, Inc. White Plains, NY)
Chris Bernhardt, President
100 Kingsland Drive
Clifton, NJ 07014

(ADC000213 at Tab 2)

Fern Fleischer Daves
ITT Industries
4 West Red Oak Lane
White Plains, NY 10604

FACILITY ADDRESS:

ITT Avionics Division
100 Kingsland Road
Clifton, NJ
("Site")

(ADC000417 at Tab 13)

Other descriptions of the Site location include:

Block 83-01 Lot 1 (Note this refers to a portion of the property subdivided in 2001.
(ADC000248 at Tab 4)

FINANCIAL VIABILITY (annual revenue, # of employees):

ITT Industries currently employs 42,000 people around the world. Company stock is traded on the New York Stock Exchange, as well as the London, Paris, Midwest, Pacific and Frankfurt exchanges. ITT reported sales of $6.8 billion dollars in 2004. (www.itt.com)

DATES OF OPERATION (include info. on predecessors/successors if known):

ITT (Federal Telephone & Telegraph) owned and operated the Site from 1946 to 1996. In 1996, Related Retail Clifton, LP bought the Site and leased it to ITT, which remained the Site operator. In 1998, ITT repurchased the Site and continues to own and operate it today.

Note – in 2001, a portion of the Site identified as Block 83.01 Lot 1 was subdivided and sold to Related Retail Corporation. (ADC000248 at Tab 4)

DESCRIPTION OF FACILITY OPERATIONS (list CERCLA hazardous substances used, manufactured or present):

The Site operator, prior to purchase by ITT in 1946, was a country club and golf course. (ADC000429 at Tab 13)

The 50-acre Site is located in an area of Clifton occupied by both residences and industrial facilities. It is bordered to the north by NJ State Highway Route 3, a service station and a hotel. The eastern Site border is River Road and the southern Site boundary is Kingsland Road. The Third River, a tributary to the Passaic River, borders part of the Site to the west and flows around the property to the west, north and east. The Third River discharges to the Passaic River approximately one quarter mile east of the Site. (ADC000429 at Tab 13)

ITT assembles electronic equipment used in the defense industry. Historically, ITT manufactured television and radio tubes, telephones, radios, washing machines and printed circuit boards. Current Site operations include welding, soldering, painting, printing, degreasing, drilling, machining, grinding, assembly and product testing. (ADC000429 at Tab 13)

The following chemicals were stored in 55 gallon drums onsite:

- Methylene chloride
- Trichloroethene (TCE)
- 1,1,1-trichloroethane

(ADC000435 at Tab 13)

An industrial wastewater pretreatment facility was in operation from 1982 to 1990. Process operations feeding the system used plating baths of cadmium, chromium, copper, lead, molybdenum, nickel, silver, tin and zinc in addition to degreasing operations that used trichloroethene (TCE), and 1,1,1-trichloroethane. (ADC000436 and ADC000437 at Tab 13)

The following substances were identified in one or more Community Right To Know Chemical Inventory Reports for reporting periods January 1 – December 31, 1988, January 1 – December 31, 1994, January 1 – December 31, 2000:

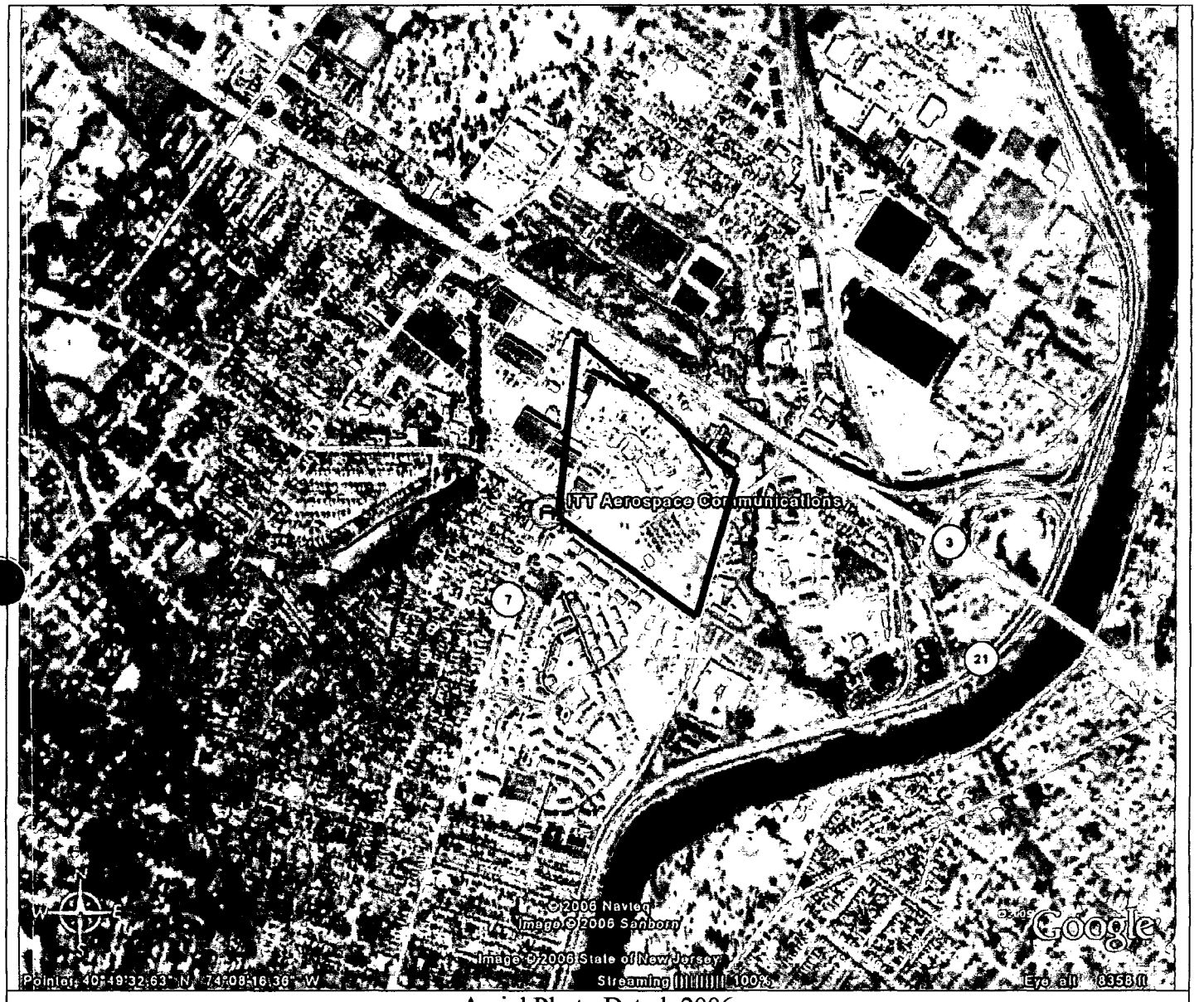
- 1,1,1- Trichloroethane
- Ethylene glycol
- No. 4 fuel oil
- Isopropyl alcohol
- Nitrogen
- Toluene
- Dichlorodifluoromethane
- Freon 113
- Sulfuric acid
- Xylene (mixed isomers)

- Ammonium persulfate
- Hydrogen chloride
- Copper chloride
- Muiatic acid
- Stannous chloride
- Hydrochloric acid
- Potassium hydroxide
- Chromic acid
- Methylene chloride
- Trichloroethylene
- Dipropylene glycol
- Acetic acid
- Dye
- Butyl acetate
- Cellosolve acetate
- Methyl ethyl ketone
- Mineral oil
- Hydroquinone
- Pine oil
- Zinc oxide
- Ethyl acetate
- Ethanol
- Diacetone alcohol
- Titanium dioxide
- Mineral spirits
- Cyclohexanone
- Heptane
- Acetone
- Isopropanol
- Polystyrene resin
- Hydrogen chloride
- Dipropylene glycol methyl ether
- Formaldehyde
- Methanol
- Copper
- Aluminum
- Sodium hydroxide
- Ammonium hydroxide
- Nitric acid
- Chlorine
- 1, 1, 2-trichloro-1, 2, 2-trifluoroethane
- Methyl isobutyl ketone
- Naptha solvent
- Methyl chloroform

(ADC000167 - 194 at Tab 1, ADC000309 - 339 at Tab 8, ADC000340 - 351 at Tab 9)

Aerial Photograph:

The following aerial photograph, annotated with the rough outline of the historical ITT Avionics facility, shows the approximate location of the ITT Site in Clifton, NJ.



Aerial Photo Dated: 2006
All annotated outlines and locations are approximations.
Source: Google Earth

On August 14, 1986 there was a release of 1,1,1-trichloroethane to the Site subsurface in the northeastern portion of the main manufacturing building. A groundwater investigation identified dissolved contaminants. A groundwater pump and treat system was designed and implemented. The treatment system has been in operation since 1992. (ADC000352 at Tab 10)

Site Soil Contamination:

- TPHC 12,000 ppm
- Arsenic 33.6 ppm
- Benzene 0.4 ppm
- 1,2-Dichloropropane 0.01 ppm
- Toluene 4.2 ppm
- Ethylbenzene 1.5 ppm
- Acetone 0.037 ppm
- 1,1,1-trichloroethane 0.12 ppm
- 1,2-dichloroethane 0.035 ppm
- 1,1- dichloroethene 0.039 ppm
- 1,2-trichloro-1,2,2-trifluoroethane 0.085 ppm

(ADC000511-513 at Tab 13, ADC000376 at Tab 11, ADC000278 at Tab 5)

Site Sediment Contamination:

No information available at this time.

Site Groundwater Contamination:

- 1,1,1-TCA 72,000 ppb
- 1,1 dichloroethene 20,000 ppb
- 1,1-dichloroethane 230 ppb
- 1,2-dichloroethane 8,100 ppb
- Benzene 250 ppb
- Carbon Tetrachloride 78 ppb
- Tetrachloroethene 130 ppb
- Toluene 830 ppb
- Ethylbenzene 760 ppb
- Xylene 280 ppb
- VOCs 101,152 ppb
- Chloroform 370 ppb
- Trichloroethene 180 ppb
- Chlorobenzene 15 ppb
- Methylene Chloride 5 ppb
- 1,2-Trans-dichloroethene 28 ppb

(ADC000244 at Tab 3, ADC000381 at Tab 11, ADC000448 – 450 at Tab 13, ADC000519 – 520 at Tab 13, ADC000522 at Tab 13,)

PERMITS (provide dates):

NPDES:

NJPDES-DGW Permit No. NJ0076023 issued May 1, 1990 required delineation of 1,1,1-TCA, benzene, toluene, ethylbenzene and xylene to a concentration of 1 ppm.
The permit was modified and reissued on April 23, 1992 and again on August 1, 1995 with an expiration date of August 1, 1998. (ADC000446 - 447 at Tab 13)

NJPDES Permit Number NJ020214 issued March 31 1992 and effective until April 30, 1997 authorized a discharge to the Third River (DSN001) and two discharges to the Passaic River (DSN 002 DSN 003). The effluent to the discharge points included thermal surface water discharge and stormwater run off.(ADC000288 at Tab 16)

ITT eliminated DSN 001 in 2002 and the permit was reissued effective through June 30, 2005. (ADC000387 at Tab 12)

POTW (pretreatment) :

No information available at this time.

NEXUS TO LOWER PASSAIC RIVER STUDY AREA (describe in detail; cite to supporting documentation; date or time period of disposal; list CERCLA hazardous substances; and volume, if known):

Direct (e.g. pipe, outfall, spill):

No information available at this time.

Sanitary Sewer (provide name and location of CSO; details regarding CSO overflows and dates):

Industrial process waste water was conveyed to a wastewater pretreatment system located in a sub-basement of the main building where chromium was reduced from hexavalent to trivalent, metal hydroxide was precipitated and wastewater was neutralized prior to discharge to the municipal sanitary sewer. This wastewater pretreatment system was in use from 1982 to 1990. (ADC000436 - 437 at Tab 13) It is unknown what pretreatment measures were in place prior to 1982 and post 1990.

City of Clifton sanitary sewer maps indicate that the local intercepting sewer passing through the ITT property joins the PVSC main interceptor at the location of the Yantacaw

bypass. Historic PVSC records and reports indicate that wastes were routinely bypassed from the local intercepting sewer and PVSC main interceptor to the Passaic River at this location. (ADC000595-596 at Tab 14, ADC000383-386 at Tab 17)

Storm Sewer (provide name and location of CSO; details regarding CSO overflows and dates):

Catch basins located throughout the Site discharge to the stormwater collection system. The Site stormwater collection system discharges to the Third River at River Road. (ADC000442 – 443 at Tab 13, ADC000259B at Tab 4)

March 31, 2001 – Approximately 50 gallons of ethylene glycol were spilled to the land and approximately 20 gallons of this substance reached the storm sewer and thence the Third River. (ADC000305 at Tab 6)

Additionally, boiler blowdown at the facility was historically piped to the stormwater collection system. Site drawings from 1975 stating "4-inch discharge line to be plugged relocating to sanitary line" indicate that prior to the date of this drawing all boiler blowdown from the facility was discharged from the Blowdown Tank to a 30" storm line that is part of the facility stormwater collection system. Based on this reference, boiler blowdown discharges have been made to the Third River from the ITT Site from the time period of facility start-up in 1946 until at least 1975. (ADC000597 at Tab 15) Boiler blowdown water is known to be an industrial wastewater and typically contains contaminants such as dissolved/suspended minerals, heavy metals (iron, copper), corrosion inhibitors, oil, and/or algaecides. (ADC000598 at Tab 18) Common industry guidance states that "Boiler blowdown must be managed as a wastewater source." (ADC000228 at Tab 19)

Runoff:

No information available at this time.

Groundwater:

August 14, 1986 – Approximately 300 gallons of 1,1,1-trichloroethane was released to the subsurface via a piping vault beneath the manufacturing building. In January of 1987, in accordance with an agreement with NJDEP, one monitoring well was installed down gradient of the spill. Groundwater was found to be contaminated with 1,1,1-trichloroethane. (ADC000307 at Tab 7, ADC000431-432 at Tab 13)

In order to assess the potential for the TCE contamination in groundwater to reach the Third River, solute transport calculations were performed for this constituent detected above standard in groundwater down gradient of the Site. These calculations

concluded that TCE did not attenuate to NJDEP Groundwater Quality standards for TCE prior to reaching the Third River. A detailed discussion of the calculations used in this assessment is provided in an April 15, 2002 H2M letter to NJDEP. (ADC000352 - 358 at Tab 10)

POTENTIAL NEXUS TO LOWER PASSAIC STUDY AREA:

Direct (e.g. pipe, outfall, spill):

No information available at this time.

Sanitary Sewer (provide name and location of CSO; details regarding CSO overflows and dates):

No information available at this time.

Storm Sewer (provide name and location of CSO; details regarding CSO overflows and dates):

No information available at this time

Runoff:

As indicated above, Site soil has been shown to be contaminated with a variety of hazardous substances. Runoff of contaminated soil to the Third River via the facility stormwater collection system is likely. Documents reviewed regarding on-site remedial investigation activities do not indicate that catch basin sediments at the Site were ever characterized. The presence of contaminated catch basin sediments can be an indicator of historic hazardous substance discharge to the receiving water body.

Direct runoff contamination of the Passaic River is also possible as the Site slopes towards the bordering Third River, which discharges to the Passaic River approximately one-quarter mile east of the Site. (ADC000429 at Tab 13)

Groundwater:

No information available at this time.

DEQ-094
10/00

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

PART 1

COMMUNITY RIGHT TO KNOW SURVEY FOR 2000

For State and Federal Community Right to Know Reporting

Please type this form.

THIS PAGE MUST BE COMPLETED, SIGNED, AND RETURNED.

20960500003 3812

STEVEN F. GAFFNEY
ATTN: ~~HENRY J. DRIESSE~~
*~~ITT CORPORATION,~~ AVIONICS DIVISION
100 KINGSLAND ROAD, DEPT. 79601
CLIFTON, NJ 07014
*ITT INDUSTRIES

A Facility Location - completion is mandatory

20960500003 1602

ITT INDUSTRIES
~~ITT CORPORATION,~~ AVIONICS DIVISION
100 KINGSLAND RD
CLIFTON, NJ 07014

Name, Street, City, State and Zip **MUST BE PROVIDED**

See instructions if information on these forms is incorrect.

B Does this facility **Produce, Store or Use** Environmental Hazardous Substances on Table A:
Darken either yes or no box

1. in any quantity? [X] Yes [ ] No
2. above thresholds? [X] Yes [ ] No

D Number of employees at facility: 940 ~~1035~~

E Number of facilities in New Jersey: 1

F Federal EIN: 135158950

C Briefly describe the nature of the operations or business conducted at this facility:
ELECTRONIC ASSEMBLY

G If you are claiming an R&D lab exemption for this facility, enter your approval number.

H Check box if facility is reporting pursuant only to Section 312 of the Federal Emergency Planning and Community Right to Know Act (EPCRA/SARA, Title III) [X]

I FACILITY EMERGENCY CONTACT

Name DONALD POLZO
Facility Phone Number (973)284-4036

Title MGR ENV. HEALTH & SFT 877-392-7829
Emergency Contact Phone Number ~~(973) 325-0079~~

NOTE: Check box only if the facility information in boxes A, D, E, I or J has changed since your last submittal. [x]

J CERTIFICATION OF OWNER/OPERATOR OR AUTHORIZED REPRESENTATIVE -- I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Signature _____ Date 2/15/01

Fax # 973 284-3345
Phone # 973 284-4036

Name STEVEN F. GAFFNEY

Title PRESIDENT

RETURNED SIGNED ORIGINAL TO:
NJDEP
Community Right To Know Survey
PO Box 405
Trenton, NJ 08625-0405

You are required to send copies of this survey to the agencies listed on Page 23 of the instruction guide. You must also keep a copy at your facility.

ADC000167

945750013

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ATTN:STEVEN F. GAFFNEY
ITT INDUSTRIES, ITT AVIONICS
100 KINGSLAND RD., DEPT. 79640
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
2000 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 2000

Please type all responses.
Photocopy this page if you need additional forms.
Read instructions carefully before completing this form.

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: 1,1,1-TRICHLOROETHANE	( ) Fire	Container Type OT
Substance Number: 1237	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 71-55-6	(√) Reactive	Avg. daily inventory 09
DOT Number: 2831	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) AATF/HVPS (68171)	
Name: 1,1,1-TRICHLOROETHANE	( ) Fire	Container Type CN
Substance Number: 1237	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 71-55-6	(√) Reactive	Avg. daily inventory 10
DOT Number: 2831	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) BOILER RM(78345)	
Name: 1,1,1-TRICHLOROETHANE	( ) Fire	Container Type CN
Substance Number: 1237	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 71-55-6	(√) Reactive	Avg. daily inventory 09
DOT Number: 2831	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) BOILER RM(78345)	
Name: 1,1,1-TRICHLOROETHANE	( ) Fire	Container Type OT
Substance Number: 1237	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 71-55-6	(√) Reactive	Avg. daily inventory 09
DOT Number: 2831	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) BTR/GEN ASMBLY(68171)	
Name: 1,1,1-TRICHLOROETHANE	( ) Fire	Container Type DS
Substance Number: 1237	( ) Sudden release of pressure	Max. daily inventory 13
CAS Number: 71-55-6	(√) Reactive	Avg. daily inventory 13
DOT Number: 2831	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) CHEMICAL STORAGE RM (X)	

CONTAINER CODES AND DESCRIPTIONS

TA Above ground tank	BA Bag
TB Below ground tank	BX Box
TI Tank inside building	CY Cylinder
DS Steel drum	BG Bottles or jugs (glass)
DP Plastic drum	BP Bottles or jugs (plastic)
DF Fiber drum	BN Tote bin
CN Can	TW Tank Wagon
CB Carboy	RC Railcar
SI Silo	OT Other (Describe)

INVENTORY RANGE CODES[1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 17 for gallon and cubic feet conversion factors

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
01 Ambient* pressure
02 Greater than ambient pressure
03 Less than ambient pressure

Temperature
04 Ambient temperature
05 Greater than ambient temperature
06 Less than ambient temperature but not cryogenic (freezing conditions)
07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding", or "room" conditions

DEQ-094

945750014

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ATTN:STEVEN F. GAFFNEY
ITT INDUSTRIES, ITT AVIONICS
100 KINGSLAND RD., DEPT. 79640
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
2000 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 2000

Please type all responses.
Photocopy this page if you need additional forms.
Read instructions carefully before completing this form.

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: 1,1,1-TRICHLOROETHANE	( ) Fire	Container Type BG
Substance Number: 1237	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 71-55-6	(√) Reactive	Avg. daily inventory 11
DOT Number: 2831	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( ) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MEL/PHYSICS LAB(76940)	
Name: 1,1,1-TRICHLOROETHANE	( ) Fire	Container Type BG
Substance Number: 1237	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 71-55-6	(√) Reactive	Avg. daily inventory 11
DOT Number: 2831	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MEL/PHYSICS LAB(76940)	
Name: 1,1,1-TRICHLOROETHANE	( ) Fire	Container Type CN
Substance Number: 1237	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 71-55-6	(√) Reactive	Avg. daily inventory 09
DOT Number: 2831	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MEL/TEST LAB(66671)	
Name: 1,1,1-TRICHLOROETHANE	( ) Fire	Container Type CN
Substance Number: 1237	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 71-55-6	(√) Reactive	Avg. daily inventory 09
DOT Number: 2831	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) TEM LAB/METROLOGY(64380)	
Name: ETHYLENE GLYCOL	( ) Fire	Container Type DS
Substance Number: 0878	( ) Sudden release of pressure	Max. daily inventory 12
CAS Number: 107-21-1	(√) Reactive	Avg. daily inventory 12
DOT Number: 1142	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) CHEMICAL STORAGE RM (X)	

CONTAINER CODES AND DESCRIPTIONS

TA Above ground tank	BA Bag
TB Below ground tank	BX Box
TI Tank inside building	CY Cylinder
DS Steel drum	BG Bottles or jugs (glass)
DP Plastic drum	BP Bottles or jugs (plastic)
DF Fiber drum	BN Tote bin
CN Can	TW Tank Wagon
CB Carboy	RC Railcar
SI Silo	OT Other (Describe)

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13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 17 for gallon and cubic feet conversion factors

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
01 Ambient* pressure
02 Greater than ambient pressure
03 Less than ambient pressure

Temperature
04 Ambient temperature
05 Greater than ambient temperature
06 Less than ambient temperature but not cryogenic (freezing conditions)
07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding", or "room" conditions

DEQ-094

945750015

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ATTN:STEVEN F. GAFFNEY
ITT INDUSTRIES, ITT AVIONICS
100 KINGSLAND RD., DEPT. 79640
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
2000 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 2000

Please type all responses.
Photocopy this page if you need additional forms.
Read instructions carefully before completing this form.

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ETHYLENE GLYCOL	( ) Fire	Container Type BP
Substance Number: 0878	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 107-21-1	(√) Reactive	Avg. daily inventory 09
DOT Number: 1142	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) CONF.COAT(68171)	

Name: ETHYLENE GLYCOL	( ) Fire	Container Type OT
Substance Number: 0878	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 107-21-1	(√) Reactive	Avg. daily inventory 09
DOT Number: 1142	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) LOGISTICS (63660)	

Name: ETHYLENE GLYCOL	( ) Fire	Container Type CN
Substance Number: 0878	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 107-21-1	(√) Reactive	Avg. daily inventory 09
DOT Number: 1142	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MAINT.BLDG.(78345)	

Name: ETHYLENE GLYCOL	( ) Fire	Container Type BP
Substance Number: 0878	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 107-21-1	(√) Reactive	Avg. daily inventory 09
DOT Number: 1142	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid (√) Liquid ( ) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MAINT.BLDG.(78345)	

Name: ETHYLENE GLYCOL	( ) Fire	Container Type BP
Substance Number: 0878	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 107-21-1	(√) Reactive	Avg. daily inventory 11
DOT Number: 1142	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MAINT.BLDG.(78345)	

CONTAINER CODES AND DESCRIPTIONS

TA Above ground tank	BA Bag
TB Below ground tank	BX Box
TI Tank inside building	CY Cylinder
DS Steel drum	BG Bottles or jugs (glass)
DP Plastic drum	BP Bottles or jugs (plastic)
DF Fiber drum	BN Tote bin
CN Can	TW Tank Wagon
CB Carboy	RC Railcar
SI Silo	OT Other (Describe)

INVENTORY RANGE CODES[1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 17 for gallon and cubic feet conversion factors

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
01 Ambient* pressure
02 Greater than ambient pressure
03 Less than ambient pressure

Temperature
04 Ambient temperature
05 Greater than ambient temperature
06 Less than ambient temperature but not cryogenic (freezing conditions)
07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding", or "room" conditions

DEQ-094

945750016

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 7

ATTN: STEVEN F. GAFFNEY
ITT INDUSTRIES, ITT AVIONICS
100 KINGSLAND RD., DEPT. 79640
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
2000 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 2000

Please type all responses.
Photocopy this page if you need additional forms.
Read instructions carefully before completing this form.

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ETHYLENE GLYCOL	( ) Fire	Container Type BG
Substance Number: 0878	( ) Sudden release of pressure	Max. daily inventory 10
CAS Number: 107-21-1	(√) Reactive	Avg. daily inventory 10
DOT Number: 1142	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( ) Check one	(√) Chronic health effects	Storage pressure 01
Solid (√) Liquid ( ) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MEL/PHYSICS LAB(76940)	
Name: ETHYLENE GLYCOL	( ) Fire	Container Type BP
Substance Number: 0878	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 107-21-1	(√) Reactive	Avg. daily inventory 09
DOT Number: 1142	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PRESS ROOM(77760)	
Name: ETHYLENE GLYCOL	( ) Fire	Container Type BP
Substance Number: 0878	( ) Sudden release of pressure	Max. daily inventory 10
CAS Number: 107-21-1	(√) Reactive	Avg. daily inventory 10
DOT Number: 1142	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PROTO/SPACE ASSEM(8543)	
Name: ETHYLENE GLYCOL	( ) Fire	Container Type OT
Substance Number: 0878	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 107-21-1	(√) Reactive	Avg. daily inventory 09
DOT Number: 1142	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PROTO/SPACE ASSEM(8543)	
Name: ETHYLENE GLYCOL	( ) Fire	Container Type OT
Substance Number: 0878	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 107-21-1	(√) Reactive	Avg. daily inventory 09
DOT Number: 1142	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) STOCKRM ENG.A/CD(8543)	

CONTAINER CODES AND DESCRIPTIONS

TA Above ground tank	BA Bag
TB Below ground tank	BX Box
TI Tank inside building	CY Cylinder
DS Steel drum	BG Bottles or jugs (glass)
DP Plastic drum	BP Bottles or jugs (plastic)
DF Fiber drum	BN Tote bin
CN Can	TW Tank Wagon
CB Carboy	RC Railcar
SI Silo	OT Other (Describe)

INVENTORY RANGE CODES[1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 17 for gallon and cubic feet conversion factors

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
01 Ambient* pressure
02 Greater than ambient pressure
03 Less than ambient pressure

Temperature
04 Ambient temperature
05 Greater than ambient temperature
06 Less than ambient temperature but not cryogenic (freezing conditions)
07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding", or "room" conditions

DEQ-094

945750017

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 7

ATTN: STEVEN F. GAFFNEY
ITT INDUSTRIES, ITT AVIONICS
100 KINGSLAND RD., DEPT. 79640
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
2000 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 2000

Please type all responses.
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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ETHYLENE GLYCOL	( ) Fire	Container Type OT
Substance Number: 0878	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 107-21-1	(√) Reactive	Avg. daily inventory 09
DOT Number: 1142	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid (√) Liquid ( ) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) TEM LAB/METROLOGY(64380)	
Name: FUEL OIL, NO. 4	( ) Fire	Container Type TI
Substance Number:	( ) Sudden release of pressure	Max. daily inventory 16
CAS Number: 68476-31-3	( ) Reactive	Avg. daily inventory 16
DOT Number:	( ) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	( ) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	(√) None per MSDS	Storage temperature 05
Trade Secret: ( ) Check if claiming	Location(s) BOILER RM(78345)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 10
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 10
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) AATF/HVPS (68171)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 13
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 13
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( ) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) AATF/HVPS (68171)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type OT
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) AATF/HVPS (68171)	

CONTAINER CODES AND DESCRIPTIONS

TA Above ground tank	BA Bag
TB Below ground tank	BX Box
TI Tank inside building	CY Cylinder
DS Steel drum	BG Bottles or jugs (glass)
DP Plastic drum	BP Bottles or jugs (plastic)
DF Fiber drum	BN Tote bin
CN Can	TW Tank Wagon
CB Carboy	RC Railcar
SI Silo	OT Other (Describe)

INVENTORY RANGE CODES[1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
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17	250,001 to 500,000 pounds
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15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 17 for gallon and cubic feet conversion factors

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
01 Ambient* pressure
02 Greater than ambient pressure
03 Less than ambient pressure

Temperature
04 Ambient temperature
05 Greater than ambient temperature
06 Less than ambient temperature but not cryogenic (freezing conditions)
07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding", or "room" conditions

DEQ-094

945750018

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 7

ATTN:STEVEN F. GAFFNEY
ITT INDUSTRIES, ITT AVIONICS
100 KINGSLAND RD., DEPT. 79640
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
2000 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 2000

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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BG
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 13
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 13
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( ) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) AATF/MICRO(68171)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type OT
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid (√) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) AATF/MICRO(68171)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type OT
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) AATF/MICRO(68171)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 10
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 10
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) ALQ-136/SIRFC LAB(72852)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 11
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( ) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) ALQ-136/SIRFC LAB(72852)	

CONTAINER CODES AND DESCRIPTIONS

TA Above ground tank	BA Bag
TB Below ground tank	BX Box
TI Tank inside building	CY Cylinder
DS Steel drum	BG Bottles or jugs (glass)
DP Plastic drum	BP Bottles or jugs (plastic)
DF Fiber drum	BN Tote bin
CN Can	TW Tank Wagon
CB Carboy	RC Railcar
SI Silo	OT Other (Describe)

INVENTORY RANGE CODES[1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1]NOTE: Please see pages 14 thru 17 for gallon and cubic feet conversion factors

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
01 Ambient* pressure
02 Greater than ambient pressure
03 Less than ambient pressure

Temperature
04 Ambient temperature
05 Greater than ambient temperature
06 Less than ambient temperature but not cryogenic (freezing conditions)
07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding", or "room" conditions

DEQ-094

945750019

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 7

ATTN:STEVEN F. GAFFNEY
ITT INDUSTRIES, ITT AVIONICS
100 KINGSLAND RD., DEPT. 79640
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
2000 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 2000

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Read instructions carefully before completing this form.

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) BOILER RM(78345)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) BOILER RM(78345)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BG
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) BTR/GEN ASMBLY(68171)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 13
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 13
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( ) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) BTR/GEN ASMBLY(68171)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 10
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 10
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) BTR/GEN ASMBLY(68171)	

CONTAINER CODES AND DESCRIPTIONS

TA Above ground tank	BA Bag
TB Below ground tank	BX Box
TI Tank inside building	CY Cylinder
DS Steel drum	BG Bottles or jugs (glass)
DP Plastic drum	BP Bottles or jugs (plastic)
DF Fiber drum	BN Tote bin
CN Can	TW Tank Wagon
CB Carboy	RC Railcar
SI Silo	OT Other (Describe)

INVENTORY RANGE CODES[1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 17 for gallon and cubic feet conversion factors

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
01 Ambient* pressure
02 Greater than ambient pressure
03 Less than ambient pressure

Temperature
04 Ambient temperature
05 Greater than ambient temperature
06 Less than ambient temperature but not cryogenic (freezing conditions)
07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding", or "room" conditions

DEQ-094

945750020

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 7

ATTN:STEVEN F. GAFFNEY
ITT INDUSTRIES, ITT AVIONICS
100 KINGSLAND RD., DEPT. 79640
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
2000 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 2000

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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type OT
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) BTR/GEN ASMBLY(68171)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type DS
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 12
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 12
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) CHEMICAL STORAGE RM (X)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type DS
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 13
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 13
[illegible] Number: 1219	(√) Acute health effects	Days on site 365
[illegible] (√) or Mixture ( ) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) CHEMICAL STORAGE RM (X)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 11
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) CHEMICAL STORAGE RM(64470)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BG
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) CHEMICAL STORAGE RM(64470)	

CONTAINER CODES AND DESCRIPTIONS

TA Above ground tank	BA Bag
TB Below ground tank	BX Box
TI Tank inside building	CY Cylinder
DS Steel drum	BG Bottles or jugs (glass)
DP Plastic drum	BP Bottles or jugs (plastic)
DF Fiber drum	BN Tote bin
CN Can	TW Tank Wagon
[illegible]B Carboy	RC Railcar
[illegible]I Silo	OT Other (Describe)

INVENTORY RANGE CODES[1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
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09	less than 1 pound

[1]NOTE: Please see pages 14 thru 17 for gallon and cubic feet conversion factors

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
01 Ambient* pressure
02 Greater than ambient pressure
03 Less than ambient pressure

Temperature
04 Ambient temperature
05 Greater than ambient temperature
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07 Cryogenic conditions (< -200° C)

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DEQ-094

945750021

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 7

ATTN:STEVEN F. GAFFNEY
ITT INDUSTRIES, ITT AVIONICS
100 KINGSLAND RD., DEPT. 79640
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
2000 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 2000

Please type all responses.
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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 10
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 10
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) COL. 5S (TUCS)	

Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 11
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) COL. 5S-8T (TUCS)	

Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 11
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( ) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) CONF.COAT(68171)	

Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 11
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) CONF.COAT(68171)	

Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 10
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 10
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( ) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) COPY ROOM(77760)	

CONTAINER CODES AND DESCRIPTIONS

TA Above ground tank	BA Bag
TB Below ground tank	BX Box
TI Tank inside building	CY Cylinder
DS Steel drum	BG Bottles or jugs (glass)
DP Plastic drum	BP Bottles or jugs (plastic)
DF Fiber drum	BN Tote bin
CN Can	TW Tank Wagon
CB Carboy	RC Railcar
SI Silo	OT Other (Describe)

INVENTORY RANGE CODES[1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 17 for gallon and cubic feet conversion factors

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
01 Ambient* pressure
02 Greater than ambient pressure
03 Less than ambient pressure

Temperature
04 Ambient temperature
05 Greater than ambient temperature
06 Less than ambient temperature but not cryogenic (freezing conditions)
07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding", or "room" conditions

DEQ-094

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 7

ATTN:STEVEN F. GAFFNEY
ITT INDUSTRIES, ITT AVIONICS
100 KINGSLAND RD., DEPT. 79640
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
2000 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 2000

Please type all responses.
Photocopy this page if you need additional forms.
Read instructions carefully before completing this form.

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) COPY ROOM/ACD(8540)	

Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) ENG.MECH/ACD(8531)	

Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 11
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) GRAPHICS(63560)	

Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 11
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( ) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) LOGISTICS (63660)	

Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MACHINE SHOP(68171)	

CONTAINER CODES AND DESCRIPTIONS

TA Above ground tank	BA Bag
TB Below ground tank	BX Box
TI Tank inside building	CY Cylinder
DS Steel drum	BG Bottles or jugs (glass)
DP Plastic drum	BP Bottles or jugs (plastic)
DF Fiber drum	BN Tote bin
CN Can	TW Tank Wagon
CB Carboy	RC Railcar
SI Silo	OT Other (Describe)

INVENTORY RANGE CODES[1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1]NOTE: Please see pages 14 thru 17 for gallon and cubic feet conversion factors

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
01 Ambient* pressure
02 Greater than ambient pressure
03 Less than ambient pressure

Temperature
04 Ambient temperature
05 Greater than ambient temperature
06 Less than ambient temperature but not cryogenic (freezing conditions)
07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding", or "room" conditions

DEQ-094

945750023

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 7

ATTN: STEVEN F. GAFFNEY
ITT INDUSTRIES, ITT AVIONICS
100 KINGSLAND RD., DEPT. 79640
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
2000 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 2000

Please type all responses.
Photocopy this page if you need additional forms.
Read instructions carefully before completing this form.

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MAILROOM/OFFICE SERV.(77841)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MAINT.BLDG.(78345)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 10
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MARKING RM(68171)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( ) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MATERIAL INSP(64470)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BG
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( ) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MATERIAL INSP(64470)	

CONTAINER CODES AND DESCRIPTIONS

TA Above ground tank	BA Bag
TB Below ground tank	BX Box
TI Tank inside building	CY Cylinder
DS Steel drum	BG Bottles or jugs (glass)
DP Plastic drum	BP Bottles or jugs (plastic)
DF Fiber drum	BN Tote bin
CN Can	TW Tank Wagon
CB Carboy	RC Railcar
SI Silo	OT Other (Describe)

INVENTORY RANGE CODES[1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
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15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 17 for gallon and cubic feet conversion factors

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
01 Ambient* pressure
02 Greater than ambient pressure
03 Less than ambient pressure

Temperature
04 Ambient temperature
05 Greater than ambient temperature
06 Less than ambient temperature but not cryogenic (freezing conditions)
07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding", or "room" conditions

DEQ-094

945750024

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 7

ATTN: STEVEN F. GAFFNEY
ITT INDUSTRIES, ITT AVIONICS
100 KINGSLAND RD., DEPT. 79640
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
2000 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 2000

Please type all responses.
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Read instructions carefully before completing this form.

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BG
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 13
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 13
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( ) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MEL/PHYSICS LAB(76940)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 11
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MEL/PHYSICS LAB(76940)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MEL/TEST LAB(66671)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 13
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 13
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( ) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MEL/TEST LAB(66671)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MFG.TECH CTR(65371)	

CONTAINER CODES AND DESCRIPTIONS

TA Above ground tank	BA Bag
TB Below ground tank	BX Box
TI Tank inside building	CY Cylinder
DS Steel drum	BG Bottles or jugs (glass)
DP Plastic drum	BP Bottles or jugs (plastic)
DF Fiber drum	BN Tote bin
CN Can	TW Tank Wagon
CB Carboy	RC Railcar
SI Silo	OT Other (Describe)

INVENTORY RANGE CODES[1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 17 for gallon and cubic feet conversion factors

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
01 Ambient* pressure
02 Greater than ambient pressure
03 Less than ambient pressure

Temperature
04 Ambient temperature
05 Greater than ambient temperature
06 Less than ambient temperature but not cryogenic (freezing conditions)
07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding", or "room" conditions

DEQ-094

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 7

ATTN:STEVEN F. GAFFNEY
ITT INDUSTRIES, ITT AVIONICS
100 KINGSLAND RD., DEPT. 79640
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
2000 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 2000

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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 06
Trade Secret: ( ) Check if claiming	Location(s) MFG.TECH CTR(65371)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MICRO DESIGN LAB(60851)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BG
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MICRO DESIGN LAB(60851)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BG
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 11
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( ) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MICRO DESIGN LAB(60851)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MICRO DESIGN LAB(60851)	

CONTAINER CODES AND DESCRIPTIONS

TA Above ground tank	BA Bag
TB Below ground tank	BX Box
TI Tank inside building	CY Cylinder
DS Steel drum	BG Bottles or jugs (glass)
DP Plastic drum	BP Bottles or jugs (plastic)
DF Fiber drum	BN Tote bin
CN Can	TW Tank Wagon
CB Carboy	RC Railcar
SI Silo	OT Other (Describe)

INVENTORY RANGE CODES[1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
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15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 17 for gallon and cubic feet conversion factors

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
01 Ambient* pressure
02 Greater than ambient pressure
03 Less than ambient pressure

Temperature
04 Ambient temperature
05 Greater than ambient temperature
06 Less than ambient temperature but not cryogenic (freezing conditions)
07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding", or "room" conditions

DEQ-094

945750026

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 7

ATTN:STEVEN F. GAFFNEY
ITT INDUSTRIES, ITT AVIONICS
100 KINGSLAND RD., DEPT. 79640
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
2000 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 2000

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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BG
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 13
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 13
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( ) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MICRO FAB(60851)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MICRO FAB(60851)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) NW STORAGE/MAINT(78345)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) NW STORAGE/MAINT(78345)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 11
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PAINT SHOP(68171)	

CONTAINER CODES AND DESCRIPTIONS

TA Above ground tank
TB Below ground tank
TI Tank inside building
DS Steel drum
DP Plastic drum
DF Fiber drum
CN Can
CB Carboy
SI Silo
BA Bag
BX Box
CY Cylinder
BG Bottles or jugs (glass)
BP Bottles or jugs (plastic)
BN Tote bin
TW Tank Wagon
RC Railcar
OT Other (Describe)

INVENTORY RANGE CODES[1]

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[1] NOTE: Please see pages 14 thru 17 for gallon and cubic feet conversion factors

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
01 Ambient* pressure
02 Greater than ambient pressure
03 Less than ambient pressure

Temperature
04 Ambient temperature
05 Greater than ambient temperature
06 Less than ambient temperature but not cryogenic (freezing conditions)
07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding", or "room" conditions

DEQ-094

945750027

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 7

ATTN: STEVEN F. GAFFNEY
ITT INDUSTRIES, ITT AVIONICS
100 KINGSLAND RD., DEPT. 79640
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
2000 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 2000

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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 11
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure (✓) or Mixture ( ) Check one	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PAINT SHOP(68171)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 10
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓) Check one	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PAINT SHOP(68171)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓) Check one	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PCB ASSEMBLY(68171)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type BG
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓) Check one	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PCB ASSEMBLY(68171)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 11
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓) Check one	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PCB ASSEMBLY(68171)	

CONTAINER CODES AND DESCRIPTIONS

TA Above ground tank	BA Bag
TB Below ground tank	BX Box
TI Tank inside building	CY Cylinder
DS Steel drum	BG Bottles or jugs (glass)
DP Plastic drum	BP Bottles or jugs (plastic)
DF Fiber drum	BN Tote bin
CN Can	TW Tank Wagon
CB Carboy	RC Railcar
SI Silo	OT Other (Describe)

INVENTORY RANGE CODES[1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 17 for gallon and cubic feet conversion factors

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
01 Ambient* pressure
02 Greater than ambient pressure
03 Less than ambient pressure

Temperature
04 Ambient temperature
05 Greater than ambient temperature
06 Less than ambient temperature but not cryogenic (freezing conditions)
07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding", or "room" conditions

DEQ-094

945750028

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 7

ATTN:STEVEN F. GAFFNEY
ITT INDUSTRIES, ITT AVIONICS
100 KINGSLAND RD., DEPT. 79640
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
2000 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 2000

Please type all responses.
Photocopy this page if you need additional forms.
Read instructions carefully before completing this form.

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 11
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( ) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PCB ASSEMBLY(68171)	

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 11
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( ) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) POWER SYST LAB(66451)	

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 10
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 10
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( ) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PRESS ROOM(77760)	

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid (√) Liquid ( ) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PRESS ROOM(77760)	

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PRESS ROOM(77760)	

CONTAINER CODES AND DESCRIPTIONS

TA Above ground tank	BA Bag
TB Below ground tank	BX Box
TI Tank inside building	CY Cylinder
DS Steel drum	BG Bottles or jugs (glass)
DP Plastic drum	BP Bottles or jugs (plastic)
DF Fiber drum	BN Tote bin
CN Can	TW Tank Wagon
CB Carboy	RC Railcar
SI Silo	OT Other (Describe)

INVENTORY RANGE CODES[1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 17 for gallon and cubic feet conversion factors

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
01 Ambient* pressure
02 Greater than ambient pressure
03 Less than ambient pressure

Temperature
04 Ambient temperature
05 Greater than ambient temperature
06 Less than ambient temperature but not cryogenic (freezing conditions)
07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding", or "room" conditions

DEQ-094

945750029

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 7

ATTN: STEVEN F. GAFFNEY
ITT INDUSTRIES, ITT AVIONICS
100 KINGSLAND RD., DEPT. 79640
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
2000 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 2000

Please type all responses.
Photocopy this page if you need additional forms.
Read instructions carefully before completing this form.

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas (√) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PROTO/SPACE ASSEM(8543)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BG
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PROTO/SPACE ASSEM(8543)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 13
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 13
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( ) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PROTO/SPACE ASSEM(8543)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 11
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PROTO/SPACE ASSEM(8543)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PURCHASE MTL INSP A/CD(8543)	

CONTAINER CODES AND DESCRIPTIONS

TA Above ground tank	BA Bag
TB Below ground tank	BX Box
TI Tank inside building	CY Cylinder
DS Steel drum	BG Bottles or jugs (glass)
DP Plastic drum	BP Bottles or jugs (plastic)
DF Fiber drum	BN Tote bin
CN Can	TW Tank Wagon
CB Carboy	RC Railcar
SI Silo	OT Other (Describe)

INVENTORY RANGE CODES[1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 17 for gallon and cubic feet conversion factors

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
01 Ambient* pressure
02 Greater than ambient pressure
03 Less than ambient pressure

Temperature
04 Ambient temperature
05 Greater than ambient temperature
06 Less than ambient temperature but not cryogenic (freezing conditions)
07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding", or "room" conditions

DEQ-094

945750030

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 7

ATTN:STEVEN F. GAFFNEY
ITT INDUSTRIES, ITT AVIONICS
100 KINGSLAND RD., DEPT. 79640
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
2000 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 2000

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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PURCHASE MTL INSP A/CD(8543)	

Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BG
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) SHEET METAL(68171)	

Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 11
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) SHEET METAL(68171)	

Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) SODEXHO CAFE(616)	

Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 10
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 10
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) TEM LAB/METROLOGY(64380)	

CONTAINER CODES AND DESCRIPTIONS

TA Above ground tank	BA Bag
TB Below ground tank	BX Box
TI Tank inside building	CY Cylinder
DS Steel drum	BG Bottles or jugs (glass)
DP Plastic drum	BP Bottles or jugs (plastic)
DF Fiber drum	BN Tote bin
CN Can	TW Tank Wagon
CB Carboy	RC Railcar
SI Silo	OT Other (Describe)

INVENTORY RANGE CODES[1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1]NOTE: Please see pages 14 thru 17 for gallon and cubic feet conversion factors

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
01 Ambient* pressure
02 Greater than ambient pressure
03 Less than ambient pressure

Temperature
04 Ambient temperature
05 Greater than ambient temperature
06 Less than ambient temperature but not cryogenic (freezing conditions)
07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding", or "room" conditions

DEQ-094

945750031

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 7

ATTN:STEVEN F. GAFFNEY
ITT INDUSTRIES, ITT AVIONICS
100 KINGSLAND RD., DEPT. 79640
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
2000 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 2000

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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 10
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 10
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) TEM LAB/METROLOGY(64380)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 10
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 10
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) TEM LAB/METROLOGY(64380)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type OT
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid (√) Liquid ( ) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) TEM LAB/METROLOGY(64380)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 10
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) TRAIN.RM(65540)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type OT
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) TRAIN.RM(65540)	

CONTAINER CODES AND DESCRIPTIONS

TA Above ground tank	BA Bag
TB Below ground tank	BX Box
TI Tank inside building	CY Cylinder
DS Steel drum	BG Bottles or jugs (glass)
DP Plastic drum	BP Bottles or jugs (plastic)
DF Fiber drum	BN Tote bin
CN Can	TW Tank Wagon
CB Carboy	RC Railcar
SI Silo	OT Other (Describe)

INVENTORY RANGE CODES[1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
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11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1]NOTE: Please see pages 14 thru 17 for gallon and cubic feet conversion factors

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
01 Ambient* pressure
02 Greater than ambient pressure
03 Less than ambient pressure

Temperature
04 Ambient temperature
05 Greater than ambient temperature
06 Less than ambient temperature but not cryogenic (freezing conditions)
07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding", or "room" conditions

DEQ-094

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 7

ATTN:STEVEN F. GAFFNEY
ITT INDUSTRIES, ITT AVIONICS
100 KINGSLAND RD., DEPT. 79640
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
2000 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 2000

Please type all responses.
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Read instructions carefully before completing this form.

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: NITROGEN	( ) Fire	Container Type CY
Substance Number:	( ) Sudden release of pressure	Max. daily inventory 13
CAS Number: 7727-37-9	( ) Reactive	Avg. daily inventory 13
DOT Number: 1066	( ) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓) Check one	( ) Chronic health effects	Storage pressure 02
Solid ( ) Liquid ( ) Gas (✓) Check one	(✓) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) AATF/MICRO(68171)	
Name: NITROGEN	( ) Fire	Container Type CY
Substance Number:	( ) Sudden release of pressure	Max. daily inventory 12
CAS Number: 7727-37-9	( ) Reactive	Avg. daily inventory 12
DOT Number: 1066	( ) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓) Check one	( ) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (✓) Gas (✓) Check one	(✓) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) BIG TEST RM(66671)	
Name: NITROGEN	( ) Fire	Container Type CY
Substance Number:	( ) Sudden release of pressure	Max. daily inventory 13
CAS Number: 7727-37-9	( ) Reactive	Avg. daily inventory 13
DOT Number: 1066	( ) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓) Check one	( ) Chronic health effects	Storage pressure 02
Solid ( ) Liquid ( ) Gas (✓) Check one	(✓) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) BIG TEST RM(66671)	
Name: NITROGEN	( ) Fire	Container Type CY
Substance Number:	( ) Sudden release of pressure	Max. daily inventory 13
CAS Number: 7727-37-9	( ) Reactive	Avg. daily inventory 13
DOT Number: 1066	( ) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓) Check one	( ) Chronic health effects	Storage pressure 02
Solid ( ) Liquid ( ) Gas (✓) Check one	(✓) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) DIGITAL DESIGN(62451)	
Name: NITROGEN	( ) Fire	Container Type OT
Substance Number:	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 7727-37-9	( ) Reactive	Avg. daily inventory 09
DOT Number: 1066	( ) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓) Check one	( ) Chronic health effects	Storage pressure 02
Solid (✓) Liquid ( ) Gas ( ) Check one	(✓) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MAINT.BLDG.(78345)	

CONTAINER CODES AND DESCRIPTIONS

TA Above ground tank	BA Bag
TB Below ground tank	BX Box
TI Tank inside building	CY Cylinder
DS Steel drum	BG Bottles or jugs (glass)
DP Plastic drum	BP Bottles or jugs (plastic)
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CN Can	TW Tank Wagon
CB Carboy	RC Railcar
SI Silo	OT Other (Describe)

INVENTORY RANGE CODES[1]

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15	50,001 to 100,000 pounds
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09	less than 1 pound

[1]NOTE: Please see pages 14 thru 17 for gallon and cubic feet conversion factors

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Pressure
01 Ambient* pressure
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Temperature
04 Ambient temperature
05 Greater than ambient temperature
06 Less than ambient temperature but not cryogenic (freezing conditions)
07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding", or "room" conditions

DEQ-094

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 7

ATTN: STEVEN F. GAFFNEY
ITT INDUSTRIES, ITT AVIONICS
100 KINGSLAND RD., DEPT. 79640
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
2000 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 2000

Please type all responses.
Photocopy this page if you need additional forms.
Read instructions carefully before completing this form.

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: NITROGEN	( ) Fire	Container Type CY
Substance Number:	( ) Sudden release of pressure	Max. daily inventory 12
CAS Number: 7727-37-9	( ) Reactive	Avg. daily inventory 12
DOT Number: 1066	( ) Acute health effects	Days on site 365
Pure (√) or Mixture ( ) Check one	( ) Chronic health effects	Storage pressure 01
Solid ( ) Liquid ( ) Gas (√) Check one	(√) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MEL/PHYSICS LAB(76940)	
Name: NITROGEN	( ) Fire	Container Type TA
Substance Number:	( ) Sudden release of pressure	Max. daily inventory 12
CAS Number: 7727-37-9	( ) Reactive	Avg. daily inventory 12
DOT Number: 1066	( ) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	( ) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (√) Gas (√) Check one	(√) None per MSDS	Storage temperature 07
Trade Secret: ( ) Check if claiming	Location(s) OUTSIDE BLDG/AATF HVPS(68171)	
Name: NITROGEN	( ) Fire	Container Type TA
Substance Number:	( ) Sudden release of pressure	Max. daily inventory 15
CAS Number: 7727-37-9	( ) Reactive	Avg. daily inventory 14
DOT Number: 1066	( ) Acute health effects	Days on site 365
[illegible] (√) or Mixture ( ) Check one	( ) Chronic health effects	Storage pressure 02
[illegible]d ( ) Liquid (√) Gas (√) Check one	(√) None per MSDS	Storage temperature 07
Trade Secret: ( ) Check if claiming	Location(s) OUTSIDE BLDG/MEL(66671)	
Name: NITROGEN	( ) Fire	Container Type TA
Substance Number:	( ) Sudden release of pressure	Max. daily inventory 15
CAS Number: 7727-37-9	( ) Reactive	Avg. daily inventory 14
DOT Number: 1066	( ) Acute health effects	Days on site 365
Pure (√) or Mixture ( ) Check one	( ) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (√) Gas (√) Check one	(√) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) OUTSIDE BLG/GPS SPACE (8534)	
Name: NITROGEN	( ) Fire	Container Type TA
Substance Number:	( ) Sudden release of pressure	Max. daily inventory 15
CAS Number: 7727-37-9	( ) Reactive	Avg. daily inventory 14
DOT Number: 1066	( ) Acute health effects	Days on site 365
Pure (√) or Mixture ( ) Check one	( ) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (√) Gas (√) Check one	(√) None per MSDS	Storage temperature 07
Trade Secret: ( ) Check if claiming	Location(s) OUTSIDE BLG/GPS SPACE (8534)	

CONTAINER CODES AND DESCRIPTIONS

TA Above ground tank	BA Bag
TB Below ground tank	BX Box
TI Tank inside building	CY Cylinder
DS Steel drum	BG Bottles or jugs (glass)
DP Plastic drum	BP Bottles or jugs (plastic)
DF Fiber drum	BN Tote bin
CN Can	TW Tank Wagon
CB Carboy	RC Railcar
[illegible] Silo	OT Other (Describe)

INVENTORY RANGE CODES[1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1]NOTE: Please see pages 14 thru 17 for gallon and cubic feet conversion factors

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
01 Ambient* pressure
02 Greater than ambient pressure
03 Less than ambient pressure

Temperature
04 Ambient temperature
05 Greater than ambient temperature
06 Less than ambient temperature but not cryogenic (freezing conditions)
07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding", or "room" conditions

DEQ-094

945750034

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 7

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PART 2
2000 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 2000

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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: NITROGEN	( ) Fire	Container Type CY
Substance Number:	( ) Sudden release of pressure	Max. daily inventory 13
CAS Number: 7727-37-9	( ) Reactive	Avg. daily inventory 13
DOT Number: 1066	( ) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓) Check one	( ) Chronic health effects	Storage pressure 02
Solid ( ) Liquid ( ) Gas (✓) Check one	(✓) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) POWER SYST LAB(66451)	
Name: TOLUENE	(✓) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 09
DOT Number: 1294	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓) Check one	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) AATF/HVPS (68171)	
Name: TOLUENE	(✓) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 11
DOT Number: 1294	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓) Check one	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) ALQ-136/SIRFC LAB(72852)	
Name: TOLUENE	(✓) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 10
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 10
DOT Number: 1294	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓) Check one	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) BOILER RM(78345)	
Name: TOLUENE	(✓) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 11
DOT Number: 1294	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓) Check one	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) BTR/GEN ASMBLY(68171)	

CONTAINER CODES AND DESCRIPTIONS

TA Above ground tank	BA Bag
TB Below ground tank	BX Box
TI Tank inside building	CY Cylinder
DS Steel drum	BG Bottles or jugs (glass)
DP Plastic drum	BP Bottles or jugs (plastic)
DF Fiber drum	BN Tote bin
CN Can	TW Tank Wagon
CB Carboy	RC Railcar
SI Silo	OT Other (Describe)

INVENTORY RANGE CODES[1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1]NOTE: Please see pages 14 thru 17 for gallon and cubic feet conversion factors

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
01 Ambient* pressure
02 Greater than ambient pressure
03 Less than ambient pressure

Temperature
04 Ambient temperature
05 Greater than ambient temperature
06 Less than ambient temperature but not cryogenic (freezing conditions)
07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding", or "room" conditions

DEQ-094

945750035

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 7

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PART 2
2000 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 2000

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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: TOLUENE	(√) Fire	Container Type BG
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 09
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) BTR/GEN ASMBLY(68171)	
Name: TOLUENE	(√) Fire	Container Type DS
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 12
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 12
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( ) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) CHEMICAL STORAGE RM (X)	
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 11
DOT Number: 1294	(√) Acute health effects	Days on site 365
[illegible] ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
[illegible]id ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) CHEMICAL STORAGE RM(64470)	
Name: TOLUENE	(√) Fire	Container Type BP
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 09
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid (√) Liquid ( ) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) CHEMICAL STORAGE RM(64470)	
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 12
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 11
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( ) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) CONF.COAT(68171)	

CONTAINER CODES AND DESCRIPTIONS

TA	Above ground tank	BA	Bag
TB	Below ground tank	BX	Box
TI	Tank inside building	CY	Cylinder
DS	Steel drum	BG	Bottles or jugs (glass)
DP	Plastic drum	BP	Bottles or jugs (plastic)
DF	Fiber drum	BN	Tote bin
CN	Can	TW	Tank Wagon
CB	Carboy	RC	Railcar
[illegible]	Silo	OT	Other (Describe)

INVENTORY RANGE CODES[1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
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09	less than 1 pound

[1] NOTE: Please see pages 14 thru 17 for gallon and cubic feet conversion factors

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
01 Ambient* pressure
02 Greater than ambient pressure
03 Less than ambient pressure

Temperature
04 Ambient temperature
05 Greater than ambient temperature
06 Less than ambient temperature but not cryogenic (freezing conditions)
07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding", or "room" conditions

DEQ-094

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 7

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PART 2
2000 CHEMICAL INVENTORY REPORT

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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 11
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) CONF.COAT(68171)	
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 09
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (√) Gas (√) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) DIGITAL DESIGN(62451)	
Name: TOLUENE	(√) Fire	Container Type BP
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 09
DOT Number: 1294	(√) Acute health effects	Days on site 365
( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
d ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) ENG.MECH/ACD(8531)	
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 09
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas (√) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) GRAPHICS(63560)	
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 11
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) LOGISTICS (63660)	

CONTAINER CODES AND DESCRIPTIONS

TA Above ground tank	BA Bag
TB Below ground tank	BX Box
TI Tank inside building	CY Cylinder
DS Steel drum	BG Bottles or jugs (glass)
DP Plastic drum	BP Bottles or jugs (plastic)
DF Fiber drum	BN Tote bin
CN Can	TW Tank Wagon
CB Carboy	RC Railcar
Silo	OT Other (Describe)

INVENTORY RANGE CODES[1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
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[1] NOTE: Please see pages 14 thru 17 for gallon and cubic feet conversion factors

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
01 Ambient* pressure
02 Greater than ambient pressure
03 Less than ambient pressure

Temperature
04 Ambient temperature
05 Greater than ambient temperature
06 Less than ambient temperature but not cryogenic (freezing conditions)
07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding", or "room" conditions

DEQ-094

945750037

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 7

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PART 2
2000 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 2000

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Read instructions carefully before completing this form.

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: TOLUENE	(√) Fire	Container Type BP
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 09
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MACHINE SHOP(68171)	
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 09
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MAINT.BLDG.(78345)	
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 09
DOT Number: 1294	(√) Acute health effects	Days on site 365
( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 02
id ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MAINT.BLDG.(78345)	
Name: TOLUENE	(√) Fire	Container Type BG
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 09
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( ) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MEL/PHYSICS LAB(76940)	
Name: TOLUENE	(√) Fire	Container Type BP
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 09
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MEL/TEST LAB(66671)	

CONTAINER CODES AND DESCRIPTIONS

TA Above ground tank	BA Bag
TB Below ground tank	BX Box
TI Tank inside building	CY Cylinder
DS Steel drum	BG Bottles or jugs (glass)
DP Plastic drum	BP Bottles or jugs (plastic)
DF Fiber drum	BN Tote bin
CN Can	TW Tank Wagon
CB Carboy	RC Railcar
Silo	OT Other (Describe)

INVENTORY RANGE CODES[1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
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15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
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[1] NOTE: Please see pages 14 thru 17 for gallon and cubic feet conversion factors

STORAGE TEMPERATURE AND PRESSURE CODES

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01 Ambient* pressure
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03 Less than ambient pressure

Temperature
04 Ambient temperature
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06 Less than ambient temperature but not cryogenic (freezing conditions)
07 Cryogenic conditions (< -200° C)

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DEQ-094

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 7

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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: TOLUENE	(✓) Fire	Container Type OT
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 09
DOT Number: 1294	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓) Check one	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MFG.TECH CTR(65371)	
Name: TOLUENE	(✓) Fire	Container Type BP
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 09
DOT Number: 1294	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓) Check one	(✓) Chronic health effects	Storage pressure 01
Solid (✓) Liquid ( ) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MICRO FAB(60851)	
Name: TOLUENE	(✓) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 12
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 11
DOT Number: 1294	(✓) Acute health effects	Days on site 365
Pure (✓) or Mixture ( ) Check one	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PAINT SHOP(68171)	
Name: TOLUENE	(✓) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 11
DOT Number: 1294	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓) Check one	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PAINT SHOP(68171)	
Name: TOLUENE	(✓) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 09
DOT Number: 1294	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓) Check one	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas (✓) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PROTO/SPACE ASSEM(8543)	

CONTAINER CODES AND DESCRIPTIONS

TA Above ground tank	BA Bag
TB Below ground tank	BX Box
TI Tank inside building	CY Cylinder
DS Steel drum	BG Bottles or jugs (glass)
DP Plastic drum	BP Bottles or jugs (plastic)
DF Fiber drum	BN Tote bin
CN Can	TW Tank Wagon
CB Carboy	RC Railcar
SI Silo	OT Other (Describe)

INVENTORY RANGE CODES[1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1]NOTE: Please see pages 14 thru 17 for gallon and cubic feet conversion factors

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
01 Ambient* pressure
02 Greater than ambient pressure
03 Less than ambient pressure

Temperature
04 Ambient temperature
05 Greater than ambient temperature
06 Less than ambient temperature but not cryogenic (freezing conditions)
07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding", or "room" conditions

DEQ-094

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2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 7

ATTN:STEVEN F. GAFFNEY
ITT INDUSTRIES, ITT AVIONICS
100 KINGSLAND RD., DEPT. 79640
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
2000 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 2000

Please type all responses.
Photocopy this page if you need additional forms.
Read instructions carefully before completing this form.

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 10
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 10
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PROTO/SPACE ASSEM(8543)	
Name: TOLUENE	(√) Fire	Container Type BG
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 11
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PROTO/SPACE ASSEM(8543)	
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 10
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 10
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√) Check one	(√) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (√) Gas ( ) Check one	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) TEM LAB/METROLOGY(64380)	
Name:	( ) Fire	Container Type
Substance Number:	( ) Sudden release of pressure	Max. daily inventory
CAS Number:	( ) Reactive	Avg. daily inventory
DOT Number:	( ) Acute health effects	Days on site
Pure ( ) or Mixture ( ) Check one	( ) Chronic health effects	Storage pressure
Solid ( ) Liquid ( ) Gas ( ) Check one	( ) None per MSDS	Storage temperature
Trade Secret: ( ) Check if claiming	Location(s)	
Name:	( ) Fire	Container Type
Substance Number:	( ) Sudden release of pressure	Max. daily inventory
CAS Number:	( ) Reactive	Avg. daily inventory
DOT Number:	( ) Acute health effects	Days on site
Pure ( ) or Mixture ( ) Check one	( ) Chronic health effects	Storage pressure
Solid ( ) Liquid ( ) Gas ( ) Check one	( ) None per MSDS	Storage temperature
Trade Secret: ( ) Check if claiming	Location(s)	

CONTAINER CODES AND DESCRIPTIONS

TA Above ground tank	BA Bag
TB Below ground tank	BX Box
TI Tank inside building	CY Cylinder
DS Steel drum	BG Bottles or jugs (glass)
DP Plastic drum	BP Bottles or jugs (plastic)
DF Fiber drum	BN Tote bin
CN Can	TW Tank Wagon
CB Carboy	RC Railcar
Silo	OT Other (Describe)

INVENTORY RANGE CODES[1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 17 for gallon and cubic feet conversion factors

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
01 Ambient* pressure
02 Greater than ambient pressure
03 Less than ambient pressure

Temperature
04 Ambient temperature
05 Greater than ambient temperature
06 Less than ambient temperature but not cryogenic (freezing conditions)
07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding", or "room" conditions

DEQ-094

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Decide with Confidence

Comprehensive Report

To save report(s) to your PC, click here for instructions.

Print this Report

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ATTN: **jbenthin@intell-group.com**

Report Printed: JAN 18 2006

Overview

BUSINESS SUMMARY

ITT INDUSTRIES, INC
(SUBSIDIARY OF ITT INDUSTRIES, INC., WHITE PLAINS, NY)
ITT AVIONICS DIVISION
100 Kingsland Dr
Clifton, NJ 07014

D&B D-U-N-S Number: 05-255-4441

NEW!

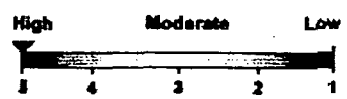
D&B's Credit Limit Recommendation
How much credit should you extend?
Learn More — **View Now**

Payment Trends Profile
Payment trends and industry benchmarks
Jump to Payment Trends

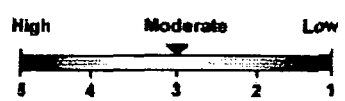
This is a **single (subsidiary)** location.

Web site:	www.ittind.com
Telephone:	973 284-2626
Fax:	973 284-4838
Chief executive:	CHRIS BERNHARDT, PRES
Year started:	2005
Employs:	undetermined
History:	INCOMPLETE
SIC:	3812
Line of business:	Mfg search/navigation equipment

Credit Score Class: 5
High risk of severe payment delinquency over next 12 months



Financial Stress Class: 3
Moderate risk of severe financial stress over the next 12 months



12-Month D&B PAYDEX®: 74
When weighted by dollar amount, payments to suppliers average 9 days beyond terms.

D&B Rating: --

D&B EXCLUSIVE

EXECUTIVE SUMMARY

The **Financial Stress Class of 3** for this company shows that during the previous year, firms with this classification had a failure rate of 3.73% (373 per 10,000), which is 2.66 times higher than the national average.

The **Credit Score class of 5** for this company shows that during the previous year, 58.6% of the firms with this classification paid one or more bills severely delinquent, which is 3.43 times higher than the national average.

Predictive Scores	This Business	Comments
Financial Stress Class	3	Failure Rate higher than the national average.
Financial Stress Score	1335	Highest Risk: 1,001; Lowest Risk: 1,850

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Credit Score Class	5	Probability of Severely Delinquent Payment is higher than the national average
Other Key Indicators		
PAYDEX Scores	9 days beyond terms	Pays more slowly than the average for its industry of 6 days beyond terms
Industry Median	6 days beyond terms	
Present management control	1 year	
UCC Filings	UCC filing(s) are reported for this business	
Public Filings	No record of open Suit(s), Lien(s), or Judgment(s) in the D&B database	
History	Is incomplete	

CREDIT CAPACITY SUMMARY

D&B Rating:--

The blank rating symbol should not be interpreted as indicating that credit should be denied. It simply means that the information available to D&B does not permit us to classify the company within our rating key and that further enquiry should be made before reaching a decision. Some reasons for using a "-" symbol include: deficit net worth, bankruptcy proceedings, insufficient payment information, or incomplete history information. For more information, see the D&B Rating Key.

# of Employees Total: undetermined

Payment Activity:
(based on 45 experiences)

Average High Credit:	$9,159
Highest Credit:	$100,000
Total Highest Credit:	$387,250

Jump to:

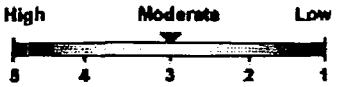
Overview | Payments | Public Filings | History & Operations | Banking & Finance

Scores D&B Exclusive

FINANCIAL STRESS SUMMARY

The Financial Stress Summary Model predicts the likelihood of a firm ceasing business without paying all creditors in full, or reorganization or obtaining relief from creditors under state/federal law over the next 12 months. Scores were calculated using a statistically valid model derived from D&B's extensive data files.

Financial Stress Class: 3



Moderate risk of severe financial stress, such as a bankruptcy, over the next 12 months.

Incidence of Financial Stress

Among Businesses with this Classification:	3.73% (373 per 10,000)
National Average	1.40% (140 per 10,000)

Financial Stress National Percentile: 8 (Highest Risk: 1; Lowest Risk: 100)

Financial Stress Score: 1335 (Highest Risk: 1,001; Lowest Risk: 1,850)

The Financial Stress Class of this business is based on the following factors:

- 38% of trade experiences indicate slow payment(s) are present.
- Payment experiences exist for this firm which are greater than 60 days past due.
- No record of open suit(s), lien(s), or judgement(s) in the D&B files.
- Control age or date entered in D&B files indicates higher risk.

Notes:

- The Financial Stress Class indicates that this firm shares some of the same business and financial characteristics of other companies with

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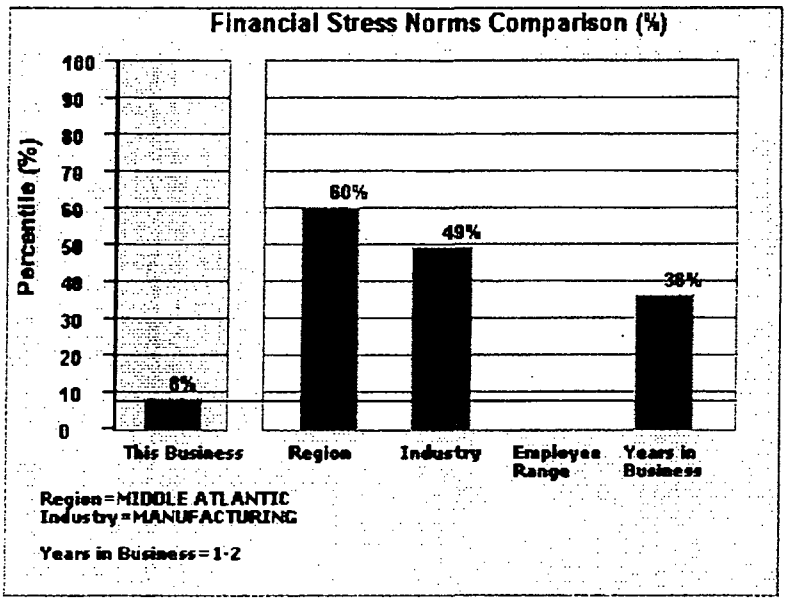
this classification. It does not mean the firm will necessarily experience financial stress.

- The Incidence of Financial Stress shows the percentage of firms in a given Class that discontinued operations over the past year with loss to creditors. The Incidence of Financial Stress - National Average represents the national failure rate and is provided for comparative purposes.
- The Financial Stress National Percentile reflects the relative ranking of a company among all scorable companies in D&B's file.
- The Financial Stress Score offers a more precise measure of the level of risk than the Class and Percentile. It is especially helpful to customers using a scorecard approach to determining overall business performance.
- All Financial Stress Class, Percentile, Score and Incidence statistics are based on 2002.



Norms	National %
This Business	8
Region: MIDDLE ATLANTIC	60
Industry: MANUFACTURING	49
Employee Range:	UN
Years in Business: 1-2	36

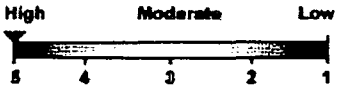
This business has a Financial Stress Percentile that shows:

- Higher risk than other companies in the same region.
- Higher risk than other companies in the same industry.
- Higher risk than other companies with a comparable number of years in business.

CREDIT SCORE CLASS SUMMARY

The Credit Score class predicts the likelihood of a firm paying in a severely delinquent manner (90+ Days Past Terms) over the next twelve months. It was calculated using statistically valid models and the most recent payment information in D&B's files.

Credit Score Class: 5



High risk of severe payment delinquency over next 12 months.

Incidence of Delinquent Payment

Among Companies with this Classification: 58.60%

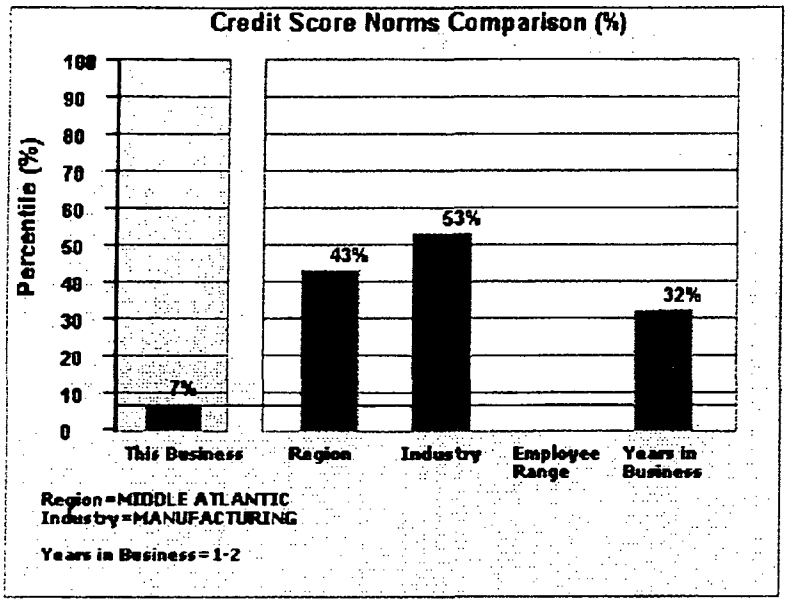
Credit Score Percentile: 7 (Highest Risk: 1; Lowest Risk: 100)

The Credit Score Class of this business is based on the following factors:

- Payment experiences exist for this firm which are greater than 60 days past due.
- 38% of trade experiences indicate slow payment(s) are present.
- No record of open suit(s), lien(s) or judgment(s) in the D&B files.
- Control age or date entered in D&B files indicates higher risk.
- Business does not own facilities.

Notes:

- The Incidence of Delinquent Payment is the percentage of companies with this classification that were reported 90 days past due or more by creditors. The calculation of this value is based on an inquiry weighted sample.
- The Percentile ranks this firm relative to other businesses. For example, a firm in the 80th percentile has a lower risk of paying in a severely delinquent manner than 79% of all scorable companies in D&B's files.



Norms	National %
This Business	7
Region: **MIDDLE ATLANTIC**	43
Industry: **MANUFACTURING**	53
Employee Range:	UN
Years in Business: **1-2**	32

This business has a Credit Score Percentile that shows:

- Higher risk than other companies in the same region.
- Higher risk than other companies in the same industry.
- Higher risk than other companies with a comparable number of years in business.

Jump to:

Overview | Scores | Public Filings | History & Operations | Banking & Finance

Payments D&B Exclusive

PAYMENT TRENDS

Total Payment Experiences in D&B's File:	45
Payments Within Terms: (not dollar weighted)	77%
Total Placed For Collection:	0
Average Highest Credit:	$9,159
Largest High Credit:	$100,000
Highest Now Owing:	$100,000
Highest Past Due:	$15,000

Current PAYDEX is:	**74**	equal to 9 days beyond terms
Industry Median is:	**76**	equal to 6 days beyond terms
Payment Trend currently is:	↔	**unchanged,** compared to payments three months ago

Indications of slowness can be the result of dispute over merchandise, skipped invoices, etc. Accounts are sometimes placed for collection even though the existence or amount of the debt is disputed.

PAYDEX Scores

Shows the D&B PAYDEX scores as calculated on the most recent 3 months and 12 months of payment experiences.

The D&B PAYDEX is a unique, dollar weighted indicator of payment performance based on up to payment experiences as reported to D&B by trade references. A detailed explanation of how to read and interpret PAYDEX scores can be found at the end of this report.

3-Month D&B PAYDEX: 74
When weighted by dollar amount, payments to suppliers average 9 days beyond terms.

12-Month D&B PAYDEX: 74
When weighted by dollar amount, payments to suppliers average 9 days beyond terms.

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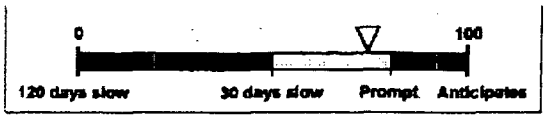


Based on payments collected over last 3 months.

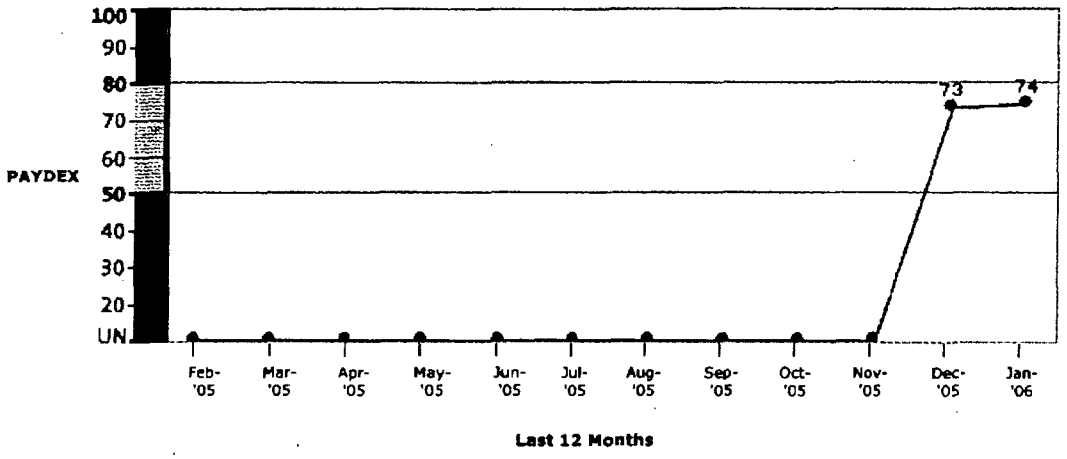
Based on payments collected over last 12 months.

PAYDEX Yearly Trend

12 Month PAYDEX Scores Comparison to Industry

	2/05	3/05	4/05	5/05	6/05	7/05	8/05	9/05	10/05	11/05	12/05	1/06
This Business	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN	73	74
Industry Quartiles												
Upper		79			79			79			79	
Median		75			75			75			76	
Lower		68			68			68			68	

Shows the trend in D&B PAYDEX scoring over the past 12 months.



Based on payments collected over the last 12 months.

- Current PAYDEX for this Business is 74, or equal to 9 days beyond terms
- The 12-month high is **74**, or equal to 9 days beyond terms
- The 12-month low is **unavailable**

PAYDEX Comparison to Industry

Shows PAYDEX scores of this Business compared to the Primary Industry from each of the last four quarters. The Primary Industry is Mfg search/navigation equipment, based on SIC code 3812.

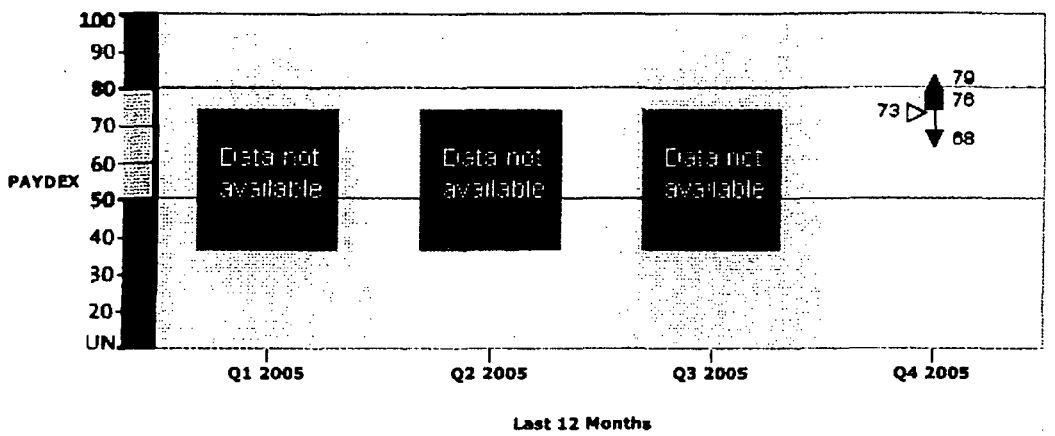
Quarterly PAYDEX Scores Comparison to Industry

Previous Year

	3/04	6/04	9/04	12/04
This Business	UN	UN	UN	UN
Industry Quartiles				
Upper	79	79	79	79
Median	75	75	75	75
Lower	68	68	68	68

Current Year

	3/05	6/05	9/05	12/05
This Business	UN	UN	UN	73
Industry Quartiles				
Upper	79	79	79	79
Median	75	75	75	76
Lower	68	68	68	68



Based on payments collected over the last 4 quarters.

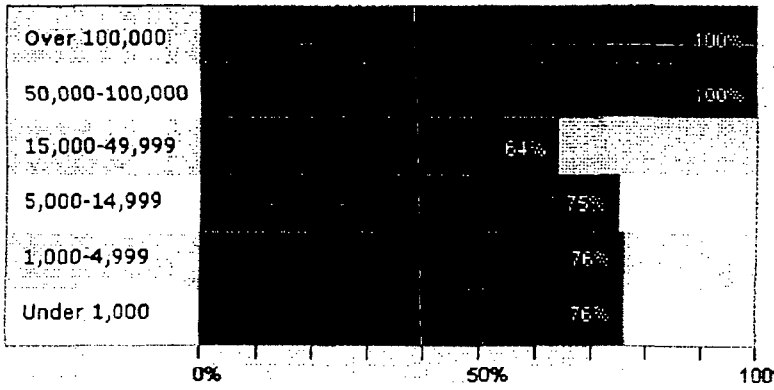
Score Comparison Key:	▷ This Business	▲ Industry upper quartile
		■ Industry median
		▼ Industry lower quartile

- Current **PAYDEX** for this Business is **74**, or equal to 9 days beyond terms
- The present industry **median score** is **76**, or equal to 6 days beyond terms.

- Industry upper quartile represents the performance of the payers in the 75th percentile
- Industry lower quartile represents the performance of the payers in the 25th percentile

Payment Habits

For all payment experiences within a given amount of credit extended, shows the percent that this Business paid within terms. Provides number of experiences used to calculate the percentage, and the total dollar value of the credit extended.



# Payment Experiences	$ Total Dollar Amount
1	$100,000
1	$80,000
5	$105,000
9	$72,500
12	$22,500
14	$4,700

Based on payments collected over the last 12 months.

Payment experiences reflect how bills are met in relation to the terms granted. In some instances, payment beyond terms can be the result of disputes over merchandise, skipped invoices, etc.

PAYMENT SUMMARY

The Payment Summary section reflects payment information in D&B's file as of the date of this report.

There are 45 payment experiences in D&B's file for the most recent 12 months, with 45 experiences reported during the last three month period.

Below is an overview of the company's dollar-weighted payments, segmented by its suppliers' primary industries:

	Total Rcv'd (#)	Total Dollar Amts ($)	Largest High Credit ($)	Within Terms (%)	Days Slow <31 (%)	31-60 (%)	61-90 (%)	90> (%)
Top industries:								
Nonclassified	8	215,250	100,000	99	0	1	0	0
Telephone communictns	6	3,600	2,500	87	13	0	0	0
Misc equipment rental	5	12,000	0	100	0	0	0	0
Whol computers/softwr	3	20,750	15,000	88	12	0	0	0
Radiotelephone commun	2	10,750	10,000	97	3	0	0	0
Trucking non-local	2	8,250	7,500	55	45	0	0	0
Whol electrical equip	2	2,000	1,000	0	100	0	0	0
Mfg environment cntrl	1	25,000	25,000	50	0	0	50	0
Mfg elect. components	1	25,000	25,000	50	50	0	0	0
Mfg guidance equip	1	25,000	25,000	50	50	0	0	0
Mfg industrial gases	1	10,000	10,000	0	100	0	0	0
Short-trm busn credit	1	10,000	10,000	100	0	0	0	0
Mfg inorganic chemcls	1	10,000	10,000	100	0	0	0	0
Whol durable goods	1	2,500	2,500	100	0	0	0	0
Mfg computers	1	2,500	2,500	0	0	0	0	100
Help supply service	1	1,000	1,000	0	50	50	0	0
Management services	1	500	500	100	0	0	0	0
Mfg fluid power pumps	1	250	250	50	50	0	0	0
Mfg soap/detergents	1	250	250	50	50	0	0	0
Ret mail-order house	1	50	50	100	0	0	0	0
Information retrieval	1	50	50	50	50	0	0	0
Other payment categories:								
Cash experiences	1	0	0					
Payment record unknown	2	2,550	2,500					
Unfavorable comments	0	0	0					
Placed for collections:								
With D&B	0	0	0					
Other	0	N/A	0					
Total in D&B's file	45		100,000					

The highest **Now Owes** on file is $100,000 The highest **Past Due** on file is $15,000

Accounts are sometimes placed for collection even though the existence or amount of the debt is disputed. Indications of slowness can be result of dispute over merchandise, skipped invoices, etc.

PAYMENT DETAILS

Detailed payment history

Date Reported (mm/yy)	Paying Record	High Credit ($)	Now Owes ($)	Past Due ($)	Selling Terms	Last Sale Within (months)
01/06	Slow 30	10,000				
12/05	Ppt		2,500	0		1 mo
	Ppt		1,000	0		1 mo
	Ppt		1,000	0		1 mo
	Ppt		5,000	2,500		1 mo
	Ppt		2,500	0		1 mo
	Ppt	100,000	100,000	0		1 mo
	Ppt	80,000	40,000	0		1 mo
	Ppt	10,000	2,500	0		

	Ppt	10,000	0	0		1 mo
	Ppt	10,000	2,500	0		1 mo
	Ppt	2,500	2,500	0		1 mo
	Ppt	2,500	500	50		1 mo
	Ppt	750	0	0		6-12 mos
	Ppt	100	0	0		2-3 mos
	Ppt	100	100	0		1 mo
	Ppt	50	0	0		4-5 mos
	Ppt	50	50	0		1 mo
	Ppt-Slow 30	25,000	1,000	500		1 mo
	Ppt-Slow 30	7,500	750	250		1 mo
	Ppt-Slow 30	750	250	0		1 mo
	Ppt-Slow 30	250	250	0	N30	1 mo
	Ppt-Slow 30	250	0	0		6-12 mos
	Ppt-Slow 30	50	50	0	N30	1 mo
	Ppt-Slow 60	5,000	5,000	1,000		1 mo
	Slow 90+	2,500	0	0		6-12 mos
	(027)	0	0	0	Cash account	1 mo
11/05	Ppt	15,000	2,500	0		1 mo
	Ppt	15,000	1,000	0		1 mo
	Ppt	10,000	2,500	0		1 mo
	Ppt	2,500	750	0		1 mo
	Ppt	2,500	2,500	0		1 mo
	Ppt	750	0	0		6-12 mos
	Ppt	500	500	0		1 mo
	Ppt	250	0	0		1 mo
	Ppt-Slow 30	5,000	2,500	1,000		1 mo
	Ppt-Slow 30	750	500	250		1 mo
	Ppt-Slow 90	25,000	5,000	0	N30	1 mo
	Slow 5	1,000	0	0	N30	2-3 mos
	Slow 25	1,000	1,000	0	N30	1 mo
	Slow 30	100	0	0		6-12 mos
	Slow 30-60	1,000	1,000	1,000		1 mo
	(043)	2,500	0	0	N10	6-12 mos
	(044)	50	0	0	N30	1 mo
10/05	Ppt-Slow 30	25,000	20,000	15,000	N30	1 mo

Payment experiences reflect how bills are met in relation to the terms granted. In some instances payment beyond terms can be the result of disputes over merchandise, skipped invoices etc.

Each experience shown is from a separate supplier. Updated trade experiences replace those previously reported.

Jump to:

Overview | Scores | Payments | History & Operations | Banking & Finance

Public Filings

PUBLIC FILINGS

The following data includes both open and closed filings found in D&B's database on the subject company.

Record Type	# of Records	Most Recent Filing Date
Bankruptcy Proceedings	0	-
Judgments	0	-
Liens	0	-
Suits	0	-
UCC's	18	09/30/2005

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The following Public Filing data is for information purposes only and is not the official record. Certified copies can only be obtained from the official source.

UCC FILINGS

Collateral:	Accounts receivable and proceeds - General intangibles(s) and proceeds - Leased Equipment and proceeds
Type:	Original
Sec. party:	CANON FINANCIAL SERVICES, INC., MT. LAUREL, NJ
Debtor:	ITT INDUSTRIES INC and OTHERS
Filing number:	5304345 3
Filed with:	SECRETARY OF STATE/UCC DIVISION, DOVER, DE
Date filed:	09/30/2005
Latest Info Received:	11/23/2005

Collateral:	Accounts receivable and proceeds - General intangibles(s) and proceeds - Leased Equipment and proceeds
Type:	Original
Sec. party:	CANON FINANCIAL SERVICES, INC., MT. LAUREL, NJ
Debtor:	ITT INDUSTRIES INC
Filing number:	5236859 6
Filed with:	SECRETARY OF STATE/UCC DIVISION, DOVER, DE
Date filed:	08/01/2005
Latest Info Received:	08/25/2005

Collateral:	Accounts receivable and proceeds - General intangibles(s) and proceeds - Leased Equipment and proceeds
Type:	Original
Sec. party:	CANON FINANCIAL SERVICES, INC., MT. LAUREL, NJ
Debtor:	ITT INDUSTRIES INC and OTHERS
Filing number:	5182737 8
Filed with:	SECRETARY OF STATE/UCC DIVISION, DOVER, DE
Date filed:	06/14/2005
Latest Info Received:	07/14/2005

Collateral:	Leased Assets - Leased Business machinery/equipment
Type:	Original
Sec. party:	CANON FINANCIAL SERVICES, INC., MT. LAUREL, NJ
Debtor:	ITT INDUSTRIES INC and OTHERS
Filing number:	4325926 6
Filed with:	SECRETARY OF STATE/UCC DIVISION, DOVER, DE
Date filed:	11/18/2004
Latest Info Received:	12/22/2004

Collateral:	Leased Assets - Leased Business machinery/equipment
Type:	Original
Sec. party:	CANON FINANCIAL SERVICES, INC., MT. LAUREL, NJ
Debtor:	ITT INDUSTRIES INC
Filing number:	3300190 9
Filed with:	SECRETARY OF STATE/UCC DIVISION, DOVER, DE
Date filed:	11/06/2003
Latest Info Received:	02/02/2004

Collateral:	Leased Assets - Leased Business machinery/equipment
Type:	Original
Sec. party:	CANON FINANCIAL SERVICES, INC., MT. LAUREL, NJ
Debtor:	ITT INDUSTRIES INC and OTHERS
Filing number:	3146903 3
Filed with:	SECRETARY OF STATE/UCC DIVISION, DOVER, DE
Date filed:	05/09/2003
Latest Info Received:	07/08/2003

Collateral:	Leased Assets - Leased Business machinery/equipment
Type:	Original
Sec. party:	CANON FINANCIAL SERVICES, INC., MT. LAUREL, NJ
Debtor:	ITT INDUSTRIES INC and OTHERS
Filing number:	3047500 7
Filed with:	SECRETARY OF STATE/UCC DIVISION, DOVER, DE
Date filed:	01/28/2003
Latest Info Received:	03/31/2003

Collateral:	Leased Assets - Leased Business machinery/equipment
Type:	Original
Sec. party:	CANON FINANCIAL SERVICES, INC., MT. LAUREL, NJ
Debtor:	ITT INDUSTRIES INC and OTHERS
Filing number:	3038022 3
Filed with:	SECRETARY OF STATE/UCC DIVISION, DOVER, DE
Date filed:	01/22/2003
Latest Info Received:	03/10/2003

Collateral:	Leased Assets - Leased Business machinery/equipment
Type:	Original
Sec. party:	CANON FINANCIAL SERVICES, INC., MT. LAUREL, NJ
Debtor:	ITT INDUSTRIES INC and OTHERS
Filing number:	3021747 4
Filed with:	SECRETARY OF STATE/UCC DIVISION, DOVER, DE
Date filed:	01/07/2003
Latest Info Received:	03/03/2003

Collateral:	Leased Assets - Leased Business machinery/equipment
Type:	Original
Sec. party:	CANON FINANCIAL SERVICES, INC., MT. LAUREL, NJ
Debtor:	ITT INDUSTRIES INC and OTHERS
Filing number:	3019464 0
Filed with:	SECRETARY OF STATE/UCC DIVISION, DOVER, DE
Date filed:	01/06/2003
Latest Info Received:	02/19/2003

There are additional UCC's in D&B's file on this company available by contacting 1-800-234-3867.

The public record items contained in this report may have been paid, terminated, vacated or released prior to the date this report was printed.

GOVERNMENT ACTIVITY

Activity summary

Borrower (Dir/Guar):	NO
Administrative debt:	NO
Contractor:	YES
Grantee:	NO
Party excluded from federal program(s):	NO

Possible candidate for socio-economic program consideration

Labor surplus area:	YES (2005)
Small Business:	N/A
8(A) firm:	N/A

The details provided in the Government Activity section are as reported to Dun & Bradstreet by the federal government and other sources.

Jump to:

Overview | Scores | Payments | Public Filings | Banking & Finance

History & Operations

HISTORY

The following information was reported **12/19/2005**:

Officer(s): CHRIS BERNHARDT, PRES

DIRECTOR(S): THE OFFICER(S)

Corportae details unavailable.

Business started 2005.

CHRIS BERNHARDT. Work history undetermined.

CORPORATE FAMILY

For more details on the Corporate Family, view the interactive global family tree

945750051

Buy Selected Report(s)

Parent:
Select business below to buy a Comprehensive Report.

Itt Industries, Inc.	White Plains, NY	DUNS # 00-121-6845

Affiliates (US):*(Affiliated companies share the same parent company as this business.)*
Select businesses below to buy Comprehensive Report(s).

C & K Components Inc	Newton, MA	DUNS # 00-100-9901
Carbon Industries Inc	Charleston, WV	DUNS # 08-459-2120
Computer Equipment Leasing Co Inc	Port Washington, NY	DUNS # 16-149-2785
Cotter Corporation	Danvers, MA	DUNS # 05-005-5912
Fallwest Corporation	White Plains, NY	DUNS # 78-708-3567
Flowtronex PSI Corp	Dallas, TX	DUNS # 07-486-9967
Gilcron Corp	Van Nuys, CA	DUNS # 07-726-0974
Gilcron Corporation	White Plains, NY	DUNS # 12-022-7785
Goulds Pumps Water Treatment Corporation	Seneca Falls, NY	DUNS # 79-478-3381
I.T.t Gilfillan Inc	White Plains, NY	DUNS # 12-057-1216
ITT Advanced Engineering & Sciences	Reston, VA	DUNS # 12-432-7078
ITT Antarctic Services Inc	White Plains, NY	DUNS # 12-022-8072
ITT Avionics Systems International Inc	White Plains, NY	DUNS # 12-045-6202
ITT Commercial Services Inc	White Plains, NY	DUNS # 12-045-8653
ITT Community Development Corp	Flagler Beach, FL	DUNS # 06-914-8492
ITT Community Development Corporation	White Plains, NY	DUNS # 61-329-7923
ITT Defense	Mc Lean, VA	DUNS # 80-103-9371
ITT Delaware Investments Inc	White Plains, NY	DUNS # 61-330-2673
ITT Federal Services International Corporation	White Plains, NY	DUNS # 12-054-6226
ITT Fluid Technology Corp	Upper Saddle River, NJ	DUNS # 80-019-8905
ITT Flygt Corporation	Trumbull, CT	DUNS # 00-240-6106
ITT Fsc Investment Corporation	White Plains, NY	DUNS # 12-056-5978
ITT Industries Space Systems, LLC	Rochester, NY	DUNS # 16-456-1651
ITT Job Training Services Inc	White Plains, NY	DUNS # 12-057-4053
ITT Systems & Science Corporation	White Plains, NY	DUNS # 12-059-4242

This list is limited to the first 25 affiliates.
For the complete list, view the interactive global family tree

Affiliates (International):*(Affiliated companies share the same parent company as this business.)*
Select companies below to buy Business Information Report(s).

1448170 Ontario Limited	Port Colborne, CANADA	DUNS # 20-288-2630
Bombas Goulds de México, S. de R.L. de C.V.	TIZAYUCA, MEXICO	DUNS # 81-064-6158
GOULDS PUMPS TAIWAN, INC.	Taipei City, TAIWAN	DUNS # 65-638-4682
ITT Automotive Fluid Handling Systems, S.A. de C.V.	SALTILLO, MEXICO	DUNS # 81-251-6490
ITT Canada Company	TORONTO, CANADA	DUNS # 20-221-5943
ITT CANNON CO.,LTD.	ZAMA, JAPAN	DUNS # 69-076-4550
ITT CORPORATION LTD	Basingstoke, UK (ENGLAND, SCOTLAND, WALES, N.IRELAND)	DUNS # 22-953-7956

ITT INDUSTRIES	DOLE, FRANCE	DUNS # 27-641-1493
ITT Industries German Holding GmbH	Frankfurt am Main, GERMANY	DUNS # 33-274-4692
ITT Industries Management GmbH	Frankfurt am Main, GERMANY	DUNS # 33-194-1299
ITT Logistic GmbH	FRENSDORF, GERMANY	DUNS # 31-596-9795
Silicone Technologies, S. de R.L.	MATAMOROS, MEXICO	DUNS # 81-265-0448

Buy Selected Report(s)

OPERATIONS

12/19/2005

Description: Subsidiary of Itt Industries, Inc., White Plains, NY which operates as manufacturer of search, detection or navigation systems or instruments.

Manufactures search, detection or navigation systems or instruments.

Employees: undetermined.

SIC & NAICS

SIC:
Based on information in our file, D&B has assigned this company an extended 8-digit SIC. D&B's use of 8-digit SICs enables us to be more specific to a company's operations than if we use the standard 4-digit code.

The 4-digit SIC numbers link to the description on the Occupational Safety & Health Administration (OSHA) Web site. Links open in a new browser window.

38120000 Search and navigation equipment

NAICS:

334511 Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing

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Jump to:

Overview | Scores | Payments | Public Filings | History & Operations

Banking & Finance

KEY BUSINESS RATIOS

D&B has been unable to obtain sufficient financial information from this company to calculate business ratios. Our check of additional outside sources also found no information available on its financial performance.

FINANCE

12/19/2005

On December 19, 2005 a representative verified the history and operations of the business.

On December 19, 2005 a representative verified the history and operations of the business.

CUSTOMER SERVICE

If you have questions about this report, please call our Customer Resource Center at 1.800.234.3867 from anywhere within the U.S. If you are outside the U.S. contact your local D&B office.

*** Additional Decision Support Available ***

Additional D&B products, monitoring services and specialized investigations are available to help you evaluate this company or its industry. Call Dun & Bradstreet's Customer Resource Center at 1.800.234.3867 from anywhere within the U.S. or visit our website at www.dnb.com.

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H2MGROUP

Holzmacher, McLendon & Murrell, P.C. • H2M Associates, Inc.
H2M Construction Management, Inc. • H2M Labs, Inc.

ACEC Member
Supporting Excellence
In Engineering

555 Preakness Avenue, Totowa, N.J. 07512
(201) 942-0700 • Fax (201) 942-1333

Via Federal Express

December 6, 1996

Mr. Gary Lipsius
New Jersey Department of Environmental Protection
Division of Responsible Party Site Remediation
Bureau of State Case Management
401 East State Street
Trenton, New Jersey 08625

Re: Remedial Investigation Report and Remedial Action Work Plan
ITT Avionics Division, Clifton, New Jersey
ISRA Case No. E96303

Dear Mr. Lipsius:

On behalf of ITT Avionics Division and in accordance with your request during our meeting of November 19, 1996 at the ITT Avionics Division Facility, we are providing herewith the following documents:

1. Site maps identifying storm sewers at the facility [Drawing D11643, 4/29/75, Boiler Blowdown piping Clifton Plant, ITT Avionics Division, Plant Engineering Department; Job No. 45-117-B, Site Drainage and Utilities, last revised 5/22/47, Giffels & Vallet Inc.].

2. Facility plans identifying floor drains within the facility [Drawing 1-M, Job No. 45-717-B, Garage-Mechanical Trades, last revised 5/22/47, Giffels & Vallet Inc.; Drawing 10, Job No. 45-117-B, Piping Plan Basement East Wing, last revised 8/27/65, Giffels & Vallet Inc.; Drawing 9-M, Job No. 45-117-B, Piping Plan Basement West Wing, last revised 10/10/63, Giffels &.Vallet Inc.; Drawing P-2, Job No. 452-2, First Floor plan Plumbing, Louis S. Weeks Inc., Record Drawing-Eugene Duklauer Inc.; Drawing P-2, Job No. 452, Mezzanine Floor Plan Plumbing Building B-1, 2/11/44, Louis S. Weeks Inc., Record Drawing-Eugene Duklauer Inc.; Drawing P-3, Job No. 452-2, Mezzanine Floor Plan Plumbing, Louis S. Weeks Inc., Record Drawing-Eugene Duklauer Inc.; Drawing P-1, Job No. 452, First Floor Plan Plumbing Building B-1, 2/11/44, Louis S. Weeks Inc., Record Drawing-Eugene Duklauer Inc.; Drawing No. HPV-6, Job No. 452, Cellar Plan Ventilating Heating & Plumbing Building B-1, 2/11/44, Louis S. Weeks Inc., Record Drawing-Eugene Duklauer Inc.].

3. Drawings identifying the location of injection wells installed as part of AOC 1 source area remediation [H2M Drawing zita\zita9601\cleanox\96pilot\cad\intwell.dwg].

4. Groundwater Elevation Contour Map representing pre-pumping conditions in November 1990 in the vicinity of AOC 1 [H2M Drawing itta9102\cntr1190.dwg] and a Groundwater Elevation Map for September 27, 1995 in the vicinity of AOC 3 and AOC 4 [H2M Drawing zita\zita9601\isra\aoc3}4.dwg].

5. Copy of the February 1996, May 1996 and August 1996 groundwater monitoring data.

H2M GROUP

In addition, we discussed four modifications to the proposed investigation outlined in the Remedial Action Workplan (RAWP) transmitted to you under cover letter dated August 7, 1996.

1. Groundwater - AOC 3 and AOC 4: The proposed two rounds of groundwater monitoring at AOC 3 (i.e., MW-203, MW-204 and MW-205) and AOC 4 (i.e., MW-APC1-A and MW-APC1-B) will be performed concurrently so that groundwater elevation contour maps can be developed utilizing the five monitoring wells.

2. Soil - AOC 4: Because a paint storage room is located in the corner of the building with a wood floor, we will collect a soil sample pursuant to N.J.A.C. 7:26E-3.6(a)4.i. The soil sample will be collected between six and twenty four inches below the soil surface. The eighteen inch core will be field screened with a portable photoionization detector to select the six inch section exhibiting the highest reading. The soil sampling location will be biased based on inspection of the surface after having removed the wood floor. It will be analyzed for total petroleum hydrocarbons (Method 418.1) and volatile organic compounds additionally calibrated for xylene with a forward library search for tentatively identified compounds utilizing USEPA Method 624.

3. Concrete Floor - AOC 6: The eleven floor chip samples proposed to be collected will be biased based on inspection of the floor surface. The sampling locations will be photo documented with one of the eleven samples being collected as a floor core in the drainage path between the distillation unit and the nearest floor drain. After removing the core, the underlying soils will be field screened utilizing a portable photoionization detector with an 11.7 ev probe. In addition, the thickness of the floor will be measured at the core location. The floor samples will be analyzed for VOCs and priority pollutant metals in accordance with the RAWP.

4. Soil - AOC 8: In addition to the location identified in the RAWP (hereafter referred to as AOC 8a), a surface soil sample will be collected from the area without vegetation located just north of the east River Road entrance gate (hereafter referred to as AOC 8b). The AOC 8b soil sample will be analyzed for the same parameters as the AOC 8a sample (priority pollutant metals and total petroleum hydrocarbons)

If you should have any questions or comments, please feel free to contact this office.

Very truly yours,
H2M ASSOCIATES, INC.

Stanley G. Puszcz, P.E., CGWP

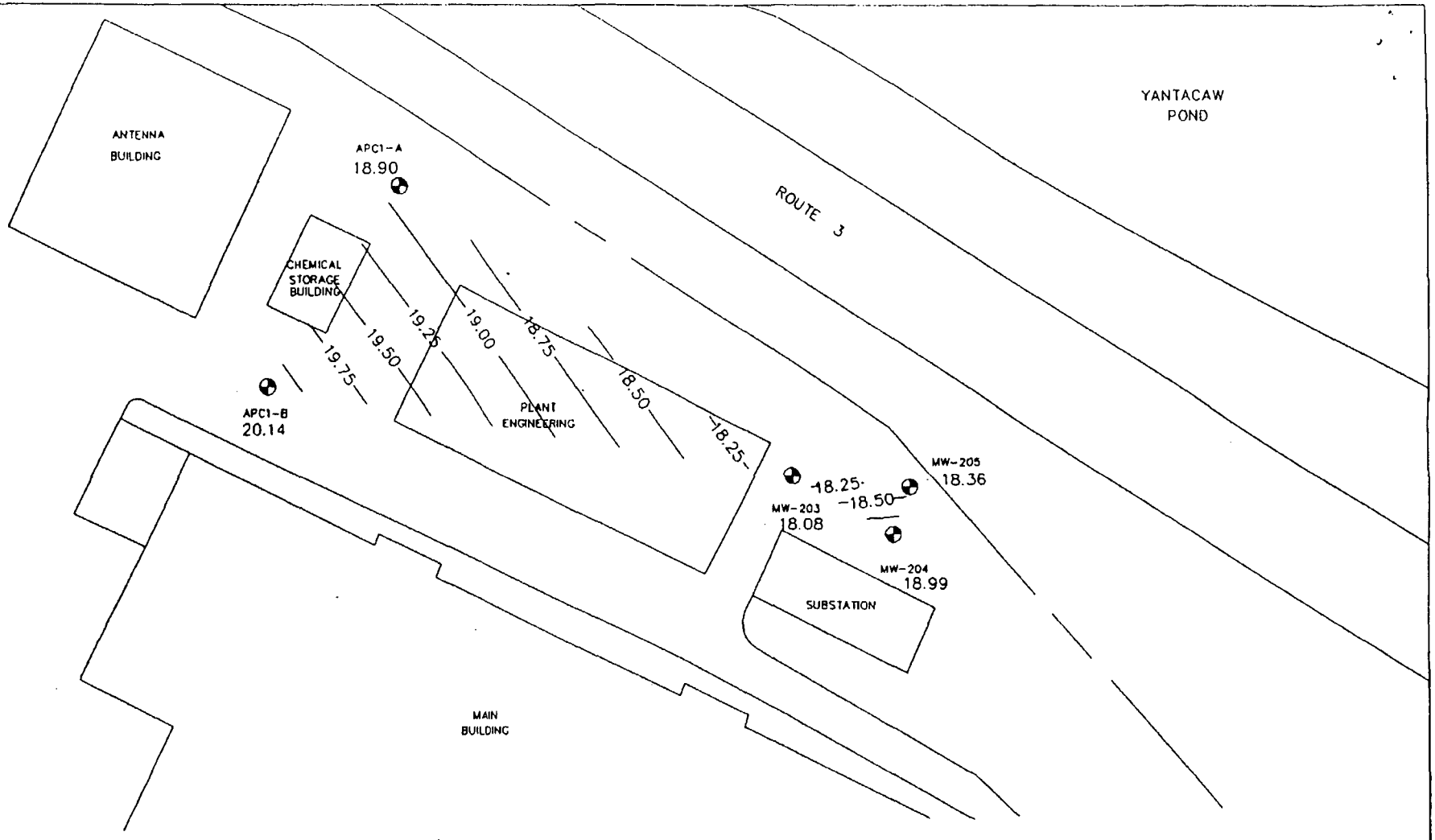
CC: Ronald J. Wienckoski, Jr., NJDEP, BFO
George Nicholas, NJDEP
Donald T. Polzo, ITT Avionics Division
Jack Russo, ITT Avionics Division
Alan Leibowitz, ITT Defense and Electronics
Andrew DiCicco, Esq., ITT Defense and Electronics

Enc.

Volatile Organic Compounds
Quantified in Groundwater (ug/l)
ITT Avionics Division
Clifton, New Jersey
May 1996 , August 1996

Parameter	MW-1 **	MW-2 **	MW-4 **	MW-6 **	MW-10 **	MW-11 **	Tower Influent **	Tower Efluent **	Tower Influent ***	Tower Effluent ***	MW-2 ***
1,1-Dichloroethene	38	<1	<1	49	97	11000	380	<1	490	<1	<1
1,2-Dichloroethene (trans)	<1	<1	<1	<1	<1	<1	<1	<1	5	<1	<1
1,1-Dichloroethane	<1	<1	<1	<1	1	230	6	<1	19	<1	<1
Chloroform	1	<1	<1	2	3	6	2	<1	2	<1	<1
1,2-Dichloroethane	<1	<1	<1	<1	2	78	6	<1	5	<1	<1
1,1,1-Trichloroethane	70	<1	<1	95	240	21000	980	<1	1100	<1	<1
Carbon Tetrachloride	<1	<1	<1	<1	9	<1	27	<1	30	<1	<1
Tetrachloroethene	<1	<1	<1	13	7	6	9	<1	7	<1	<1
Trichloroethene	11	<1	<1	<1	41	63	64	<1	53	<1	<1
Benzene	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1
Toluene	<1	<1	4	<1	<1	<1	<1	<1	<1	<1	<1
Xylene (Total)	<1	<1	280	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1	160	<1	<1	<1	<1	<1	<1	<1	<1
TOTAL	120	2	444	159	400	32384	1474	0	1711	0	0

Notes:
** - Sample collected May 1996.
*** - Sample collected August 1996.



SHALLOW GROUNDWATER ELEVATION
ITT AVIONICS DIVISION
SEPTEMBER 1995

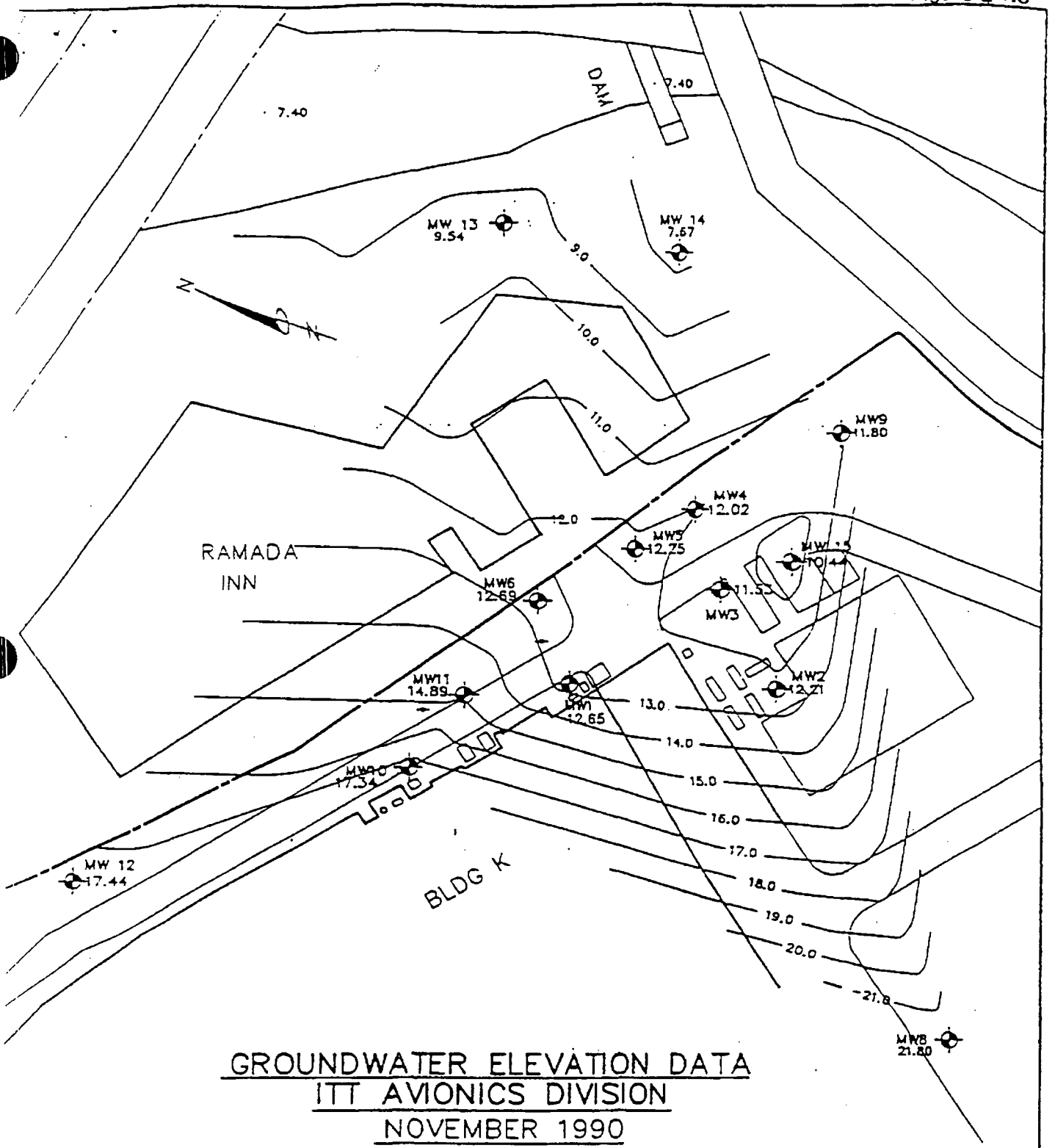
SCALE (ft):
0' 50' 100'

H2MGROUP ENGINEERS ARCHITECTS PLANNERS SCIENTISTS SURVEYORS
MELVILLE, N.Y. FAIRFIELD, N.J.

ADC000245

945750058

Figure 2-18



GROUNDWATER ELEVATION DATA
ITT AVIONICS DIVISION
NOVEMBER 1990

SCALE: 1" = 100'

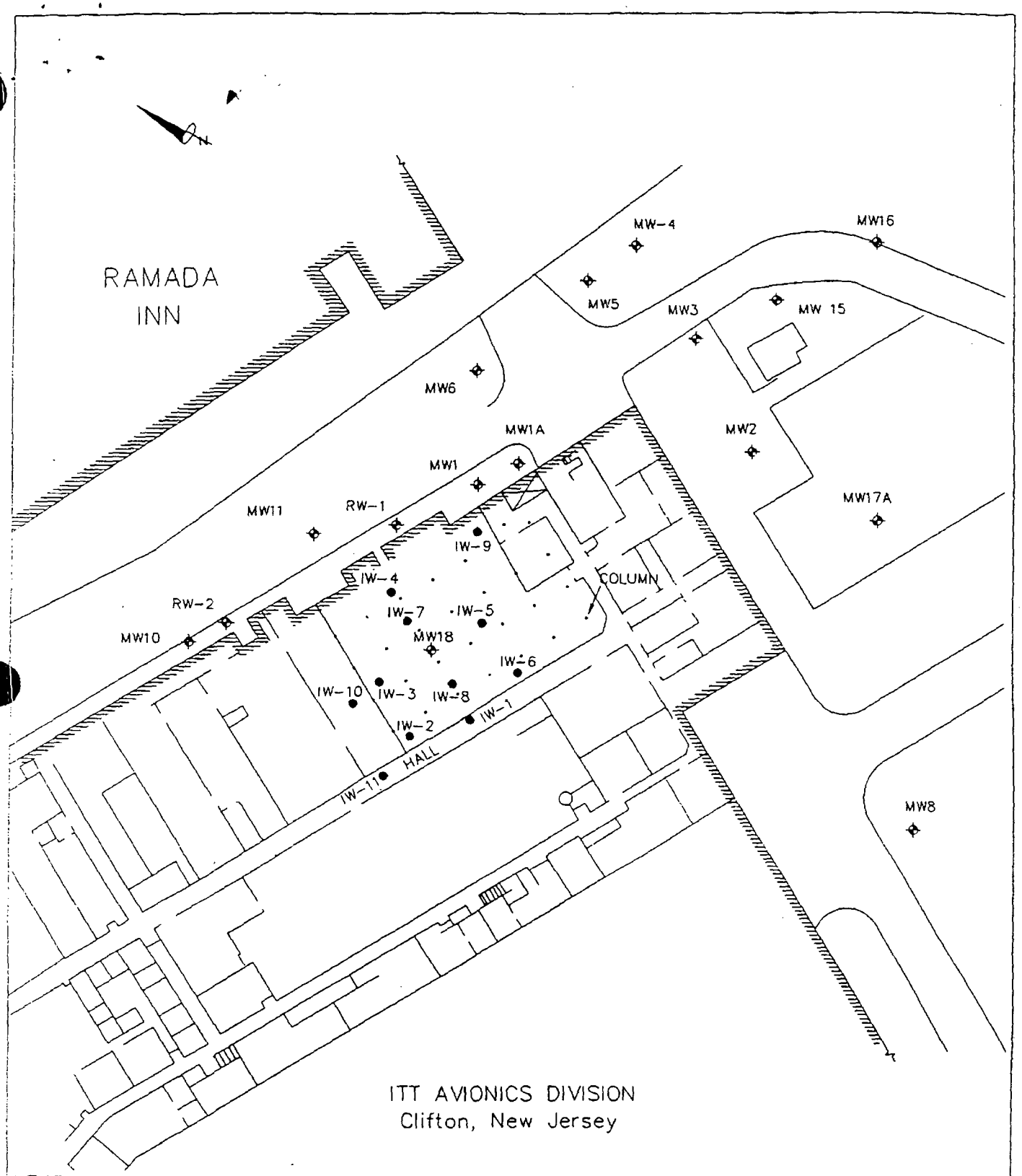
LEGEND

MW4 — EXISTING MONITORING WELL LOCATION

CONTOUR INTERVAL 1.0'

TA9102 CNTR1190.DWG

H2M GROUP ENGINEERS · ARCHITECTS · PLANNERS · SCIENTISTS · SURVEYORS
MELVILLE, N.Y. FAIRFIELD, N.J.



ITT AVIONICS DIVISION
Clifton, New Jersey

LEGEND:

- MW-2 MONITORING WELL LOCATION
- IW-2 INJECTION WELL LOCATION

APPROXIMATE SCALE:

0' 150'

ZITA\ZITA9601\CLEANOX\98PILOT\CAD\INTWELL

H2MGROUP ENGINEERS ARCHITECTS PLANNERS SCIENTISTS SURVEYORS
MELVILLE, N.Y. RIVERSIDE, CA TOTOWA, N.J.

945750060

NOTICE ABOUT UNSCANNABLE MAP

THIS MAP CAN BE FOUND IN THE SITE FILES LOCATED AT: U.S. EPA SUPERFUND RECORDS CENTER, 290 BROADWAY, 18TH FLOOR, NY, NY 10007

MANUFACTURING PLANT FEDERAL TELEPHONE & RADIO CORP. NUTLEY AND CLIFTON, NJ

945750061

NOTICE ABOUT UNSCANNABLE MAP

THIS MAP CAN BE FOUND IN THE SITE FILES LOCATED AT: U.S. EPA SUPERFUND RECORDS CENTER, 290 BROADWAY, 18TH FLOOR, NY, NY 10007

MANUFACTURING PLANT FEDERAL TELEPHONE & RADIO CORP. NUTLEY AND CLIFTON, NJ

945750062

NOTICE ABOUT UNSCANNABLE MAP

THIS MAP CAN BE FOUND IN THE SITE FILES LOCATED AT: U.S. EPA SUPERFUND RECORDS CENTER, 290 BROADWAY, 18TH FLOOR, NY, NY 10007

MANUFACTURING PLANT FEDERAL TELEPHONE & RADIO CORP. NUTLEY AND CLIFTON, NJ PIPING PLAN

945750063

NOTICE ABOUT UNSCANNABLE MAP

THIS MAP CAN BE FOUND IN THE SITE FILES LOCATED AT: U.S. EPA SUPERFUND RECORDS CENTER, 290 BROADWAY, 18TH FLOOR, NY, NY 10007

FEDERAL TELEPHONE & RADIO CORP.
NUTLEY AND CLIFTON, NJ
FIRST FLOOR PLAN
PLUMBING

945750064

NOTICE ABOUT UNSCANNABLE MAP

THIS MAP CAN BE FOUND IN THE SITE FILES LOCATED AT: U.S. EPA SUPERFUND RECORDS CENTER, 290 BROADWAY, 18TH FLOOR, NY, NY 10007

FEDERAL TELEPHONE & RADIO CORP.
NUTLEY AND CLIFTON, NJ
MEZZANINE FLOOR PLAN
PLUMBING
BUILDING B-1
02-11-1944

945750065

NOTICE ABOUT UNSCANNABLE MAP

THIS MAP CAN BE FOUND IN THE SITE FILES LOCATED AT: U.S. EPA SUPERFUND RECORDS CENTER, 290 BROADWAY, 18TH FLOOR, NY, NY 10007

FEDERAL TELEPHONE & RADIO CORP.
NUTLEY AND CLIFTON, NJ
MEZZANINE FLOOR PLAN
PLUMBING

945750066

NOTICE ABOUT UNSCANNABLE MAP

THIS MAP CAN BE FOUND IN THE SITE FILES LOCATED AT: U.S. EPA SUPERFUND RECORDS CENTER, 290 BROADWAY, 18TH FLOOR, NY, NY 10007

FEDERAL TELEPHONE & RADIO CORP.
NUTLEY AND CLIFTON, NJ
CELLAR PLAN
VENTILATING, HEATING & PLUMBING
BUILDING B-1
02-11-1944

945750067

NOTICE ABOUT UNSCANNABLE MAP

THIS MAP CAN BE FOUND IN THE SITE FILES LOCATED AT: U.S. EPA SUPERFUND RECORDS CENTER, 290 BROADWAY, 18TH FLOOR, NY, NY 10007

FEDERAL TELEPHONE & RADIO CORP.
NUTLEY AND CLIFTON, NJ
FIRST FLOOR PLAN
PLUMBING
BUILDING B-1
02-11-1944

945750068

State of New Jersey

Department of Environmental Protection

DONALD T. DIFRANCESCO
Acting Governor

Robert C. Shinn, Jr.
Commissioner

October 3, 2001

Mr. Donald Polzo
ITT Avionics Division
100 Kingsland Road
Clifton, NJ 07014

Re:	TYPE OF APPLICATION:	LNA Application
	TRANSACTION:	Sale of Property
	NAME:	ITT Avionics Division
	ADDRESS:	100 Kingsland Road "vacant parcel"
	MUNICIPALITY:	Clifton City
	COUNTY:	Passaic
	BLOCK:	83-01
	LOT:	1
	SIC:	3677
	APPLICATION NO:	N20013005

Dear Mr. Polzo:

This is in response to your application received August 29, 2001 concerning the applicability of the Industrial Site Recovery Act (ISRA) to the above referenced establishment. On the basis of the sworn statements set forth in the affidavit signed by Frank J. Sweeney, the Department finds that this transaction is subject to the provisions of ISRA

This decision is rendered on the basis that the above referenced parcel is considered part of the ITT Avionics Division industrial establishment. Pursuant to N.J.A.C. 7:26B-1.4, the sale or transfer of title to any real property of an industrial establishment is subject to the Act.

Pursuant to N.J.A.C. 7:26B-3.2, the owner or operator of an industrial establishment shall submit the General Information Notice no more than five days subsequent to the signing of an agreement of sale for the industrial establishment or the real property of the industrial establishment. Should there be an executed agreement of sale concerning this matter, the filings shall be submitted to the Department according to the timeframes delineated in the regulations.

Should you have any further questions regarding this matter, please contact Jim Bono at (609) 777-0899. If you have questions concerning the enclosed Initial Notice forms please contact Joshua Gradwohl at (609) 292-0408.

Sincerely,

James J. Bono

James J. Bono, Supervisor
Applicability Unit

New Jersey is an Equal Opportunity Employer
Recycled Paper

Transaction Type

1 - Sale of Property
2 - Sale of Business
3 - Business Ceasing Oper.
4 - Refinancing
5 - Sale of Stock in Corp.
6 - Condemnation
7 - Bankruptcy
8 - Corporate Merger
9 - Prtnrshp Situation Change
10 - Intra Family
11 - Corporate Reorg.
12 - Sale of Assets
13 - Other
14 - Sale of Prop. & Business
15 - Sale of Prop. & Cessation

CASE #N2001 3005

DATE REC'D: / AUG 29 2001

TRANSACTION TYPE: 1

SIC #:

HAZARDOUS SUBSTANCE:

SUBJECT (YES / NO)

CONTACT: Jim

LETTER #:

INSPECT: YES / NO # OF SITES

DATE OF INSPECTION: / /

SUPPLEMENTAL INFO DATE: / /

DEFICIENT: YES / NO

LETTER #:

CHRONOLOGY OF EVENTS FOR LNA INVESTIGATION

DATE	SUMMARY
	F960303 - FTT w/ Gary Lipsius (RPCE)
	F99219 RIR WVR 4/29/99 "P" B/83-01 L
	F98086 RIP WVR 3/20/98 "P" B 83.01, 82.06 L 1, 1.01, 1.02
	Related Retail Edition - Prop Owner
9/24	Spoke to Chuck Martella H2M 973 992-0700

945750071

02/98

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
INDUSTRIAL SITE EVALUATION ELEMENT
P.O.BOX 432, TRENTON, NJ 08625-0432

INDUSTRIAL SITE RECOVERY ACT (ISRA)

APPLICABILITY/NONAPPLICABILITY AFFIDAVIT

The purpose of this Affidavit is to obtain an Applicability/Nonapplicability Determination from the New Jersey Department of Environmental Protection pursuant to the Industrial Site Recovery Act, N.J.S.A. 13:1K-6 et seq. Fee is $200.00. Please make checks payable to "TREASURER, STATE OF NEW JERSEY".

NOTE: All sections of this application shall be completed or it will be returned.

PLEASE TYPE OR PRINT

Date August 31, 2001

A. Determination of Applicability/Nonapplicability should be mailed to the following:

Name (Mr./Mrs./Ms.) Mr. Donald Potzo
Company ITT AVIONICS DIVISION
Address 100 Kingsland Road
City or Town Clifton County Passaic
State New Jersey Zip Code 07014 Tele. No. (973) 284-4036

B. Name of Business ITT AVIONICS DIVISION
Standard Industrial Classification (SIC) Number 3677

C. Property Location for which request is being transmitted:

Street Address 100 Kingsland Road "vacant parcel"
Tax Block(s) 83-01 Tax Lot(s) 1 *
Municipality Clifton County Passaic
State New Jersey Zip Code 07014
*Property is currently undergoing a subdivision. This request is being submitted for the portion of the property in which no industrial activities have been conducted, only parking, recreation and security operations have been performed.

D. Transaction for which the Applicability/Nonapplicability Determination is requested: *(Check appropriate transaction)*
* Please attach a detailed description of these transactions.

1. X Sale of Property
2. ___ Sale of Business
3. ___ Business Ceasing Operations
4. ___ Refinancing/Construction Loan
5. ___ Sale of Stock in Corporation*
6. ___ Condemnation
7. ___ Bankruptcy
8. ___ Corporate Merger*
9. ___ Partnership Situation Change*
10. ___ Intra Family
11. ___ Corporate Reorganization
12. ___ Sale of Assets

___ Other: *(Explain)*

Date of Planned Transaction: 11/01
Purchaser:

Name Related Retail Corporation
Address 625 Madison Avenue
City or Town New York County
State New York Zip Code 10022

945750072

E. Operations:

1.) The property owner and/or operator must completely describe in detail the operations and processes conducted at the site including a list of all tenants, their operations and processes, occupying any part of the property since December 31, 1983. *(Attach additional sheets, if necessary.)*

ITT (Federal Telephone & Telegraph) – Parking, recreation (volleyball and tennis court) and security guard stationing - 1946 to Present

2.) If the property described above is vacant land, does the owner described in F below own contiguous property. X Yes ___ No (If yes, please describe onsite operations.)
Property being subdivided is vacant of structures with the exception of a guardhouse for security purposes, paved parking and driveways and recreational areas (volleyball and tennis court). Historical operations conducted within the main building on the adjacent portion of the property have included the manufacturing of television and radio tubes, telephones, radios, washing machines, and printed circuit boards. Recent operations include the assembly of electronic equipment used in the defense industry. Current site operations include welding, soldering, painting, printing, degreasing, drilling, machining, grinding, assembly and testing of products. This property as well as the subject property to be subdivided was issued a no further action with respect to site soils on June 2, 1998.

F. Current Owner of the Property for which an Applicability/Nonapplicability Determination is requested:
Name ITT Industries
Street Address 4 West Red Oak Lane Municipality White Plains
State New York Zip Code 10604 Tele No. (914) 641-2000

G. History:

1. Previous Owners and history of on-site operations since December 31, 1983. *(Attach additional sheets, if necessary.)*

Name	Address	Date/Operations
ITT (Federal Telephone & Telegraph)	100 Kingsland Ave. Clifton, NJ 07014	1946 to 1996/See E-2 Above
Related Retail Clifton LP(leasing to ITT)	625 Madison Avenue, NY, NY 10022	1996 to 1998/See E-2 Above
ITT (Federal Telephone & Telegraph)	100 Kingsland Ave. Clifton, NJ 07014	1998 to 2001/See E-2 Above

2. Is this site currently or has this site previously been the subject of any other ECRA or ISRA review?

X Yes ___ No If yes, please provide case number: E96303

H. Hazardous Substances or Wastes: (This information is only required if the facility or business has a subject SIC.)
List all types and quantities of hazardous substances and hazardous wastes as defined at N.J.A.C. 7:1E-1.7 and N.J.A.C. 7:26-1.6 respectively, including but not limited to petroleum products, that are generated, manufactured, refined, transported, treated, stored, handled or disposed at the property, both above and below ground.

No industrial activities, including the generation, manufacturing, refining, transporting, treating, storing, handling or disposal of hazardous substances or wastes on the proposed subdivided property have been conducted. The entire property, including the area to be subdivided was issued a no further action with respect to all site soils on June 2, 1998.

I. How is the building(s) heated? *(Oil, Gas, Electric)* If Oil, how many tanks? NA
Storage capacity of each NA Above or below ground NA

J. Was the building(s) ever heated by oil? ___ Yes X No If so, when? NA

02/98

CERTIFICATION:

The following certification shall be signed by a duly authorized person pursuant to the requirements of N.J.A.C. 7:26B-1.6(e) as follows.

a. For a corporation, by a principal executive officer of at least the level of vice president;
b. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
c. For a municipality, State, Federal or other public agency, by either a principal executive officer or ranking elected official.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, to the best of my knowledge the submitted information is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate, or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of N.J.S.A. 13:1K-6 et seq., I am personally liable for the penalties set forth at N.J.S.A. 13:1K-13.

Typed/Printed Name FRANK J. SWEENEY Title V.P., Controller

Signature [signature] Date 8-28-01

Sworn to and Subscribed Before Me

on this 28th

Date of AUGUST 19 2001

[signature]
Notary

Lauren Heede
Notary Public, State of New Jersey
My Commission Expires June 22, 2003

Have you enclosed a check or money order for $200? X **Yes** __ **No**

Check Number 1601

Have you included the original signature of the owner or operator? X **Yes** __ **No**

Has the certification been properly notarized? X **Yes** __ **No**

945750074

ISRA-001
1/94

FOR DEPE USE ONLY
Date Rec'd. _____
Notice No. _____

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
INDUSTRIAL SITE EVALUATION ELEMENT
CN 028, TRENTON, NJ 08625-0028

RECEIVED JUL 24 1996

INDUSTRIAL SITE RECOVERY ACT (ISRA)

GENERAL INFORMATION NOTICE (GIN)

This information must be submitted within 5 days following any applicable situation as specified at N.J.A.C. 7:26B-1.5 or any triggering event as specified at N.J.A.C. 7:26B-1.6. Please refer to the instruction and N.J.A.C. 7:26B-3.2 before filling out this form. Answer all questions. Should you encounter any problems in completing this form, we recommend that you discuss the matter with a representative from the Element. Submitting incorrect or insufficient data may cause processing delays and possible postponement of your transaction. Please call (609) 633-7141 between the hours of 8:30 a.m. and 4:30 p.m. to request assistance.

PLEASE PRINT OR TYPE

Date July 17, 1996

1. A. Industrial Establishment

Name ITT Avionics Division Telephone # (201)284-0123

Street Address 100 Kingsland Road

City or Town Clifton State New Jersey Zip Code 07068

Municipality Clifton County Passaic

B. Tax Block Number(s) 83-1 Number(s) 1

C. Standard Industrial Classification (SIC) Number 3677

D. Current Property Owner(s)

Name ITT Industries, Inc. Telephone # (914) 641-2000

Firm

Street Address 4 West Red Oak Drive

Municipality White Plains State NY Zip Code 10604

E. Current Business Owner (if different from 1.A above)

Name ITT Industries, Inc. Telephone # (914) 641-2000

Firm

Street Address 4 West Red Oak Drive

Municipality White Plains State NY Zip Code 10604

945750075

F. Have there been any previous ECRA/ISRA submissions (including Applicability Determinations) by this Industrial Establishment or another Industrial Establishment which occupied the same tax block and lot number?

__X__ Yes _____ No

If Yes, Name of Industrial Establishment ITT Avionics

ISRA Case No. Not applicable Date Submitted March 25, 1993

Current Status As described on Attachment A, a letter of non-applicability was granted on May 27, 1993.

2. Indicate the transaction(s) which initiates the ISRA review. Please check all that apply (See N.J.A.C. 7:26B-1.5 & 1.6):

X*	Sale of Property	_____	Sale of Business
_____	Bankruptcy	_____	Cessation
_____	Stock Transfer/ Corporate Merger	_____	Foreclosure
_____	Sale of Assets	_____	Partnership Situation Change
X	Other (Attach documentation to explain) See Attachment B for a description of the transaction.		

3. If a cessation of operations is involved at this location, was a Public Release made? _____ Yes X No *

Not applicable.

If Yes, give the date of public release of the decision to close the facility. Date ____/____/____ Not applicable

4. If the transaction initiating an ISRA review is an agreement of sale or execution of an option to purchase, fill in the date of execution of that instrument plus provide one (1) copy of the document if also applying for a Remediation Agreement.
Date July 17, 1996

A. Is a sale involved? X Yes _____ No (If No, skip 4B, C and D.)

B. Date of Agreement/Letter of Intent/Notifications of Option to Purchase 7 / 17 /96

C. Please complete the following:

Name of Party/Purchaser Related Retail Clifton, L.P.
Address 625 Madison Avenue, 9th Floor

New York, New York 10022

Phone 212-421-5332

5. A. Date proposed for closure of operations Not applicable

B. Date proposed for transfer of title December 9, 1996

6. Authorized agent designated to work with the Department

Name Donald T. Polzo Telephone # (201)284-4036

Firm ITT Avionics Division

Street Address 100 Kingsland Road

Municipality Clifton State NJ Zip Code 07068

7. Is this Industrial Establishment a Small Business? ____ Yes X No

Note: Small Business means any business which is:

- -- resident in this state
- -- independently owned and operated
- -- not dominant in its field
- -- employs fewer than 100 full time employees

CERTIFICATIONS:

A. The following certification shall be signed by the highest ranking individual at the site with overall responsibility for that site or activity. Where there is no individual at the site with overall responsibility for that site or activity, this certification shall be signed by the individual having responsibility for the overall operation of the site or activity.

I certify under penalty of law that the information provided in this document is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of N.J.S.A. 13:1K-6 et seq., I am personally liable for the penalties set forth at N.J.S.A. 13:1K-13.

Typed/Printed Name Henry J. Driesse Title President & General Manager, ITT Avionics

Signature Date 7/22/96

Sworn to and Subscribed Before Me
on this 22nd
Date of July 1996

Anna Marie Simonetti
Notary

ANNA MARIE SIMONETTI
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires June 8, 1997

B. The following certification shall be signed as follows:

1. For a corporation, by a principal executive officer of at least the level of vice president;
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, Federal or other public agency, by either a principal executive officer or ranking elected official.
4. For purposes other than 1-3 above, by the person with the legal responsibility for the site.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of N.J.S.A. 13:1K-6 et seq., I am personally liable for the penalties set forth at N.J.S.A. 13:1K-13.

Typed/Printed Name Henry J. Driesse Title President & General Manager, ITT Avionics

Signature Date 7/22/96

Sworn to and Subscribed Before Me
on this 22nd
Date of July 1996

Anna Marie Simonetti
Notary

ANNA MARIE SIMONETTI
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires June 8, 1997

ATTACHMENT A
TO GENERAL INFORMATION NOTICE

ITT Avionics Division
100 Kingsland Road
Clifton, New Jersey

PREVIOUS ECRA/ISRA SUBMISSIONS

On March 26, 1993, ITT Corporation ("ITT") requested a non-applicability determination in connection with three separate parcels of land owned or leased by ITT and operated by two separate divisions of ITT -- the Avionics Division ("Avionics") and the Aerospace Communications Division ("Aerospace"). These properties are:

(1) the industrial establishment that is the subject of this General Information Notice -- Avionics's manufacturing facility located at 100 Kingsland Road, Clifton (the "Industrial Establishment");

(2) Avionics' research and development facilities and offices at Washington and River Roads, Nutley (the "R&D Facility"); and

(3) Aerospace's facility at 492 River Road, Nutley.

(collectively, the "Properties"). In that application, ITT acknowledged that each of the Properties, including the Industrial Establishment that is the subject of this application, is an "industrial establishment" under N.J.S.A. 13:1K-6. ITT requested that the New Jersey Department of Environmental Protection ("Department") determine that each Property is a separate industrial establishment under the Environmental Cleanup Responsibility Act and that the closing, terminating or transferring of operations at any one of the Properties would not trigger the application of ECRA with respect to the other two. On May 27, 1996, the Department issued a letter of non-

applicability, determining that each of the Properties is a separate industrial establishment. A copy of that letter of non-applicability is attached hereto.

This General Information Notice relates to the sale and lease back of one of the three Properties, the property located at 100 Kingsland Road, Clifton, New Jersey.

ATTACHMENT B
TO GENERAL INFORMATION NOTICE

ITT Avionics Division
100 Kingsland Road
Clifton, New Jersey

DESCRIPTION OF THE TRANSACTION

The transaction contemplated is a sale-leaseback of the Industrial Establishment. ITT Industries, Inc. ("Owner") owns the fee simple interest in the land, buildings and other improvements located at 100 Kingsland Road, Clifton, New Jersey (the "Site"). ITT Avionics Division ("Avionics") operates the Industrial Establishment. On July 17, 1996, Owner and Related Retail Clifton, L.P. ("Related") entered into a Contract of Sale for the Site. Pursuant to the Contract of Sale, Owner will sell the Site to Related. Pursuant to a Lease to be entered into among Owner and Related, Owner will lease back the Site from the Related Companies. Avionics will continue to operate the Industrial Establishment at the Site. The transfer of title and execution of the Lease is scheduled to occur on December 9, 1996.

NOTICE ABOUT UNSCANNABLE MAP

THIS MAP CAN BE FOUND IN THE SITE FILES LOCATED AT: U.S. EPA SUPERFUND RECORDS CENTER, 290 BROADWAY, 18TH FLOOR, NY, NY 10007

ITT
CLIFTON, NJ
PROGRESS PLOT
PROPOSED SUBDIVISION PLAN
BLOCK 83.01, LOT 1
11-18-1996

945750082

NOTICE ABOUT UNSCANNABLE MAP

THIS MAP CAN BE FOUND IN THE SITE FILES LOCATED AT: U.S. EPA SUPERFUND RECORDS CENTER, 290 BROADWAY, 18TH FLOOR, NY, NY 10007

MAP TITLE BLOCK ILLEGIBLE.

945750083

Discharge Investigation And Corrective Action Report

ITT Avionics Division

Clifton and Nutley, New Jersey

January 1990

RECEIVED
JAN 12 1990
ENVIRONMENTAL PROTECTION

Prepared by:

HZM GROUP

Holzmacher, McLendon & Murrell, Inc. Fairfield N.J.

945750085

DISCHARGE INVESTIGATION

AND

CORRECTIVE ACTION REPORT

ITT AVIONICS DIVISION

CLIFTON AND NUTLEY, NEW JERSEY

JANUARY 1990

945750086

H2MGROUP

DISCHARGE INVESTIGATION

AND

CORRECTIVE ACTION REPORT

ITT AVIONICS DIVISION

CLIFTON AND NUTLEY, NEW JERSEY

TABLE OF CONTENTS

	PAGE NO.
1.0 - GENERAL INFORMATION	1.1
1.1 - SCOPE	1.1
1.2 - LOCATION AND DESCRIPTION	1.2
2.0 - TECHNICAL WORK PLAN	2.1
2.1 - UST SYSTEM BACKGROUND	2.1
2.2 - REMOVAL OF TANK CONTENTS AND DECONTAMINATION	2.2
2.3 - UST SYSTEM REMOVAL	2.2
3.0 - SOIL EVALUATION/SITE ASSESSMENT	3.1
3.1 - PRESCREENING OF SOILS	3.1
3.2 - POST-EXCAVATION CONFIRMATORY SAMPLING	3.1
4.0 - WASTE DISPOSAL	4.1
5.0 - ANALYTICAL RESULTS	5.1
6.0 - CONCLUSIONS	6.1

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TABLE OF CONTENTS (CONT'D.)

LIST OF TABLES

TABLE NO.		PAGE NO.
1	ANALYTICAL RESULTS, UST SYSTEMS EXCAVATION	5.2
2	ANALYTICAL RESULTS, BACKFILL SOILS	5.3
3	ANALYTICAL RESULTS, STOCKPILED SOILS	5.4

LIST OF FIGURES

FIGURE NO.		PAGE NO.
1	LOCATION MAP	1.2
2	TANK EXCAVATION SCHEMATIC	3.2

LIST OF APPENDICES

APPENDIX A - SITE ASSESSMENT COMPLIANCE STATEMENT

APPENDIX B - LABORATORY DATA REPORT

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DISCHARGE INVESTIGATION

AND

CORRECTIVE ACTION REPORT

ITT AVIONICS DIVISION

CLIFTON AND NUTLEY, NEW JERSEY

JANUARY 1990

1.0 - GENERAL INFORMATION

1.1 - SCOPE

This Discharge Investigation and Corrective Action Report (DICAR) outlines the procedures that were followed during the removal of underground storage tank (UST) systems at ITT Avionics Division (ITT) facilities located in Clifton and Nutley, New Jersey. These tanks are currently registered with the New Jersey Department of Environmental Protection (NJDEP), Bureau of Underground Storage Tanks (BUST), registration number 0037253. The intent of this DICAR is to provide a summary of the activities associated with the removal of ITT's UST systems No. E-9 and E-10 in accordance with Federal and State regulations and formal guidance documents.

945750089

1.2 - LOCATION AND DESCRIPTION

The ITT facilities located in Clifton and Nutley, New Jersey encompasses a total of approximately 150 acres. These facilities are depicted in Figure 1 and include the following properties:

1. 100 Kingsland Road
2. 500 Washington Avenue
3. 390 Washington Avenue
4. 491 River Road
5. 492 River Road
6. 483 River Road
7. 417 River Road

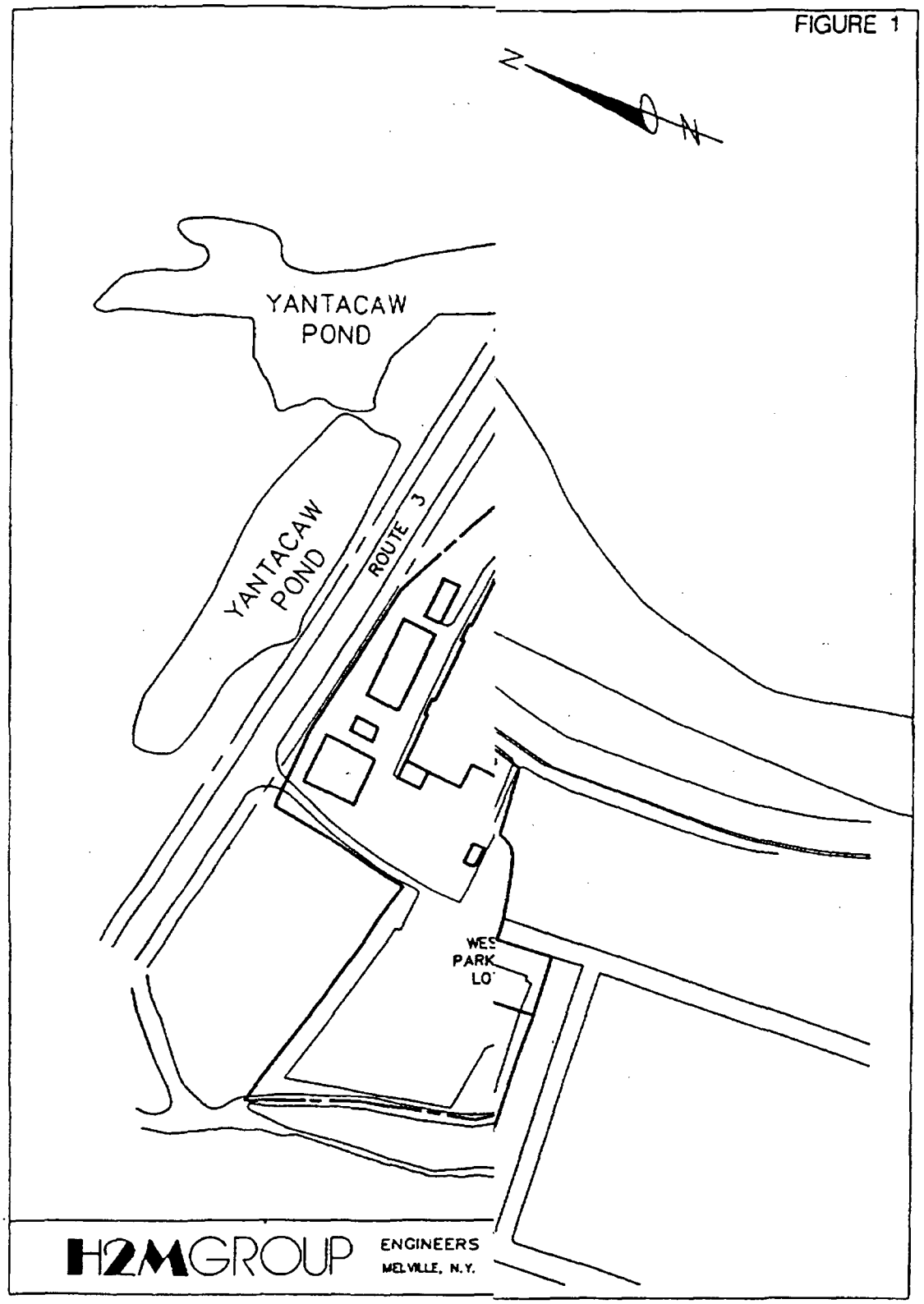


FIGURE 1
N
YANTACAW POND
YANTACAW POND
ROUTE 3
WES
PARK
LO
H2MGROUP
ENGINEERS
MELVILLE, N.Y.

2.0 - TECHNICAL WORK PLAN

A work program was prepared to provide the specific approach and procedures to guide the UST system removal operation as well as address remedial measures, if necessary, for any soils adjacent to the UST system that may have been impacted by the UST system contents. The work program was contained in the document entitled, "Work Plan for the Removal of Underground Storage Tanks, ITT Avionics Division, Clifton and Nutley, New Jersey", dated October 1989 and submitted to the NJDEP.

2.1 - UST SYSTEM BACKGROUND

Two (2) UST systems, E-9 and E-10, located on the eastern corner of the 100 Kingsland Road facility were the focus of the work plan. The two (2) tanks were subjected to integrity testing on September 15, 1989. The petrotite hydrostatic pressure test was conducted by Fairfield Maintenance, Inc. (FMI) personnel. The 4,000 gallon unleaded gasoline tank (E-9) was found to be "tight" with a leak rate less than the National Fire Protection Association (NFPA) allowable test standard of 0.05 gallons per hour (gph). The 1,000 gallon diesel fuel tank (E-10), adjacent to the unleaded gasoline tank, was found to have a leak rate of 0.40 gph, in excess of the NFPA allowable standard. Upon learning of these results, ITT maintenance personnel had the contents of the diesel tank removed to a level of 6-inches of remaining bottom sludge. The failure of tank E-10 to pass the tightness test was promptly reported to the NJDEP and a case

number, 89-09-15-1420, was assigned. The UST systems were then planned to be removed in their entirety and not to be replaced. Notification to this effect was transmitted on October 20, 1989 to the NJDEP on the standard reporting form.

The fiberglass reinforced plastic (FRP) unleaded gasoline tank was approximately 8 feet in diameter by 15 feet in length and was situated an estimated 4 feet below grade. The FRP diesel fuel tank was approximately 4 feet in diameter by 11 feet in length and was also situated an estimated 4 feet below grade. Both tanks were approximately six years old.

2.2 - REMOVAL OF TANK CONTENTS AND DECONTAMINATION

Prior to removing the tanks from the ground, each tank was excavated to provide access to fittings and associated piping. Surface slabs and pumps were dismantled and removed as debris. Product within the tanks was transferred to bulk liquid tanker for off-site disposal by Active Oil Service, Inc. (NJDEP S2536). Appropriate labels and placards were affixed to the transport container. Drain lines and fittings were flushed completely and removed. The product was transported to S&W Waste (EPA I.D. No. NJD991291105) under manifest No. NJA0633829 as a D001/X722 waste stream.

2.3 - UST SYSTEM REMOVAL

Non-hazardous debris including concrete pads, pumps and appurtenances were staged to be transported off-site for disposal. The designated disposal facility will be the Passaic

County Transfer Station Solid Waste Facility. Soils removed during excavation that exhibited indications of contamination were stockpiled on plastic liners adjacent to the work zone pending characterization prior to off-site disposal at a secure landfill.

A record of the removal, including field observations was maintained in the field log by the on-site engineer. The tank was visually inspected for cracks, blemishes, stains, etc. in an effort to determine the apparent integrity. Though no cracks or blemishes were noted on either tank, residual liquid staining of soils was evident in the vicinity of the coupling on the diesel suction line to the pump.

3.0 - SOIL EVALUATION/SITE ASSESSMENT

3.1 - PRESCREENING OF SOILS

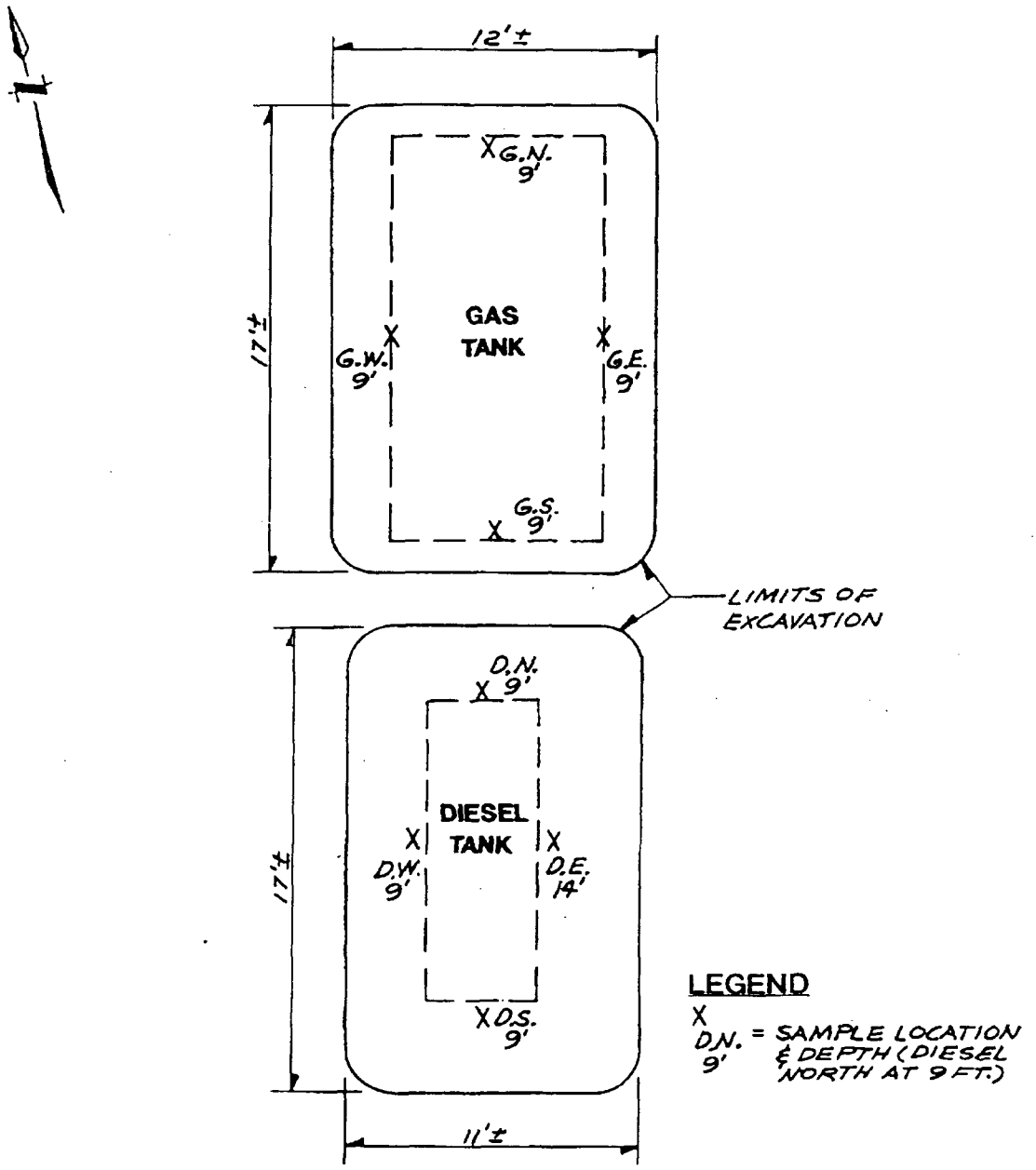
Upon removal of the diesel UST system, visibly contaminated soils were removed and stockpiled on plastic liners at a secure location. Remediation was suspended when the depth of excavation approached the groundwater elevation. No remediation was warranted or conducted in the unleaded gasoline UST system excavation. Remaining soils were prescreened in the field with the use of a portable photoionization detector (PID). The PID is designed to detect a wide variety of organic compounds and some inorganic compounds.

3.2 - POST-EXCAVATION CONFIRMATORY SAMPLING

After excavation, confirmatory samples were collected in accordance with NJDEP sampling guidelines at the sides and ends of the excavation beneath the elevation of the tank (see Figure 2). This sampling procedure was not modified by the NJDEP representative present in the field.

Confirmatory soil samples were analyzed by H2M Labs, Inc. (see Laboratory Sample Chain-of-Custody/Chronicle in Appendix B) for volatile organic compounds (VOCs) by gas chromotography/mass spectroscopy (GC/MS) plus identification of non-target compounds (Method 8240 +15) and total petroleum hydrocarbons (Method 418.1) in accordance with United States Environmental Protection Agency

FIGURE 2



TANK EXCAVATION SCHEMATIC

NO SCALE

ITTA-89-01-UT

H2MGROUP ENGINEERS • ARCHITECTS • PLANNERS • SCIENTISTS • SURVEYORS
MELVILLE, N.Y. RIVERHEAD, N.Y. FAIRFIELD, N.J.

945750096

(USEPA) and NJDEP protocol. As each tank is USEPA regulated (40 CFR 280.72a), a site assessment compliance statement has been prepared (Appendix A).

4.0 - WASTE DISPOSAL

All remaining waste material generated during UST system removal will be transferred to United States Department of Transportation (USDOT) approved containers (e.g., tank trailers, dump trailers, 55-gallon drums) and characterized for off-site disposal through sampling and analyses. Waste material will then be manifested in accordance with NJAC 7:26 - Subchapter 7, Labeling; Records and Requirements and transported off-site to an appropriate waste disposal facility by an NJDEP licensed waste transporter in accordance with NJAC 7:26-7.5, Hazardous Waste Transporter Responsibilities.

Work documents and manifest will be retained to demonstrate compliance with NJDEP requirements. Since ITT Avionics Division was officially delisted on August 4, 1989 as an interim treatment, storage or disposal facility (TSDF), disposal of any contaminated waste shall be accomplished within ninety (90) days of its generation.

5.0 - ANALYTICAL RESULTS

Four (4) samples were collected from within each excavation upon removal of the UST systems and upon completion of the limited remediation. A schematic of the excavation showing tank locations and approximate sampling locations is provided in Figure 2. The four (4) samples are representative of the soils that were beneath the ends of the tank and below the sides of the tank. Each were grab samples collected immediately following tank and/or soil removal. The results of analyses have been presented in Table 1, Analytical results, UST System Excavation.

In addition, one (1) composite sample was collected from each of the piles of stockpiled soils from the unleaded gasoline UST system excavation and the diesel UST system excavation, respectively. These samples were intended to demonstrate the quality of the soils that will be backfilled in the excavation, insofar as certified clean fill will be used to supplement the backfill. The results of analyses have been presented in Table 2, Analytical Results, Backfill Soils.

The soils that were excavated and stockpiled on plastic liners were also sampled to characterize the material for off-site disposal by a licensed waste transporter. The results of analyses have been presented in Table 3, Analytical Results, Stockpiled Soils.

As shown in Table 1, the soils remaining in the unleaded gasoline UST system excavation were relatively clean with

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TABLE 1

ANALYTICAL RESULTS, UST SYSTEMS EXCAVATION

ITT AVIONICS DIVISION

PARAMETER	SAMPLE LOCATION							
	DIESEL NORTH	DIESEL SOUTH	DIESEL WEST	DIESEL EAST	GAS EAST	GAS SOUTH	GAS NORTH	GAS WEST
Volatiles								
Benzene	0.008	0.370	N.D.	0.400	N.D.	N.D.	N.D.	N.D.
Toluene	0.200	4.20	0.026	4.00	N.D.	N.D.	N.D.	N.D.
Ethylbenzene	0.110	1.40	N.D.	1.50	N.D.	N.D.	N.D.	N.D.
Other TICs	0.588	0.850	0.091	0.719	0.464	0.132	0.009	N.D.
Total VOCs	0.906	6.82	0.117	6.619	0.464	0.132	0.009	N.D.
Petroleum hydrocarbons	240.	10,000.	<16.	12,000.	<16.	<16.	<16.	<16.

NOTES: All results in mg/kg (parts per million)

N.D. indicates "Not Detected" above detection limit

For petroleum hydrocarbons, <16. indicates less than the detection limit

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TABLE 2

ANALYTICAL RESULTS, BACKFILL SOILS

ITT AVIONICS DIVISION

PARAMETER	BACKFILL GAS	BACKFILL DIESEL
Volatiles		
Benzene	N.D.	N.D.
Toluene	N.D.	N.D.
Ethylbenzene	N.D.	N.D.
Other TICs	0.040	0.019
Total VOCs	0.040	0.019
Petroleum hydrocarbons	<16.0	19.0

NOTES: All results in mg/kg (parts per million)

N.D. indicates "Not Detected" above detection limit

For petroleum hydrocarbons, <16.0 indicates less than the detection limit

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TABLE 3

ANALYTICAL RESULTS, STOCKPILED SOILS

ITT AVIONICS DIVISION

PARAMETER	RESULT
Volatiles	
Benzene	0.021 mg/kg
Toluene	1.40 mg/kg
Ethylbenzene	1.00 mg/kg
Other TICs	0.895 mg/kg
Total VOCs	3.316 mg/kg
Petroleum hydrocarbons	17,000 mg/kg
E.P. Toxicity Metals	
Arsenic	<0.053 mg/l
Barium	<0.2 mg/l
Cadmium	0.015 mg/l
Chromium	0.02 mg/l
Lead	<0.060 mg/l
Mercury	<0.0002 mg/l
Selenium	<0.074 mg/l
Silver	<0.01 mg/l
Reactivity	
to Water	No
to pH <2	No
to pH >12	No
Releases CN^-	No
Releases S^{--}	No
pH	7.4

undetectable concentrations of petroleum hydrocarbons and minimal concentrations of volatile organic compounds detected and quantified in the forward library search as tentatively identified compounds (TICs). As such, no further remediation is deemed warranted. Within the diesel UST system excavation several compounds were detected and quantified within the soil samples, namely, 1,2-dichloropropane, benzene, toluene, ethylbenzene and various minor concentrations of TICs. Results of petroleum hydrocarbon analyses for this excavation indicate that varying concentrations were quantified, from less than 16 mg/kg to 10,000 mg/kg. Insofar as the excavation was conducted to the greatest depth possible, short of groundwater elevation, and the impact of any release from the diesel UST system would be evaluated as part of the ongoing groundwater investigation, no further remediation is deemed warranted as part of this work program.

Table 2 presents the results of analyses for volatile organic compounds and petroleum hydrocarbons for the two (2) piles of excavated soils staged adjacent to each excavation. The results indicate relatively low or undetected concentrations of tentatively identified compounds. Based on these results, the staged soils adjacent to each excavation will be used as back-fill. In addition the results of the stockpiled soils presented in Table 3 have been presented as the data that will be utilized in characterizing the soils for off-site disposal.

6.0 - CONCLUSIONS

(1) The two (2) underground storage tank (UST) systems were subjected to integrity testing on September 15, 1989 with the 4,000 gallon unleaded gasoline tank having a leak rate of less than the National Fire Protection Association (NFPA) standard of 0.05 gallons per hour (gph) and the 1,000 gallon diesel tank having a leak rate greater than the standard of 0.05 gph.

(2) Upon receipt of these findings ITT promptly reported the results to the NJDEP via the Environmental Hot-Line and received a case number (89-09-15-1420).

(3) The two (2) UST systems were scheduled to be removed in their entirety and not to be replaced. This work was conducted in accordance with the report entitled, "Work Plan for Removal of Underground Storage Tanks, ITT Avionics Division, Clifton and Nutley, New Jersey", dated October 1989.

(4) The two (2) UST systems were excavated and removed on December 19th and 20th, 1989 by Fairfield Maintenance, Inc.

(5) Each tank, its fittings and appurtenances, were inspected during removal for signs of apparent questionable integrity (e.g., cracks, blemishes, stains). Residual liquid stains were apparent on the diesel tank in the vicinity of the coupling on the diesel suction line to the pumps. No other

evidence was apparent for either the diesel UST system or the unleaded gasoline UST system.

(6) Upon removal of the UST systems, soils within the diesel UST system excavation were removed based upon field evaluation (i.e., PID screening, smell and visual inspection). These soils were stockpiled in a secure area on plastic liners and covered with plastic liners.

(7) Four (4) post-excavation confirmatory samples were collected from each excavation for a total of eight (8). The extent of remediation conducted and the results of analyses indicate that no further remediation is warranted as part of this work program.

(8) Within the area of the removed UST systems, an ongoing groundwater investigation is being conducted under NJPDES/DGW Permit No. NJ0020214.

(9) Soils excavated during UST system removal and staged adjacent to the excavations were sampled and analyzed to determine their quality for use as backfill, the results of which indicate that the soils are suitable for backfilling.

(10) Stockpiled soils removed during soil remediation were sampled for characterization as preparation for disposal by a licensed waste transporter.

(11) Based upon the foregoing conclusions and upon approval of this report by the regulatory agencies, this project involving the removal of UST systems and impacted soils is completed and no further work is warranted.

Respectfully submitted,

HOLZMACHER, McLENDON & MURRELL, INC.

Michael V. Tumulty, P.E., CGWP
Project Manager

Stanley G. Puszcz
Project Engineer

EAZAR GROUP

APPENDIX A

SITE ASSESSMENT COMPLIANCE STATEMENT

945750107

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Underground Storage Tanks
CN-029, Trenton, NJ 08625

Date Rec'd _____
Auth _____
Routing _____
UST NO. _____

SITE ASSESSMENT COMPLIANCE STATEMENT

Supplement to the New Jersey Standard Reporting Form
(Complete for ALL regulated UST abandonments or removals)

Within ninety (90) days of completing the UST closure of any State or Federally-regulated tank, the owner or operator must submit this completed form to the NJDEP Bureau of Underground Storage Tanks. If the facility is located in one of the counties listed on the back, a copy of this form must also be sent to the Health Agency indicated.

The owner or operator of any Federally-regulated tank must also comply with the following:

40 CFR Part 280.72 Assessing the site at closure or change-in-service

"(a) Before permanent closure or a change-in-service is completed, owners and operators must measure for the presence of a release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations, and measurement methods, owners and operators must consider the method of closure, the nature of the stored substance, the type of backfill, the depth to ground water, and other factors appropriate for identifying the presence of a release."

FACILITY ITT AVIONICS DIVISION **UST #** 0037253

Check off the following items as appropriate for the site.

_____ The UST facility is only regulated by State law, therefore a site assessment is not mandatory.

__x__ The UST facility is regulated by Federal law and a site assessment was conducted for tanks E-9 (unleaded gas) and E-10 (diesel).

The results of the site assessment indicate:

__x__ There was NO release from the UST system for tank E-9 (unleaded gas).

__x__ There was a release from the UST system and it was reported to the DEP Environmental Hotline (609-292-7172) for tank E-10 (diesel) Case No. 89-09-15-1420.

NOTE: The results of the site assessment are not to be submitted to the DEP or Health Agency unless requested to do so. The results are to be available for inspection at the UST facility.

Questions can be directed to the Bureau at (609) 984-3156.

*** This registration form shall be signed by the highest ranking individual at the facility with overall responsibility for that facility (7:14B-2.3 (a) 1). ***

"I certify under penalty of law that the information provided in this document is true, accurate and complete. I am aware that there are significant civil and criminal penalties for submitting false, inaccurate or incomplete information, including fines and/or imprisonment.

_____ Date / /
(SIGNATURE)

_____
(PRINT OR TYPE NAME)

_____
(Title)

SACS-2.1/89

945750108

APPENDIX B

LABORATORY DATA REPORT

945750109

DEP-090
5/95

New Jersey Department of Environmental Protection

COMMUNICATIONS CENTER NOTIFICATION REPORT

Received: 03/31/2001 | TD Log#: 76295

Operator: JON | Reviewed By: | Case #: 01-03-31-2313-48

Notification Type: Facility

Reported By	Affiliation	Phone
DON POLZO	ITT	973-284-4036

Street Address	Municipality	State
100 KINGSLAND RD	CLIFTON 07014	NJ

Incident Location: Facility

Site: ITT | Phone: 973-284-4036

Street Address	Municipality	County	State
100 KINGSLAND RD	CLIFTON 07014	PASSAIC	NJ

Location Type: Industrial | Incident Date: 03/31/2001 | Time: 1230

Substance Released: ETHYLENE GLYCOL

Amount Released (Estimate): 50.00 GALS. GALS.

ID: Known | State: Liquid | CAS#: 107211 | Release Is: Terminated

Additional Substances:

Substance Contained? No | Hazardous Material? Y | TCPA? N | A310 Letter? Y

COMU Code: 1602 | Referral Code: 001 | Is Hazardous Waste Involved? No

Incident Description: Spill

Injuries? No | Public Evac? No | Facility Evac? No | Public Exposure? No

Police On Scene? No | Firemen On Scene? No | DEP Requested? No | Road Closure? No

Status at Scene	Wind Speed/Direction	Contamination Of	Receiving Water
		Water, Land	THIRD RIVER

LINE BROKE ON AIR HANDLER CAUSING RELEASE. 20 GALS INTO STORM DRAIN. CLEAN UP IN PROGRESS. NON EMERGENT.

Responsible Party: Known

Party: ITT | Phone: 973-284-4036

Contact: DON POLZO | Title: ENVIRO SAFETY

Street Address	Municipality	County	State
100 KINGSLAND RD	CLIFTON 07014	PASSAIC	NJ

OFFICIALS NOTIFIED

	Name	Affiliation	Phone	Date	Time
NJSP		OEM Faxed		03/31/2001	
MUNIC	CLIFTON CITY	OPR 38 Office	973-470-5911	03/31/2001	2328
OTHER		DHSS/OEM Faxed		03/31/2001	

	Name	Affiliation	Method	Date	Time
1.	BRUCE DOYLE	ER1 DRPSR	Home	03/31/2001	2321
2.		HQ DFG	Faxed	03/31/2001	
3.		Metro/Nort HAZ-WST	Faxed	03/31/2001	

COMMENTS

SOP 9 CHART C

945750111

Avionics Division
Defense-Space Group
ITT Corporation

100 Kingsland Road
Clifton, New Jersey 07014
Telephone (201) 284-0123

August 22, 1986

Mr. Stuart Palfreyman
Health Department, City of Clifton
900 Clifton Avenue
Clifton, NJ 07011

Dear Mr. Palfreyman:

In accordance with the provisions of N.J.A.C. 7:26-9.7 and 7:1-7.1, I am submitting the following hazardous substance discharge report. I am also forwarding copies of this report to the New Jersey Department of Environmental Protection.

I hope this information is sufficient. If you need more detailed information call Jim Pettis or Steve Buzzard at (201)284-4098.

Very truly yours,

A.J. Marino, Jr.
Manager, Materials & Evaluation Lab
Environmental Coordinator

cc: R.S. Ullman
J. Pettis
S. Buzzard
A. Leibowitz

Underground Tank Failure:
Private Contractor called in to remove. See Attached.

945750113

HAZARDOUS SUBSTANCE DISCHARGE REPORT

Name: ITT Avionics

Individual Reporting Discharge: Anthony J. Marino, Jr.

Address: 100 Kingsland Road, Clifton, N.J. 07014

Telephone: (201)284-2170

Date and Time of Discharge: Sometime between 0:00 08-12-86 and 0800 08-13-86.

Location of Discharge: ITT Avionics
100 Kingsland Road
Clifton, NJ 07014 Block 83-1 Lot 1
Passaic County
EPA #NJD058112947

Type and Quantity of Discharge: 300-350 gallons 1,1,1 Trichloroethane

Actions Taken to Contain Discharge: None possible - Material is under concrete floor which is over rock.

Company selected and contracted for removal/clean-up:
OH Materials Corporation

Remedial Investigation

Samples Taken: Two borings through concrete. Visual confirmation in underlying soil only, no analysis.

Clean-up Date: Start Saturday, 23 August 1986

DEQ-094
10/94

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

PART 1

14

COMMUNITY RIGHT TO KNOW SURVEY FOR 1994

For State and Federal Community Right to Know Reporting

Please type this form.

THIS PAGE MUST BE COMPLETED, SIGNED, AND RETURNED.

2 0 9 6 0 5 0 0 0 0 3 3 6 6 2

ATTN: DONALD POLZO (100 KINGSLANI
ITT CORPORATION, AVIONICS DIVI:
100 KINGSLAND RD., DEPT. 79601
CLIFTON, NJ 07014

(A)
2 0 9 6 0 5 0 0 0 0 3 1 1 6 0 2

ITT CORPORATION, AVIONICS DIVI:
100 KINGSLAND ROAD, CLIFTON

See instructions (Pages 8-9) if information on these labels is incorrect.

(B) Does this facility **Produce, Store or Use** any Environmental Hazardous Substances listed on Table A:

1. in any quantity? [X] Yes [ ] No
2. above thresholds? [X] Yes [ ] No

(C) Briefly describe the nature of the operations or business conducted at this facility:

Electronics manufacturing for the Department of Defense.

(D) Number of employees at facility: 755

(E) Number of facilities in New Jersey: 1

(F) Federal EIN: 51-0260606

(G) If you are claiming an R&D lab exemption for this facility, enter your approval number here: N/A

(H) Check box if facility is reporting pursuant only to Section 312 of the Federal Emergency Planning and Community Right to Know Act (EPCRA/SARA, Title III) [ ]

(I) FACILITY EMERGENCY CONTACT

Name: Donald Polzo Title: Mgr., Environmental Health & Safety
Facility Phone Number: (201) 284-4036 Emergency Contact Phone Number: (201) 325-0079

[ ] NOTE: Check box only if the facility information in boxes A, D, E, I or J has changed since your last submittal.

(J) CERTIFICATION OF OWNER/OPERATOR OR AUTHORIZED REPRESENTATIVE — I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Signature: [signature] Date: 2/22/95 Fax #: (201) 284-3345
Phone #: (201) 284-4036
Name: Henry J. Driesse Title: President & General Mgr.

RETURN SIGNED ORIGINAL TO:
NJDEP
Community Right To Know Survey
CN 405
Trenton, NJ 08625-0405

* **You are required to send copies of this survey to the agencies listed on Page 28 of the Instruction guide. You must also keep a copy at your facility.**

945750116

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 2

ATTN: DONALD POLZO
ITT CORPORATION
100 KINGSLAND RD.
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
1994 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 1994

Please type all responses.
Photocopy this page if you need additional forms.
Read instructions carefully before completing this form.

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: DICHLORODIFLUOROMETHANE	( ) Fire	Container Type CN
Substance Number: 0649	( ) Sudden release of pressure	Max. daily inventory 10
CAS Number: 75-71-8	( ) Reactive	Avg. daily inventory 10
DOT Number: 1028	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	( ) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas (√)	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) AATF(662)	
Name: DICHLORODIFLUOROMETHANE	( ) Fire	Container Type CN
Substance Number: 0649	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 75-71-8	( ) Reactive	Avg. daily inventory 09
DOT Number: 1028	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	( ) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) ADQ PAVEMT(639)	
Name: DICHLORODIFLUOROMETHANE	( ) Fire	Container Type CN
Substance Number: 0649	( ) Sudden release of pressure	Max. daily inventory 10
CAS Number: 75-71-8	( ) Reactive	Avg. daily inventory 10
DOT Number: 1028	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	( ) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (√) Gas (√)	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) COPY ROOM(777)	
Name: DICHLORODIFLUOROMETHANE	( ) Fire	Container Type CY
Substance Number: 0649	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 75-71-8	( ) Reactive	Avg. daily inventory 09
DOT Number: 1028	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	( ) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) EMC/TEMPEST(8532)	
Name: DICHLORODIFLUOROMETHANE	( ) Fire	Container Type CY
Substance Number: 0649	( ) Sudden release of pressure	Max. daily inventory 10
CAS Number: 75-71-8	( ) Reactive	Avg. daily inventory 10
DOT Number: 1028	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	( ) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) INSP(758)	

INVENTORY RANGE CODES [1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 16 for gallon and cubic feet conversion factors

CONTAINER CODES AND DESCRIPTIONS

TA	Above ground tank	BA	Bag
TB	Below ground tank	BX	Box
TI	Tank inside building	CY	Cylinder
DS	Steel drum	BG	Bottles or jugs (glass)
DP	Plastic drum	BP	Bottles or jugs (plastic)
DF	Fiber drum	BN	Tote bin
CN	Can	TW	Tank Wagon
CB	Carboy	RC	Railcar
SI	Silo	OT	Other (Describe)

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
- 01 Ambient* pressure
- 02 Greater than ambient pressure
- 03 Less than ambient pressure

Temperature
- 04 Ambient temperature
- 05 Greater than ambient temperature
- 06 Less than ambient temperature but not cryogenic (freezing conditions)
- 07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding" or "room" conditions

DEQ-094

945750117

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 2

ATTN:DONALD POLZO
ITT CORPORATION
100 KINGSLAND RD.
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
1994 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 1994

Please type all responses.
Photocopy this page if you need additional forms.
Read instructions carefully before completing this form.

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION	
Name: DICHLORODIFLUOROMETHANE	( ) Fire	Container Type	CY
Substance Number: 0649	( ) Sudden release of pressure	Max. daily inventory	10
CAS Number: 75-71-8	( ) Reactive	Avg. daily inventory	10
DOT Number: 1028	(√) Acute health effects	Days on site	365
Pure ( ) or Mixture (√)	( ) Chronic health effects	Storage pressure	01
Solid ( ) Liquid (√) Gas (√)	( ) None per MSDS	Storage temperature	04
Trade Secret: ( ) Check if claiming	Location(s) INSP(758)		
Name: DICHLORODIFLUOROMETHANE	( ) Fire	Container Type	CN
Substance Number: 0649	( ) Sudden release of pressure	Max. daily inventory	10
CAS Number: 75-71-8	( ) Reactive	Avg. daily inventory	10
DOT Number: 1028	(√) Acute health effects	Days on site	365
Pure ( ) or Mixture (√)	( ) Chronic health effects	Storage pressure	02
Solid ( ) Liquid (√) Gas (√)	( ) None per MSDS	Storage temperature	04
Trade Secret: ( ) Check if claiming	Location(s) MAINT BLDG(783)		
Name: DICHLORODIFLUOROMETHANE	( ) Fire	Container Type	CY
Substance Number: 0649	( ) Sudden release of pressure	Max. daily inventory	13
CAS Number: 75-71-8	( ) Reactive	Avg. daily inventory	11
DOT Number: 1028	(√) Acute health effects	Days on site	365
Pure (√) or Mixture ( )	( ) Chronic health effects	Storage pressure	02
Solid ( ) Liquid ( ) Gas (√)	( ) None per MSDS	Storage temperature	04
Trade Secret: ( ) Check if claiming	Location(s) MAINT BLDG(783)		
Name: DICHLORODIFLUOROMETHANE	( ) Fire	Container Type	CN
Substance Number: 0649	( ) Sudden release of pressure	Max. daily inventory	09
CAS Number: 75-71-8	( ) Reactive	Avg. daily inventory	09
DOT Number: 1028	(√) Acute health effects	Days on site	365
Pure ( ) or Mixture (√)	( ) Chronic health effects	Storage pressure	02
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature	04
Trade Secret: ( ) Check if claiming	Location(s) NW STORAGE/MAINT(783)		
Name: DICHLORODIFLUOROMETHANE	( ) Fire	Container Type	CN
Substance Number: 0649	( ) Sudden release of pressure	Max. daily inventory	10
CAS Number: 75-71-8	( ) Reactive	Avg. daily inventory	10
DOT Number: 1028	(√) Acute health effects	Days on site	365
Pure ( ) or Mixture (√)	( ) Chronic health effects	Storage pressure	02
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature	04
Trade Secret: ( ) Check if claiming	Location(s) OIL HOUSE(683)		

INVENTORY RANGE CODES [1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 16 for gallon and cubic feet conversion factors

CONTAINER CODES AND DESCRIPTIONS

TA	Above ground tank	BA	Bag
TB	Below ground tank	BX	Box
TI	Tank inside building	CY	Cylinder
DS	Steel drum	BG	Bottles or jugs (glass)
DP	Plastic drum	BP	Bottles or jugs (plastic)
DF	Fiber drum	BN	Tote bin
CN	Can	TW	Tank Wagon
CB	Carboy	RC	Railcar
SI	Silo	OT	Other (Describe)

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
- 01 Ambient* pressure
- 02 Greater than ambient pressure
- 03 Less than ambient pressure

Temperature
- 04 Ambient temperature
- 05 Greater than ambient temperature
- 06 Less than ambient temperature but not cryogenic (freezing conditions)
- 07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding" or "room" conditions

DEQ-094

945750118

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 2

ATTN: DONALD POLZO
ITT CORPORATION
100 KINGSLAND RD.
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
1994 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 1994

Please type all responses.
Photocopy this page if you need additional forms.
Read instructions carefully before completing this form.

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: DICHLORODIFLUOROMETHANE	( ) Fire	Container Type CN
Substance Number: 0649	( ) Sudden release of pressure	Max. daily inventory 10
CAS Number: 75-71-8	( ) Reactive	Avg. daily inventory 10
DOT Number: 1028	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	( ) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) TEM LAB/METROLOGY(643)	
Name: FREON 113	( ) Fire	Container Type CY
Substance Number: 1904	(✓) Sudden release of pressure	Max. daily inventory 10
CAS Number: 76-13-1	( ) Reactive	Avg. daily inventory 10
DOT Number:	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) EMC/TEMPEST(8532)	
Name: FREON 113	( ) Fire	Container Type CY
Substance Number: 1904	(✓) Sudden release of pressure	Max. daily inventory 09
CAS Number: 76-13-1	( ) Reactive	Avg. daily inventory 09
DOT Number:	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) INSP(758)	
Name: FREON 113	( ) Fire	Container Type CN
Substance Number: 1904	(✓) Sudden release of pressure	Max. daily inventory 11
CAS Number: 76-13-1	( ) Reactive	Avg. daily inventory 11
DOT Number:	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MAINT BLDG(783)	
Name: FREON 113	( ) Fire	Container Type CN
Substance Number: 1904	(✓) Sudden release of pressure	Max. daily inventory 10
CAS Number: 76-13-1	( ) Reactive	Avg. daily inventory 10
DOT Number:	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (✓) Gas (✓)	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MAINT BLDG(783)	

INVENTORY RANGE CODES [1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
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12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 16 for gallon and cubic feet conversion factors

CONTAINER CODES AND DESCRIPTIONS

TA	Above ground tank	BA	Bag
TB	Below ground tank	BX	Box
TI	Tank inside building	CY	Cylinder
DS	Steel drum	BG	Bottles or jugs (glass)
DP	Plastic drum	BP	Bottles or jugs (plastic)
DF	Fiber drum	BN	Tote bin
CN	Can	TW	Tank Wagon
CB	Carboy	RC	Railcar
SI	Silo	OT	Other (Describe)

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
- 01 Ambient* pressure
- 02 Greater than ambient pressure
- 03 Less than ambient pressure

Temperature
- 04 Ambient temperature
- 05 Greater than ambient temperature
- 06 Less than ambient temperature but not cryogenic (freezing conditions)
- 07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding" or "room" conditions

DEQ-094

945750119

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 2

ATTN: DONALD POLZO
ITT CORPORATION
100 KINGSLAND RD.
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
1994 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 1994

Please type all responses.
Photocopy this page if you need additional forms.
Read instructions carefully before completing this form.

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION	
Name: FREON 113	( ) Fire	Container Type	BG
Substance Number: 1904	(√) Sudden release of pressure	Max. daily inventory	12
CAS Number: 76-13-1	( ) Reactive	Avg. daily inventory	12
DOT Number:	(√) Acute health effects	Days on site	365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure	01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature	04
Trade Secret: ( ) Check if claiming	Location(s) MEL TEST LABS(648)		
Name: FREON 113	( ) Fire	Container Type	CN
Substance Number: 1904	(√) Sudden release of pressure	Max. daily inventory	11
CAS Number: 76-13-1	( ) Reactive	Avg. daily inventory	10
DOT Number:	(√) Acute health effects	Days on site	365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure	02
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature	04
Trade Secret: ( ) Check if claiming	Location(s) MFT TECH CTR(653)		
Name: FREON 113	( ) Fire	Container Type	BP
Substance Number: 1904	(√) Sudden release of pressure	Max. daily inventory	12
CAS Number: 76-13-1	( ) Reactive	Avg. daily inventory	12
DOT Number:	(√) Acute health effects	Days on site	365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure	01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature	04
Trade Secret: ( ) Check if claiming	Location(s) OIL HOUSE (X)		
Name: FREON 113	( ) Fire	Container Type	CN
Substance Number: 1904	(√) Sudden release of pressure	Max. daily inventory	09
CAS Number: 76-13-1	( ) Reactive	Avg. daily inventory	09
DOT Number:	(√) Acute health effects	Days on site	365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure	02
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature	04
Trade Secret: ( ) Check if claiming	Location(s) OIL HOUSE(683)		
Name: FREON 113	( ) Fire	Container Type	BP
Substance Number: 1904	(√) Sudden release of pressure	Max. daily inventory	09
CAS Number: 76-13-1	( ) Reactive	Avg. daily inventory	09
DOT Number:	(√) Acute health effects	Days on site	365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure	01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature	04
Trade Secret: ( ) Check if claiming	Location(s) OIL HOUSE(683)		

INVENTORY RANGE CODES [1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 16 for gallon and cubic feet conversion factors

CONTAINER CODES AND DESCRIPTIONS

TA	Above ground tank	BA	Bag
TB	Below ground tank	BX	Box
TI	Tank inside building	CY	Cylinder
DS	Steel drum	BG	Bottles or jugs (glass)
DP	Plastic drum	BP	Bottles or jugs (plastic)
DF	Fiber drum	BN	Tote bin
CN	Can	TW	Tank Wagon
CB	Carboy	RC	Railcar
SI	Silo	OT	Other (Describe)

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
- 01 Ambient* pressure
- 02 Greater than ambient pressure
- 03 Less than ambient pressure

Temperature
- 04 Ambient temperature
- 05 Greater than ambient temperature
- 06 Less than ambient temperature but not cryogenic (freezing conditions)
- 07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding" or "room" conditions

DEQ-094

945750120

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 2

ATTN:DONALD POLZO
ITT CORPORATION
100 KINGSLAND RD.
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PART 2
1994 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 1994

Please type all responses.
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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: FREON 113	( ) Fire	Container Type CN
Substance Number: 1904	(✓) Sudden release of pressure	Max. daily inventory 11
CAS Number: 76-13-1	( ) Reactive	Avg. daily inventory 11
DOT Number:	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) TEM LAB/METROLOGY(643)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) AATF(662)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) ADMIN.SRV./MAILRM.(778)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) ATRJ LAB(728)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 11
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) ATRJ LAB(728)	

INVENTORY RANGE CODES [1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 16 for gallon and cubic feet conversion factors

CONTAINER CODES AND DESCRIPTIONS

TA	Above ground tank	BA	Bag
TB	Below ground tank	BX	Box
TI	Tank inside building	CY	Cylinder
DS	Steel drum	BG	Bottles or jugs (glass)
DP	Plastic drum	BP	Bottles or jugs (plastic)
DF	Fiber drum	BN	Tote bin
CN	Can	TW	Tank Wagon
CB	Carboy	RC	Railcar
SI	Silo	OT	Other (Describe)

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
- 01 Ambient* pressure
- 02 Greater than ambient pressure
- 03 Less than ambient pressure

Temperature
- 04 Ambient temperature
- 05 Greater than ambient temperature
- 06 Less than ambient temperature but not cryogenic (freezing conditions)
- 07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding" or "room" conditions

DEO-094

945750121

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ITT CORPORATION
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PART 2
1994 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 1994

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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type	BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory	11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory	10
DOT Number: 1219	(√) Acute health effects	Days on site	365
Pure (√) or Mixture ( )	(√) Chronic health effects	Storage pressure	01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature	04
Trade Secret: ( ) Check if claiming	Location(s) BIG TEST RM(666)		
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type	BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory	11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory	11
DOT Number: 1219	(√) Acute health effects	Days on site	365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure	01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature	04
Trade Secret: ( ) Check if claiming	Location(s) BOILER RM(783)		
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type	BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory	09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory	09
DOT Number: 1219	(√) Acute health effects	Days on site	365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure	01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature	04
Trade Secret: ( ) Check if claiming	Location(s) CAFE(616)		
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type	DS
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory	12
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory	12
DOT Number: 1219	(√) Acute health effects	Days on site	365
Pure (√) or Mixture ( )	(√) Chronic health effects	Storage pressure	01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature	04
Trade Secret: ( ) Check if claiming	Location(s) CHEM ROOM(854)		
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type	BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory	12
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory	12
DOT Number: 1219	(√) Acute health effects	Days on site	365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure	01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature	04
Trade Secret: ( ) Check if claiming	Location(s) CHEM ROOM(854)		

INVENTORY RANGE CODES [1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 16 for gallon and cubic feet conversion factors

CONTAINER CODES AND DESCRIPTIONS

TA	Above ground tank	BA	Bag
TB	Below ground tank	BX	Box
TI	Tank inside building	CY	Cylinder
DS	Steel drum	BG	Bottles or jugs (glass)
DP	Plastic drum	BP	Bottles or jugs (plastic)
DF	Fiber drum	BN	Tote bin
CN	Can	TW	Tank Wagon
CB	Carboy	RC	Railcar
SI	Silo	OT	Other (Describe)

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
- 01 Ambient* pressure
- 02 Greater than ambient pressure
- 03 Less than ambient pressure

Temperature
- 04 Ambient temperature
- 05 Greater than ambient temperature
- 06 Less than ambient temperature but not cryogenic (freezing conditions)
- 07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding" or "room" conditions

DEQ-094

945750122

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 2

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PART 2
1994 CHEMICAL INVENTORY REPORT

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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type	BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory	11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory	11
DOT Number: 1219	(✓) Acute health effects	Days on site	365
Pure (✓) or Mixture ( )	(✓) Chronic health effects	Storage pressure	01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature	04
Trade Secret: ( ) Check if claiming	Location(s) CONF COAT(681)		
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type	BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory	11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory	11
DOT Number: 1219	(✓) Acute health effects	Days on site	365
Pure (✓) or Mixture ( )	(✓) Chronic health effects	Storage pressure	01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature	04
Trade Secret: ( ) Check if claiming	Location(s) DIGITAL DESIGN(624)		
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type	BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory	11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory	11
DOT Number: 1219	(✓) Acute health effects	Days on site	365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure	01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature	04
Trade Secret: ( ) Check if claiming	Location(s) EHS LAB(796)		
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type	CY
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory	09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory	09
DOT Number: 1219	(✓) Acute health effects	Days on site	365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure	02
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature	04
Trade Secret: ( ) Check if claiming	Location(s) EMC/TEMPEST(8532)		
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type	BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory	10
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory	10
DOT Number: 1219	(✓) Acute health effects	Days on site	365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure	01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature	04
Trade Secret: ( ) Check if claiming	Location(s) EMC/TEMPEST(8532)		

INVENTORY RANGE CODES [1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 16 for gallon and cubic feet conversion factors

CONTAINER CODES AND DESCRIPTIONS

TA	Above ground tank	BA	Bag
TB	Below ground tank	BX	Box
TI	Tank inside building	CY	Cylinder
DS	Steel drum	BG	Bottles or jugs (glass)
DP	Plastic drum	BP	Bottles or jugs (plastic)
DF	Fiber drum	BN	Tote bin
CN	Can	TW	Tank Wagon
CB	Carboy	RC	Railcar
SI	Silo	OT	Other (Describe)

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
- 01 Ambient* pressure
- 02 Greater than ambient pressure
- 03 Less than ambient pressure

Temperature
- 04 Ambient temperature
- 05 Greater than ambient temperature
- 06 Less than ambient temperature but not cryogenic (freezing conditions)
- 07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding" or "room" conditions

DEQ-094

945750123

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 2

ATTN: DONALD POLZO
ITT CORPORATION
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CLIFTON, NJ 07014
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PART 2
1994 CHEMICAL INVENTORY REPORT

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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type: CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory: 10
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory: 10
DOT Number: 1219	(✓) Acute health effects	Days on site: 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure: 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature: 04
Trade Secret: ( ) Check if claiming	Location(s) FAB SHOP(681)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type: CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory: 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory: 09
DOT Number: 1219	(✓) Acute health effects	Days on site: 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure: 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature: 04
Trade Secret: ( ) Check if claiming	Location(s) GRAPHICS(635)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type: CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory: 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory: 09
DOT Number: 1219	(✓) Acute health effects	Days on site: 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure: 02
Solid ( ) Liquid (✓) Gas (✓)	( ) None per MSDS	Storage temperature: 04
Trade Secret: ( ) Check if claiming	Location(s) GRAPHICS(635)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type: BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory: 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory: 09
DOT Number: 1219	(✓) Acute health effects	Days on site: 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure: 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature: 04
Trade Secret: ( ) Check if claiming	Location(s) GRAPHICS(635)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type: BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory: 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory: 09
DOT Number: 1219	(✓) Acute health effects	Days on site: 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure: 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature: 04
Trade Secret: ( ) Check if claiming	Location(s) INSP(758)	

INVENTORY RANGE CODES [1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 16 for gallon and cubic feet conversion factors

CONTAINER CODES AND DESCRIPTIONS

TA	Above ground tank	BA	Bag
TB	Below ground tank	BX	Box
TI	Tank inside building	CY	Cylinder
DS	Steel drum	BG	Bottles or jugs (glass)
DP	Plastic drum	BP	Bottles or jugs (plastic)
DF	Fiber drum	BN	Tote bin
CN	Can	TW	Tank Wagon
CB	Carboy	RC	Railcar
SI	Silo	OT	Other (Describe)

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
- 01 Ambient* pressure
- 02 Greater than ambient pressure
- 03 Less than ambient pressure

Temperature
- 04 Ambient temperature
- 05 Greater than ambient temperature
- 06 Less than ambient temperature but not cryogenic (freezing conditions)
- 07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding" or "room" conditions

DEQ-094

945750124

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 2

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PART 2
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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 10
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 10
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MAINT BLDG(783)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (✓) Gas (✓)	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MAINT BLDG(783)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MAINT BLDG(783)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type BG
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 12
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 12
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure (✓) or Mixture ( )	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MEL TEST LABS(648)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 11
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure (✓) or Mixture ( )	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MFT TECH CTR(653)	

INVENTORY RANGE CODES [1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 16 for gallon and cubic feet conversion factors

CONTAINER CODES AND DESCRIPTIONS

TA	Above ground tank	BA	Bag
TB	Below ground tank	BX	Box
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DP	Plastic drum	BP	Bottles or jugs (plastic)
DF	Fiber drum	BW	Tote bin
CN	Can	TW	Tank Wagon
CB	Carboy	RC	Railcar
SI	Silo	OT	Other (Describe)

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
- 01 Ambient* pressure
- 02 Greater than ambient pressure
- 03 Less than ambient pressure

Temperature
- 04 Ambient temperature
- 05 Greater than ambient temperature
- 06 Less than ambient temperature but not cryogenic (freezing conditions)
- 07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding" or "room" conditions

DEQ-094

945750125

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 2

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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type	CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory	10
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory	10
DOT Number: 1219	(√) Acute health effects	Days on site	365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure	02
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature	04
Trade Secret: ( ) Check if claiming	Location(s) MICRO DESIGN LAB(608)		
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type	BG
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory	09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory	09
DOT Number: 1219	(√) Acute health effects	Days on site	365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure	01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature	04
Trade Secret: ( ) Check if claiming	Location(s) MICRO DESIGN LAB(608)		
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type	BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory	10
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory	10
DOT Number: 1219	(√) Acute health effects	Days on site	365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure	01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature	04
Trade Secret: ( ) Check if claiming	Location(s) MICRO DESIGN LAB(608)		
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type	BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory	10
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory	10
DOT Number: 1219	(√) Acute health effects	Days on site	365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure	01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature	04
Trade Secret: ( ) Check if claiming	Location(s) MICRO FAB(637)		
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type	CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory	10
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory	10
DOT Number: 1219	(√) Acute health effects	Days on site	365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure	01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature	04
Trade Secret: ( ) Check if claiming	Location(s) MODEL SHOP(854)		

INVENTORY RANGE CODES [1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 16 for gallon and cubic feet conversion factors

CONTAINER CODES AND DESCRIPTIONS

TA	Above ground tank	BA	Bag
TB	Below ground tank	BX	Box
TI	Tank inside building	CY	Cylinder
DS	Steel drum	BG	Bottles or jugs (glass)
DP	Plastic drum	BP	Bottles or jugs (plastic)
DF	Fiber drum	BN	Tote bin
CN	Can	TW	Tank Wagon
CB	Carboy	RC	Railcar
SI	Silo	OT	Other (Describe)

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
- 01 Ambient* pressure
- 02 Greater than ambient pressure
- 03 Less than ambient pressure

Temperature
- 04 Ambient temperature
- 05 Greater than ambient temperature
- 06 Less than ambient temperature but not cryogenic (freezing conditions)
- 07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding" or "room" conditions

DEQ-094

945750126

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 2

ATTN: DONALD POLZO
ITT CORPORATION
100 KINGSLAND RD.
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
1994 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 1994

Please type all responses.
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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 12
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 12
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure (✓) or Mixture ( )	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MODEL SHOP(854)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) NW STORAGE/MAINT(783)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 11
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) NW STORAGE/MAINT(783)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 12
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 12
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) OIL HOUSE (X)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 12
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 12
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) OIL HOUSE (X)	

INVENTORY RANGE CODES [1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 16 for gallon and cubic feet conversion factors

CONTAINER CODES AND DESCRIPTIONS

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DS	Steel drum	BG	Bottles or jugs (glass)
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DF	Fiber drum	BN	Tote bin
CN	Can	TW	Tank Wagon
CB	Carboy	RC	Railcar
SI	Silo	OT	Other (Describe)

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
- 01 Ambient* pressure
- 02 Greater than ambient pressure
- 03 Less than ambient pressure

Temperature
- 04 Ambient temperature
- 05 Greater than ambient temperature
- 06 Less than ambient temperature but not cryogenic (freezing conditions)
- 07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding" or "room" conditions

DEQ-094

945750127

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 2

ATTN: DONALD POLZO
ITT CORPORATION
100 KINGSLAND RD.
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
1994 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 1994

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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 12
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 11
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( )	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) OIL HOUSE(683)	

Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 12
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 12
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) OIL HOUSE(683)	

Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BG
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 10
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 10
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) OIL HOUSE(683)	

Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 10
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 10
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) OIL HOUSE(683)	

Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 11
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) OIL HOUSE(783)	

INVENTORY RANGE CODES [1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 16 for gallon and cubic feet conversion factors

CONTAINER CODES AND DESCRIPTIONS

TA	Above ground tank	BA	Bag
TB	Below ground tank	BX	Box
TI	Tank inside building	CY	Cylinder
DS	Steel drum	BG	Bottles or jugs (glass)
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DF	Fiber drum	BN	Tote bin
CN	Can	TW	Tank Wagon
CB	Carboy	RC	Railcar
SI	Silo	OT	Other (Describe)

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
- 01 Ambient* pressure
- 02 Greater than ambient pressure
- 03 Less than ambient pressure

Temperature
- 04 Ambient temperature
- 05 Greater than ambient temperature
- 06 Less than ambient temperature but not cryogenic (freezing conditions)
- 07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding" or "room" conditions

DED-094

945750128

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 2

ATTN: DONALD POLZO
ITT CORPORATION
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PART 2
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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) OPS PLAN.& CONTROL(656)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) OPS PLAN.& CONTROL(656)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (✓) Gas (✓)	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) OPS PLAN.& CONTROL(656)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) OPS PLAN.& CONTROL(656)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 12
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 12
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PAINT SHOP(681)	

INVENTORY RANGE CODES [1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 16 for gallon and cubic feet conversion factors

CONTAINER CODES AND DESCRIPTIONS

TA	Above ground tank	BA	Bag
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TI	Tank inside building	CY	Cylinder
DS	Steel drum	BG	Bottles or jugs (glass)
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DF	Fiber drum	BN	Tote bin
CN	Can	TW	Tank Wagon
CB	Carboy	RC	Railcar
SI	Silo	OT	Other (Describe)

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
- 01 Ambient* pressure
- 02 Greater than ambient pressure
- 03 Less than ambient pressure

Temperature
- 04 Ambient temperature
- 05 Greater than ambient temperature
- 06 Less than ambient temperature but not cryogenic (freezing conditions)
- 07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding" or "room" conditions

DEQ-094

945750129

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 2

ATTN: DONALD POLZO
ITT CORPORATION
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CLIFTON, NJ 07014
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PART 2
1994 CHEMICAL INVENTORY REPORT

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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 12
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 11
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure (✓) or Mixture ( )	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PAINT SHOP(681)	

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 10
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PAINT SHOP(681)	

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 11
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PCB ASSEMBLY(681)	

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 12
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 12
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PCB ASSEMBLY(681)	

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 11
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure (✓) or Mixture ( )	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PCB ASSEMBLY(681)	

INVENTORY RANGE CODES [1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
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[1] NOTE: Please see pages 14 thru 16 for gallon and cubic feet conversion factors

CONTAINER CODES AND DESCRIPTIONS

TA	Above ground tank	BA	Bag
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STORAGE TEMPERATURE AND PRESSURE CODES

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- 03 Less than ambient pressure

Temperature
- 04 Ambient temperature
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DEQ-094

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PART 2
1994 CHEMICAL INVENTORY REPORT

ATTN: DONALD POLZO
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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 10
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 10
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure (✓) or Mixture ( )	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PRESS ROOM(777)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PRESS ROOM(777)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
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Pure (✓) or Mixture ( )	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PROTO ASSEMBLY(854)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PROTO ASSEMBLY(854)	

INVENTORY RANGE CODES [1]

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CB	Carboy	RC	Railcar
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- 07 Cryogenic conditions (< -200° C)

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DEQ-094

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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 12
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 12
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PROTO ASSEMBLY(854)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 10
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 10
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) QRM/GEN ASMBLY(662)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 11
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( )	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) QRM/GEN ASMBLY(662)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 11
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) QRM/GEN ASMBLY(662)	
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type BG
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 11
DOT Number: 1219	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( )	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) REC./INSP.(769)	

INVENTORY RANGE CODES [1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 16 for gallon and cubic feet conversion factors

CONTAINER CODES AND DESCRIPTIONS

TA	Above ground tank	BA	Bag
TB	Below ground tank	BX	Box
TI	Tank inside building	CY	Cylinder
DS	Steel drum	BG	Bottles or jugs (glass)
DP	Plastic drum	BP	Bottles or jugs (plastic)
DF	Fiber drum	BN	Tote bin
CN	Can	TW	Tank Wagon
CB	Carboy	RC	Railcar
SI	Silo	OT	Other (Describe)

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
- 01 Ambient* pressure
- 02 Greater than ambient pressure
- 03 Less than ambient pressure

Temperature
- 04 Ambient temperature
- 05 Greater than ambient temperature
- 06 Less than ambient temperature but not cryogenic (freezing conditions)
- 07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding" or "room" conditions

DEQ-094

945750132

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 2

ATTN: DONALD POLZO
ITT CORPORATION
100 KINGSLAND RD.
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
1994 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 1994

Please type all responses.
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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type BP
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 10
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 10
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) REC./INSP.(769)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type BG
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) SHEET METAL(681)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 11
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) TEM LAB/METROLOGY(643)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type CN
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 10
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 10
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) TEM LAB/METROLOGY(643)	
Name: ISOPROPYL ALCOHOL	(✓) Fire	Container Type OT
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory 09
DOT Number: 1219	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) TRAIN RM(655)	

INVENTORY RANGE CODES [1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 16 for gallon and cubic feet conversion factors

CONTAINER CODES AND DESCRIPTIONS

TA	Above ground tank	BA	Bag
TB	Below ground tank	BX	Box
TI	Tank inside building	CY	Cylinder
DS	Steel drum	BG	Bottles or jugs (glass)
DP	Plastic drum	BP	Bottles or jugs (plastic)
DF	Fiber drum	BN	Tote bin
CN	Can	TW	Tank Wagon
CB	Carboy	RC	Railcar
SI	Silo	OT	Other (Describe)

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
- 01 Ambient* pressure
- 02 Greater than ambient pressure
- 03 Less than ambient pressure

Temperature
- 04 Ambient temperature
- 05 Greater than ambient temperature
- 06 Less than ambient temperature but not cryogenic (freezing conditions)
- 07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding" or "room" conditions

DEQ-094

945750133

2 0 9 6 0 5 0 0 0 3 | 3 6 6 2

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ITT CORPORATION
100 KINGSLAND RD.
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
1994 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 1994

Please type all responses.
Photocopy this page if you need additional forms.
Read instructions carefully before completing this form.

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: ISOPROPYL ALCOHOL	(√) Fire	Container Type: OT
Substance Number: 1076	( ) Sudden release of pressure	Max. daily inventory: 12
CAS Number: 67-63-0	( ) Reactive	Avg. daily inventory: 11
DOT Number: 1219	(√) Acute health effects	Days on site: 365
Pure (√) or Mixture ( )	(√) Chronic health effects	Storage pressure: 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature: 04
Trade Secret: ( ) Check if claiming	Location(s) TRAIN RM(655)	
Name: NITROGEN	( ) Fire	Container Type: TA
Substance Number:	( ) Sudden release of pressure	Max. daily inventory: 14
CAS Number: 7727-37-9	( ) Reactive	Avg. daily inventory: 13
DOT Number: 1066	( ) Acute health effects	Days on site: 365
Pure (√) or Mixture ( )	( ) Chronic health effects	Storage pressure: 03
Solid ( ) Liquid (√) Gas (√)	(√) None per MSDS	Storage temperature: 07
Trade Secret: ( ) Check if claiming	Location(s) GPS/SPACE(8534)	
Name: NITROGEN	( ) Fire	Container Type: TA
Substance Number:	( ) Sudden release of pressure	Max. daily inventory: 13
CAS Number: 7727-37-9	( ) Reactive	Avg. daily inventory: 13
DOT Number: 1066	( ) Acute health effects	Days on site: 365
Pure (√) or Mixture ( )	( ) Chronic health effects	Storage pressure: 03
Solid ( ) Liquid ( ) Gas (√)	(√) None per MSDS	Storage temperature: 07
Trade Secret: ( ) Check if claiming	Location(s) GPS/SPACE(8534)	
Name: NITROGEN	( ) Fire	Container Type: TA
Substance Number:	( ) Sudden release of pressure	Max. daily inventory: 14
CAS Number: 7727-37-9	( ) Reactive	Avg. daily inventory: 13
DOT Number: 1066	( ) Acute health effects	Days on site: 365
Pure ( ) or Mixture (√)	( ) Chronic health effects	Storage pressure: 02
Solid ( ) Liquid (√) Gas ( )	(√) None per MSDS	Storage temperature: 04
Trade Secret: ( ) Check if claiming	Location(s) OUTSIDE BLDG.(666)	
Name: NITROGEN	( ) Fire	Container Type: CY
Substance Number:	( ) Sudden release of pressure	Max. daily inventory: 13
CAS Number: 7727-37-9	( ) Reactive	Avg. daily inventory: 13
DOT Number: 1066	( ) Acute health effects	Days on site: 365
Pure (√) or Mixture ( )	( ) Chronic health effects	Storage pressure: 02
Solid ( ) Liquid ( ) Gas (√)	(√) None per MSDS	Storage temperature: 04
Trade Secret: ( ) Check if claiming	Location(s) POWER SYST LAB(624)	

INVENTORY RANGE CODES [1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 16 for gallon and cubic feet conversion factors

CONTAINER CODES AND DESCRIPTIONS

TA	Above ground tank	BA	Bag
TB	Below ground tank	BX	Box
TI	Tank inside building	CY	Cylinder
DS	Steel drum	BG	Botttes or jugs (glass)
DP	Plastic drum	BP	Bottles or jugs (plastic)
DF	Fiber drum	BN	Tote bin
CN	Can	TW	Tank Wagon
CB	Carboy	RC	Railcar
SI	Silo	OT	Other (Describe)

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
- 01 Ambient* pressure
- 02 Greater than ambient pressure
- 03 Less than ambient pressure

Temperature
- 04 Ambient temperature
- 05 Greater than ambient temperature
- 06 Less than ambient temperature but not cryogenic (freezing conditions)
- 07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding" or "room" conditions

DEQ-094

945750134

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 2

PART 2
1994 CHEMICAL INVENTORY REPORT

ATTN: DONALD POLZO
ITT CORPORATION
100 KINGSLAND RD.
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

Reporting Period: January 1 - December 31, 1994

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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: SULFURIC ACID	(√) Fire	Container Type BP
Substance Number: 1761	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 7664-93-9	(√) Reactive	Avg. daily inventory 09
DOT Number: 1830	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) BOILER RM(783)	
Name: SULFURIC ACID	(√) Fire	Container Type TA
Substance Number: 1761	( ) Sudden release of pressure	Max. daily inventory 13
CAS Number: 7664-93-9	(√) Reactive	Avg. daily inventory 13
DOT Number: 1830	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( )	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) EHS LAB(796)	
Name: SULFURIC ACID	(√) Fire	Container Type DP
Substance Number: 1761	( ) Sudden release of pressure	Max. daily inventory 13
CAS Number: 7664-93-9	(√) Reactive	Avg. daily inventory 13
DOT Number: 1830	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( )	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) EHS LAB(796)	
Name: SULFURIC ACID	(√) Fire	Container Type BG
Substance Number: 1761	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 7664-93-9	(√) Reactive	Avg. daily inventory 11
DOT Number: 1830	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MEL TEST LABS(648)	
Name: SULFURIC ACID	(√) Fire	Container Type BG
Substance Number: 1761	( ) Sudden release of pressure	Max. daily inventory 12
CAS Number: 7664-93-9	(√) Reactive	Avg. daily inventory 12
DOT Number: 1830	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( )	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MEL TEST LABS(648)	

INVENTORY RANGE CODES [1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 16 for gallon and cubic feet conversion factors

CONTAINER CODES AND DESCRIPTIONS

TA	Above ground tank	BA	Bag
TB	Below ground tank	BX	Box
TI	Tank inside building	CY	Cylinder
DS	Steel drum	BG	Bottles or jugs (glass)
DP	Plastic drum	BP	Bottles or jugs (plastic)
DF	Fiber drum	BN	Tote bin
CN	Can	TW	Tank Wagon
CB	Carboy	RC	Railcar
SI	Silo	OT	Other (Describe)

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
- 01 Ambient* pressure
- 02 Greater than ambient pressure
- 03 Less than ambient pressure

Temperature
- 04 Ambient temperature
- 05 Greater than ambient temperature
- 06 Less than ambient temperature but not cryogenic (freezing conditions)
- 07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding" or "room" conditions

DEQ-094

945750135

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 2

ATTN: DONALD POLZO
ITT CORPORATION
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PART 2
1994 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 1994

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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: SULFURIC ACID	(✓) Fire	Container Type: BG
Substance Number: 1761	( ) Sudden release of pressure	Max. daily inventory: 11
CAS Number: 7664-93-9	(✓) Reactive	Avg. daily inventory: 11
DOT Number: 1830	(✓) Acute health effects	Days on site: 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure: 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature: 04
Trade Secret: ( ) Check if claiming	Location(s) MICRO DESIGN LAB(608)	
Name: TOLUENE	(✓) Fire	Container Type: CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory: 09
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory: 09
DOT Number: 1294	(✓) Acute health effects	Days on site: 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure: 01
Solid (✓) Liquid ( ) Gas ( )	( ) None per MSDS	Storage temperature: 04
Trade Secret: ( ) Check if claiming	Location(s) AOQ PAVEMT(639)	
Name: TOLUENE	(✓) Fire	Container Type: CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory: 09
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory: 09
DOT Number: 1294	(✓) Acute health effects	Days on site: 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure: 02
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature: 04
Trade Secret: ( ) Check if claiming	Location(s) AOQ PAVEMT(639)	
Name: TOLUENE	(✓) Fire	Container Type: CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory: 12
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory: 12
DOT Number: 1294	(✓) Acute health effects	Days on site: 365
Pure (✓) or Mixture ( )	(✓) Chronic health effects	Storage pressure: 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature: 04
Trade Secret: ( ) Check if claiming	Location(s) ATRJ LAB(728)	
Name: TOLUENE	(✓) Fire	Container Type: CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory: 11
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory: 11
DOT Number: 1294	(✓) Acute health effects	Days on site: 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure: 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature: 04
Trade Secret: ( ) Check if claiming	Location(s) ATRJ LAB(728)	

INVENTORY RANGE CODES [1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 16 for gallon and cubic feet conversion factors

CONTAINER CODES AND DESCRIPTIONS

TA	Above ground tank	BA	Bag
TB	Below ground tank	BX	Box
TI	Tank inside building	CY	Cylinder
DS	Steel drum	BG	Bottles or jugs (glass)
DP	Plastic drum	BP	Bottles or jugs (plastic)
DF	Fiber drum	BN	Tote bin
CN	Can	TW	Tank Wagon
CB	Carboy	RC	Railcar
SI	Silo	OT	Other (Describe)

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
- 01 Ambient* pressure
- 02 Greater than ambient pressure
- 03 Less than ambient pressure

Temperature
- 04 Ambient temperature
- 05 Greater than ambient temperature
- 06 Less than ambient temperature but not cryogenic (freezing conditions)
- 07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding" or "room" conditions

DEQ-094

945750136

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 2

ATTN: DONALD POLZO
ITT CORPORATION
100 KINGSLAND RD.
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PART 2
1994 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 1994

Please type all responses.
Photocopy this page if you need additional forms.
Read instructions carefully before completing this form.

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 10
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 10
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) CHEM ROOM(854)	
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 12
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 12
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( )	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) CONF COAT(681)	
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 11
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) CONF COAT(681)	
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 10
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 09
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) DIGITAL DESIGN(624)	
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 09
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (√) Gas (√)	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) DIGITAL DESIGN(624)	

INVENTORY RANGE CODES [1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 16 for gallon and cubic feet conversion factors

CONTAINER CODES AND DESCRIPTIONS

TA	Above ground tank	BA	Bag
TB	Below ground tank	BX	Box
TI	Tank inside building	CY	Cylinder
DS	Steel drum	BG	Bottles or jugs (glass)
DP	Plastic drum	BP	Bottles or jugs (plastic)
DF	Fiber drum	BN	Tote bin
CN	Can	TW	Tank Wagon
CB	Carboy	RC	Railcar
SI	Silo	OT	Other (Describe)

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
- 01 Ambient* pressure
- 02 Greater than ambient pressure
- 03 Less than ambient pressure

Temperature
- 04 Ambient temperature
- 05 Greater than ambient temperature
- 06 Less than ambient temperature but not cryogenic (freezing conditions)
- 07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding" or "room" conditions

DEQ-094

945750137

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 2

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ITT CORPORATION
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PART 2
1994 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 1994

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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 09
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) FAB SHOP(681)	
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 09
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) GRAPHICS(635)	
Name: TOLUENE	(√) Fire	Container Type BP
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 09
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MACHINE SHOP(681)	
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 11
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MAINT BLDG(783)	
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 09
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (√) Gas (√)	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MAINT BLDG(783)	

INVENTORY RANGE CODES [1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 16 for gallon and cubic feet conversion factors

CONTAINER CODES AND DESCRIPTIONS

TA	Above ground tank	BA	Bag
TB	Below ground tank	BX	Box
TI	Tank inside building	CY	Cylinder
DS	Steel drum	BG	Bottles or jugs (glass)
DP	Plastic drum	BP	Bottles or jugs (plastic)
DF	Fiber drum	BN	Tote bin
CN	Can	TW	Tank Wagon
CB	Carboy	RC	Railcar
SI	Silo	OT	Other (Describe)

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
- 01 Ambient* pressure
- 02 Greater than ambient pressure
- 03 Less than ambient pressure

Temperature
- 04 Ambient temperature
- 05 Greater than ambient temperature
- 06 Less than ambient temperature but not cryogenic (freezing conditions)
- 07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding" or "room" conditions

DEQ-094

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 2

ATTN: DONALD POLZO
ITT CORPORATION
100 KINGSLAND RD.
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
1994 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 1994

Please type all responses.
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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 09
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MFT TECH CTR(653)	
Name: TOLUENE	(√) Fire	Container Type BP
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 09
DOT Number: 1294	(√) Acute health effects	Days on site 30
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MICRO DESIGN LAB(608)	
Name: TOLUENE	(√) Fire	Container Type BP
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 09
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid (√) Liquid ( ) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MICRO FAB(637)	
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 10
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 10
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) NW STORAGE/MAINT(783)	
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 12
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 12
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( )	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) OIL HOUSE (X)	

INVENTORY RANGE CODES [1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 16 for gallon and cubic feet conversion factors

CONTAINER CODES AND DESCRIPTIONS

TA	Above ground tank	BA	Bag
TB	Below ground tank	BX	Box
TI	Tank inside building	CY	Cylinder
DS	Steel drum	BG	Bottles or jugs (glass)
DP	Plastic drum	BP	Bottles or jugs (plastic)
DF	Fiber drum	BN	Tote bin
CN	Can	TW	Tank Wagon
CB	Carboy	RC	Railcar
SI	Silo	OT	Other (Describe)

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
- 01 Ambient* pressure
- 02 Greater than ambient pressure
- 03 Less than ambient pressure

Temperature
- 04 Ambient temperature
- 05 Greater than ambient temperature
- 06 Less than ambient temperature but not cryogenic (freezing conditions)
- 07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding" or "room" conditions

DEQ-094

945750139

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PART 2
1994 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 1994

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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 12
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 12
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) OIL HOUSE (X)	
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 12
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 12
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) OIL HOUSE(683)	
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 09
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) OIL HOUSE(683)	
Name: TOLUENE	(√) Fire	Container Type BG
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 11
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) OIL HOUSE(683)	
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 11
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) OIL HOUSE(783)	

INVENTORY RANGE CODES [1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 16 for gallon and cubic feet conversion factors

CONTAINER CODES AND DESCRIPTIONS

TA	Above ground tank	BA	Bag
TB	Below ground tank	BX	Box
TI	Tank inside building	CY	Cylinder
DS	Steel drum	BG	Bottles or jugs (glass)
DP	Plastic drum	BP	Bottles or jugs (plastic)
DF	Fiber drum	BN	Tote bin
CN	Can	TW	Tank Wagon
CB	Carboy	RC	Railcar
SI	Silo	OT	Other (Describe)

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
- 01 Ambient* pressure
- 02 Greater than ambient pressure
- 03 Less than ambient pressure

Temperature
- 04 Ambient temperature
- 05 Greater than ambient temperature
- 06 Less than ambient temperature but not cryogenic (freezing conditions)
- 07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding" or "room" conditions

DEQ-094

945750140

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PART 2
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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 12
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 12
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PAINT SHOP(681)	

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: TOLUENE	(√) Fire	Container Type BG
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 10
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure (√) or Mixture ( )	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PAINT SHOP(681)	

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 09
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas (√)	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PROTO ASSEMBLY(854)	

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 09
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid (√) Liquid ( ) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PROTO ASSEMBLY(854)	

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 11
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PROTO ASSEMBLY(854)	

INVENTORY RANGE CODES [1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 16 for gallon and cubic feet conversion factors

CONTAINER CODES AND DESCRIPTIONS

TA	Above ground tank	BA	Bag
TB	Below ground tank	BX	Box
TI	Tank inside building	CY	Cylinder
DS	Steel drum	BG	Bottles or jugs (glass)
DP	Plastic drum	BP	Bottles or jugs (plastic)
DF	Fiber drum	BN	Tote bin
CN	Can	TW	Tank Wagon
CB	Carboy	RC	Railcar
SI	Silo	OT	Other (Describe)

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
- 01 Ambient* pressure
- 02 Greater than ambient pressure
- 03 Less than ambient pressure

Temperature
- 04 Ambient temperature
- 05 Greater than ambient temperature
- 06 Less than ambient temperature but not cryogenic (freezing conditions)
- 07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding" or "room" conditions

DEQ-094

945750141

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 2

ATTN: DONALD POLZO
ITT CORPORATION
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PART 2
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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: TOLUENE	(√) Fire	Container Type BG
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 11
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PROTO ASSEMBLY(854)	

Name: TOLUENE	(√) Fire	Container Type BP
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 11
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) SECURE CAGE(683)	

Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 11
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) SHEET METAL(681)	

Name: TOLUENE	(√) Fire	Container Type BG
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 09
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) SHEET METAL(681)	

Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 10
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 10
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) SHIP(689)	

INVENTORY RANGE CODES [1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 16 for gallon and cubic feet conversion factors

CONTAINER CODES AND DESCRIPTIONS

TA	Above ground tank	BA	Bag
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TI	Tank inside building	CY	Cylinder
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DF	Fiber drum	BN	Tote bin
CN	Can	TW	Tank Wagon
CB	Carboy	RC	Railcar
SI	Silo	OT	Other (Describe)

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
- 01 Ambient* pressure
- 02 Greater than ambient pressure
- 03 Less than ambient pressure

Temperature
- 04 Ambient temperature
- 05 Greater than ambient temperature
- 06 Less than ambient temperature but not cryogenic (freezing conditions)
- 07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding" or "room" conditions

DEQ-094

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 2

PART 2
1994 CHEMICAL INVENTORY REPORT

ATTN: DONALD POLZO
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100 KINGSLAND RD.
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FACILITY LOCATION LABEL

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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: TOLUENE	(√) Fire	Container Type CN
Substance Number: 1866	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 108-88-3	( ) Reactive	Avg. daily inventory 11
DOT Number: 1294	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) TEM LAB/METROLOGY(643)	
Name: XYLENE (MIXED ISOMERS)	(√) Fire	Container Type CN
Substance Number: 2014	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 1330-20-7	( ) Reactive	Avg. daily inventory 09
DOT Number: 1307	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid (√) Liquid ( ) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) AOQ PAVEMT(639)	
Name: XYLENE (MIXED ISOMERS)	(√) Fire	Container Type CN
Substance Number: 2014	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 1330-20-7	( ) Reactive	Avg. daily inventory 09
DOT Number: 1307	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) AOQ PAVEMT(639)	
Name: XYLENE (MIXED ISOMERS)	(√) Fire	Container Type CN
Substance Number: 2014	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 1330-20-7	( ) Reactive	Avg. daily inventory 09
DOT Number: 1307	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) ATRJ LAB(728)	
Name: XYLENE (MIXED ISOMERS)	(√) Fire	Container Type CN
Substance Number: 2014	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 1330-20-7	( ) Reactive	Avg. daily inventory 11
DOT Number: 1307	(√) Acute health effects	Days on site 365
Pure ( ) or Mixture (√)	(√) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (√) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) BOILER RM(783)	

INVENTORY RANGE CODES [1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 16 for gallon and cubic feet conversion factors

CONTAINER CODES AND DESCRIPTIONS

TA	Above ground tank	BA	Bag
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DF	Fiber drum	BN	Tote bin
CN	Can	TW	Tank Wagon
CB	Carboy	RC	Railcar
SI	Silo	OT	Other (Describe)

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
- 01 Ambient* pressure
- 02 Greater than ambient pressure
- 03 Less than ambient pressure

Temperature
- 04 Ambient temperature
- 05 Greater than ambient temperature
- 06 Less than ambient temperature but not cryogenic (freezing conditions)
- 07 Cryogenic conditions (< -200° C)

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DEQ-094

945750143

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SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: XYLENE (MIXED ISOMERS)	(✓) Fire	Container Type CN
Substance Number: 2014	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 1330-20-7	( ) Reactive	Avg. daily inventory 09
DOT Number: 1307	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (✓) Gas (✓)	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MAINT BLDG(783)	

Name: XYLENE (MIXED ISOMERS)	(✓) Fire	Container Type BG
Substance Number: 2014	( ) Sudden release of pressure	Max. daily inventory 10
CAS Number: 1330-20-7	( ) Reactive	Avg. daily inventory 10
DOT Number: 1307	(✓) Acute health effects	Days on site 365
Pure (✓) or Mixture ( )	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MEL TEST LABS(648)	

Name: XYLENE (MIXED ISOMERS)	(✓) Fire	Container Type BG
Substance Number: 2014	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 1330-20-7	( ) Reactive	Avg. daily inventory 09
DOT Number: 1307	(✓) Acute health effects	Days on site 30
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) MICRO DESIGN LAB(608)	

Name: XYLENE (MIXED ISOMERS)	(✓) Fire	Container Type CN
Substance Number: 2014	( ) Sudden release of pressure	Max. daily inventory 12
CAS Number: 1330-20-7	( ) Reactive	Avg. daily inventory 12
DOT Number: 1307	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) OIL HOUSE (X)	

Name: XYLENE (MIXED ISOMERS)	(✓) Fire	Container Type CN
Substance Number: 2014	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 1330-20-7	( ) Reactive	Avg. daily inventory 11
DOT Number: 1307	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) OIL HOUSE(683)	

INVENTORY RANGE CODES [1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
17	250,001 to 500,000 pounds
16	100,001 to 250,000 pounds
15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 16 for gallon and cubic feet conversion factors

CONTAINER CODES AND DESCRIPTIONS

TA	Above ground tank	BA	Bag
TB	Below ground tank	BX	Box
TI	Tank inside building	CY	Cylinder
DS	Steel drum	BG	Bottles or jugs (glass)
DP	Plastic drum	BP	Bottles or jugs (plastic)
DF	Fiber drum	BN	Tote bin
CN	Can	TW	Tank Wagon
CB	Carboy	RC	Railcar
SI	Silo	OT	Other (Describe)

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
- 01 Ambient* pressure
- 02 Greater than ambient pressure
- 03 Less than ambient pressure

Temperature
- 04 Ambient temperature
- 05 Greater than ambient temperature
- 06 Less than ambient temperature but not cryogenic (freezing conditions)
- 07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding" or "room" conditions

DEQ-094

945750144

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 2

ATTN: DONALD POLZO
ITT CORPORATION
100 KINGSLAND RD.
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
1994 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 1994

Please type all responses.
Photocopy this page if you need additional forms.
Read instructions carefully before completing this form.

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: XYLENE (MIXED ISOMERS)	(✓) Fire	Container Type BG
Substance Number: 2014	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 1330-20-7	( ) Reactive	Avg. daily inventory 10
DOT Number: 1307	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) OIL HOUSE(683)	

Name: XYLENE (MIXED ISOMERS)	(✓) Fire	Container Type CN
Substance Number: 2014	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 1330-20-7	( ) Reactive	Avg. daily inventory 11
DOT Number: 1307	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) OIL HOUSE(783)	

Name: XYLENE (MIXED ISOMERS)	(✓) Fire	Container Type CN
Substance Number: 2014	( ) Sudden release of pressure	Max. daily inventory 12
CAS Number: 1330-20-7	( ) Reactive	Avg. daily inventory 12
DOT Number: 1307	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PAINT SHOP(681)	

Name: XYLENE (MIXED ISOMERS)	(✓) Fire	Container Type CN
Substance Number: 2014	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 1330-20-7	( ) Reactive	Avg. daily inventory 11
DOT Number: 1307	(✓) Acute health effects	Days on site 365
Pure (✓) or Mixture ( )	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PAINT SHOP(681)	

Name: XYLENE (MIXED ISOMERS)	(✓) Fire	Container Type CN
Substance Number: 2014	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 1330-20-7	( ) Reactive	Avg. daily inventory 09
DOT Number: 1307	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 02
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PAINT SHOP(681)	

INVENTORY RANGE CODES [1]

20	Greater than 10 million pounds
19	1,000,001 to 10 million pounds
18	500,001 to 1 million pounds
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15	50,001 to 100,000 pounds
14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
12	101 to 1,000 pounds
11	11 to 100 pounds
10	1 to 10 pounds
09	less than 1 pound

[1] NOTE: Please see pages 14 thru 16 for gallon and cubic feet conversion factors

CONTAINER CODES AND DESCRIPTIONS

TA	Above ground tank	BA	Bag
TB	Below ground tank	BX	Box
TI	Tank inside building	CY	Cylinder
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DP	Plastic drum	BP	Bottles or jugs (plastic)
DF	Fiber drum	BN	Tote bin
CN	Can	TW	Tank Wagon
CB	Carboy	RC	Railcar
SI	Silo	OT	Other (Describe)

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
- 01 Ambient* pressure
- 02 Greater than ambient pressure
- 03 Less than ambient pressure

Temperature
- 04 Ambient temperature
- 05 Greater than ambient temperature
- 06 Less than ambient temperature but not cryogenic (freezing conditions)
- 07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding" or "room" conditions

DEQ-094

945750145

2 0 9 6 0 5 0 0 0 0 3 | 3 6 6 2

ATTN: DONALD POLZO
ITT CORPORATION
100 KINGSLAND RD.
CLIFTON, NJ 07014
FACILITY LOCATION LABEL

PART 2
1994 CHEMICAL INVENTORY REPORT

Reporting Period: January 1 - December 31, 1994

Please type all responses.
Photocopy this page if you need additional forms.
Read instructions carefully before completing this form.

SUBSTANCE DESCRIPTION	HAZARDS (Check all that apply)	INVENTORY INFORMATION
Name: XYLENE (MIXED ISOMERS)	(✓) Fire	Container Type CN
Substance Number: 2014	( ) Sudden release of pressure	Max. daily inventory 11
CAS Number: 1330-20-7	( ) Reactive	Avg. daily inventory 11
DOT Number: 1307	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid ( ) Liquid (✓) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PROTO ASSEMBLY(854)	
Name: XYLENE (MIXED ISOMERS)	(✓) Fire	Container Type CN
Substance Number: 2014	( ) Sudden release of pressure	Max. daily inventory 09
CAS Number: 1330-20-7	( ) Reactive	Avg. daily inventory 09
DOT Number: 1307	(✓) Acute health effects	Days on site 365
Pure ( ) or Mixture (✓)	(✓) Chronic health effects	Storage pressure 01
Solid (✓) Liquid ( ) Gas ( )	( ) None per MSDS	Storage temperature 04
Trade Secret: ( ) Check if claiming	Location(s) PROTO ASSEMBLY(854)	
Name:	( ) Fire	Container Type
Substance Number:	( ) Sudden release of pressure	Max. daily inventory
CAS Number:	( ) Reactive	Avg. daily inventory
DOT Number:	( ) Acute health effects	Days on site
Pure ( ) or Mixture ( )	( ) Chronic health effects	Storage pressure
Solid ( ) Liquid ( ) Gas ( )	( ) None per MSDS	Storage temperature
Trade Secret: ( ) Check if claiming	Location(s)	
Name:	( ) Fire	Container Type
Substance Number:	( ) Sudden release of pressure	Max. daily inventory
CAS Number:	( ) Reactive	Avg. daily inventory
DOT Number:	( ) Acute health effects	Days on site
Pure ( ) or Mixture ( )	( ) Chronic health effects	Storage pressure
Solid ( ) Liquid ( ) Gas ( )	( ) None per MSDS	Storage temperature
Trade Secret: ( ) Check if claiming	Location(s)	
Name:	( ) Fire	Container Type
Substance Number:	( ) Sudden release of pressure	Max. daily inventory
CAS Number:	( ) Reactive	Avg. daily inventory
DOT Number:	( ) Acute health effects	Days on site
Pure ( ) or Mixture ( )	( ) Chronic health effects	Storage pressure
Solid ( ) Liquid ( ) Gas ( )	( ) None per MSDS	Storage temperature
Trade Secret: ( ) Check if claiming	Location(s)	

INVENTORY RANGE CODES [1]

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18	500,001 to 1 million pounds
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14	10,001 to 50,000 pounds
13	1,001 to 10,000 pounds
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DS	Steel drum	BG	Bottles or jugs (glass)
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CN	Can	TW	Tank Wagon
CB	Carboy	RC	Railcar
SI	Silo	OT	Other (Describe)

STORAGE TEMPERATURE AND PRESSURE CODES

Pressure
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- 02 Greater than ambient pressure
- 03 Less than ambient pressure

Temperature
- 04 Ambient temperature
- 05 Greater than ambient temperature
- 06 Less than ambient temperature but not cryogenic (freezing conditions)
- 07 Cryogenic conditions (< -200° C)

*Ambient means "normal", "surrounding" or "room" conditions

DEQ-094

945750146

DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMUNITY RIGHT TO KNOW SURVEY

to satisfy requirements under SARA, Title III, Section 312
and New Jersey Community Right to Know

NJEIN SIC COUNTY/ MUNICIPALITY

20960500003—3662—1602—03/01/89
ITT CORPORATION
ATTN: DONALD POLZO
100 KINGSTON RD. DEPT. 79601
CLIFTON, NJ 07014

PEEL HERE

Corrections:
ATTN: A. J. Leibowitz
100 Kingsland Rd-Dept. 79601
Clifton, NJ 07014

IMPORTANT: A separate survey must be completed for each facility.

(A) FACILITY LOCATION
If the facility location is different than the mailing address on the label, enter facility address below.

Check here if you would like your survey mailed to above address ☐

(B) Is any substance or material covered by the OSHA Hazard Communications Standard present at this facility?
☒ Yes ☐ No

(C) Number of employees at facility: 2700

(D) Briefly describe the nature of the operations or business conducted at this facility: Electronics

(E) Number of facilities in New Jersey 3

(F) Dun and Bradstreet No. 0 0 1 2 1 6 8 4 5

(G) CERTIFICATION OF OWNER/OPERATOR OR AUTHORIZED REPRESENTATIVE — I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Signature [signature] Date 2-24-89 Phone Number (201) 284-3549

Name (Print) Alan J. Leibowitz Title Mgr., Environmental Health and Safety.

(H) POLICE AND FIRE DEPARTMENT
Enter the respective phone numbers, names and addresses (including Zip Code) of your local fire and police departments in the spaces below.

POLICE DEPT.	FIRE DEPT.
Phone Number (201) 470-5911	Phone Number (201) 470-5911
Name Clifton Police Department	Name Clifton Fire Department
Address 900 Clifton Ave.	Address 900 Clifton Ave
Municipality Clifton Zip Code 07012	Municipality Clifton Zip Code 07012

(I) EMERGENCY CONTACT
Name Laurie Cooper Title Emergency Coordinator
Facility Phone Number (201) 284-4029 Emergency Contact Phone Number (201) 450-0133

NOTE: Make copies of both sides of this survey! The law requires that you send a copy to your County Lead Agency *(see list in instructions)*, Local Emergency Planning Committee and your local fire and police departments.

Return original to:
NJDEP — RTK SURVEY
CN 405
Trenton, NJ 08625-0405

945750148

IMPORTANT! Read all instructions before completing.
Photocopy this sheet, if you need additional forms.
Please print or type all responses.

Reporting Period: January 1 - December 31, 1988

FACILITY IDENTIFICATION AND SITE LOCATION

NJEIN _____

Facility Name ITT AVIONICS

Street Address 100 Kingsland Road

City Clifton State NJ Zip 07014

CHEMICAL DESCRIPTION	HAZARDS (Enter for all that apply.)	Inventory (Ranges) (Enter Code)	STORAGE CODES AND LOCATIONS (Enter Codes, except Location(s); supply narrative.)
Substance Name Sulfuric Acid CAS No. 7664 - 93 - 9 DOT No. 1831+ Substance No. (if available) 1761 Percent 59 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66, 67, 68, ___, ___	Max. Daily 12 Avg. Daily 12 Days Onsite 365 (Actual Number)	Container 32 Conditions 01 04 Location(s) Chemical Storage Room
Substance Name Ammonium Persulfate CAS No. 7727 - 54 - 0 DOT No. 1444 Substance No. (if available) 0111 Percent 59 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66, 67, 68, ___, ___	Max. Daily 13 Avg. Daily 12 Days Onsite 365 (Actual Number)	Container 47 Conditions 01 04 Location(s) Chemical Storage Room
Substance Name Hydrogen Chloride CAS No. 7647 - 01 - 0 DOT No. 1050+ Substance No. (if available) 1012 Percent 60 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66, 67, 68, ___, ___	Max. Daily 12 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 32 Conditions 01 04 Location(s) Chemical Storage Room
Substance Name Copper Chloride CAS No. 1344 - 67 - 8 DOT No. 2802 Substance No. (if available) 0532 Percent 61 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66 67 68 ___, ___, ___, ___, ___	Max. Daily 12 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 47 Conditions 01 04 Location(s) Chemical Storage Room
Substance Name Alcohol CAS No. - - DOT No. 1987 Substance No. (if available) 2079 Percent 54 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66, 67, 70, ___, ___	Max. Daily 11 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 38 Conditions 01 04 Location(s) Chemical Storage Room
Substance Name Muriatic Acid CAS No. 7647 - 01 - 0 DOT No. 1050+ Substance No. (if available) 1012 Percent 57 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66 67 68 ___, ___, ___, ___, ___	Max. Daily 13 Avg. Daily 12 Days Onsite 365 (Actual Number)	Container 38 Conditions 01 04 Location(s) Chemical Storage Room
Substance Name Stannous Chloride CAS No. 7772 - 99 - 8 DOT No. 1759 Substance No. (if available) 1733 Percent 54 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66 67 68 ___, ___, ___, ___, ___	Max. Daily 12 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 38 Conditions 01 04 Location(s) Chemical Storage Room

945750149

!! TANT! Read all instructions before completing.
Photocopy this sheet, if you need additional forms.
Please print or type all responses.

Reporting Period: January 1 - December 31, 1988

FACILITY IDENTIFICATION AND SITE LOCATION

NJEIN _____

Facility Name ITT AVIONICS

Street Address 100 Kingsland Road

City Clifton State NJ Zip 07014

CHEMICAL DESCRIPTION	HAZARDS (Enter for all that apply.)	Inventory (Ranges) (Enter Code)	STORAGE CODES AND LOCATIONS (Enter Codes, except Location(s); supply narrative.)
Substance Name Hydrochloric CAS No. 7647 - 01 - 0 DOT No. 1050+ Substance No. (if available) 1012 Percent 52 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66 67 68	Max. Daily 11 Avg. Daily 10 Days Onsite 365 (Actual Number)	Container 32 Conditions 01 04 Location(s) Chemical Storage Room
Substance Name Potassium Hydroxid CAS No. 7778 - 66 - 7 DOT No. 1791 Substance No. (if available) 1571 Percent 53 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66 67 68	Max. Daily 11 Avg. Daily 10 Days Onsite 365 (Actual Number)	Container 38 Conditions 01 04 Location(s) Chemical Storage Room
Substance Name Chromic Acid CAS No. 10025 - 73 - 7 DOT No. ____ Substance No. (if available) 3063 Percent 54 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66 67 68	Max. Daily 11 Avg. Daily 10 Days Onsite 365 (Actual Number)	Container 38 Conditions 01 04 Location(s) Chemical Storage Room
Substance Name Hydrochloric Acid CAS No. 7647 - 01 - 0 DOT No. 1050+ Substance No. (if available) 1012 Percent 53 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66 67 68	Max. Daily 12 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 32 Conditions 01 04 Location(s) Chemical Storage Room
Substance Name Isopropyl Alcohol CAS No. 67 - 63 - 0 DOT No. ____ Substance No. (if available) ____ Percent 55 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66 67 70	Max. Daily 12 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 38 Conditions 01 04 Location(s) Oil House
Substance Name Methylene Chloride CAS No. 75 - 09 - 2 DOT No. ____ Substance No. (if available) ____ Percent 55 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66 67 70	Max. Daily 11 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 47 Conditions 01 04 Location(s) Oil House
Substance Name Trichloroethylene CAS No. 79 - 01 - 6 DOT No. ____ Substance No. (if available) ____ Percent 54 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66 67 70	Max. Daily 12 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 47 Conditions 01 04 Location(s) Oil House

See Instruction Booklet for codes.

945750150

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Photocopy this sheet, if you need additional forms.
Please print or type all responses.

Reporting Period: January 1 - December 31, 1988

FACILITY IDENTIFICATION AND SITE LOCATION

NJEIN _____

Facility Name ITT AVIONICS

Street Address 100 Kingsland Road

City Clifton State NJ Zip 07014

CHEMICAL DESCRIPTION	HAZARDS (Enter for all that apply.)	Inventory (Ranges) (Enter Code)	STORAGE CODES AND LOCATIONS (Enter Codes, except Location(s); supply narrative.)
Substance Name Dipropylene Glycol Methyl Ether CAS No. 34590 - 94 - 8 DOT No. ____ Substance No. (if available) 0804 Percent 53 (Code) State L (Code) Trade Secret ☐ (Check if Claiming)	68, 67, 66, ___, ___	Max. Daily 11 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 38 Conditions 01 04 Location(s) Oil House
Substance Name Dye - CAS No. ___ - ___ - ___ DOT No. ____ Substance No. (if available) 2386 Percent 51 (Code) State L (Code) Trade Secret ☐ (Check if Claiming)	67, 66, ___, ___, ___	Max. Daily 11 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 38 Conditions 01 04 Location(s) Oil House
Substance Name Acetic Acid CAS No. 64 - 19 - 7 DOT No. 2789+ Substance No. (if available) 0004 Percent 52 (Code) State L (Code) Trade Secret ☐ (Check if Claiming)	66, 67, 68, ___, ___	Max. Daily 11 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 47 Conditions 01 04 Location(s) Oil House
Substance Name Butyl Acetate CAS No. 123 - 86 - 4 DOT No. ____ Substance No. (if available) ____ Percent 53 (Code) State L (Code) Trade Secret ☐ (Check if Claiming)	66, 67, 70, ___, ___	Max. Daily 12 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 46 Conditions 01 04 Location(s) Oil House
Substance Name Cellosolve Acetate CAS No. 111 - 15 - 9 DOT No. 1172 Substance No. (if available) 840 Percent 52 (Code) State L (Code) Trade Secret ☐ (Check if Claiming)	66, 67, 70, ___, ___	Max. Daily 11 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 46 Conditions 01 04 Location(s) Oil House
Substance Name Methyl Ethyl Ketone CAS No. 78 - 93 - 3 DOT No. 1258 Substance No. (if available) 1193 Percent 54 (Code) State L (Code) Trade Secret ☐ (Check if Claiming)	66, 67, 70, ___, ___	Max. Daily 11 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 46 Conditions 01 04 Location(s) Oil House
Substance Name Mineral Oil CAS No. 8012 - 95 - 1 DOT No. ____ Substance No. (if available) 1437 Percent 59 (Code) State L (Code) Trade Secret ☐ (Check if Claiming)	70, ___, ___, ___, ___	Max. Daily 11 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 46 Conditions 01 04 Location(s) Oil House

See Instruction Booklet for codes.

945750151

IMPORTANT! Read all instructions before completing.
Photocopy this sheet, if you need additional forms.
Please print or type all responses.

Reporting Period: January 1 - December 31, 1988

FACILITY IDENTIFICATION AND SITE LOCATION

NJEIN _____

Facility Name ITT AVIONICS

Street Address 100 Kingsland Road

City Clifton State NJ Zip 07014

CHEMICAL DESCRIPTION	HAZARDS (Enter for all that apply.)	Inventory (Ranges) (Enter Code)	STORAGE CODES AND LOCATIONS (Enter Codes, except Location(s); supply narrative.)
Substance Name Toluene CAS No. 108 - 88- 3 DOT No. ____ Substance No. (if available) ____ Percent 55 (Code) State L (Code) Trade Secret ☐ (Check if Claiming)	70, 66, 67, ___, ___	Max. Daily 12 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 46 Conditions 01 04 Location(s) Oil House
Substance Name Methyl Ethyl Ketone CAS No. 78 - 93- 3 DOT No. ____ Substance No. (if available) ____ Percent 53 (Code) State L (Code) Trade Secret ☐ (Check if Claiming)	70, 66, 67, ___, ___	Max. Daily 12 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 46 Conditions 01 04 Location(s) Oil House
Substance Name Xylene CAS No. 1330 - 20- 7 DOT No. ____ Substance No. (if available) ____ Percent 60 (Code) State L (Code) Trade Secret ☐ (Check if Claiming)	70, 66, 67, ___, ___	Max. Daily 11 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 46 Conditions 01 04 Location(s) Oil House
Substance Name Acetone CAS No. 67 - 64- 1 DOT No. ____ Substance No. (if available) ____ Percent 60 (Code) State L (Code) Trade Secret ☐ (Check if Claiming)	70, 66, 67, ___, ___	Max. Daily 12 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 39 Conditions 01 04 Location(s) Oil House
Substance Name 1,1,1 Trichloroethane CAS No. 71 - 55- 6 DOT No. ____ Substance No. (if available) ____ Percent 59 (Code) State L (Code) Trade Secret ☐ (Check if Claiming)	66, 67, 70, ___, ___	Max. Daily 13 Avg. Daily 12 Days Onsite 365 (Actual Number)	Container 39 Conditions 01 04 Location(s) Oil House
Substance Name Hydroquinone CAS No. 123 - 31- 9 DOT No. 2662 Substance No. (if available) 1019 Percent 53 (Code) State L (Code) Trade Secret ☐ (Check if Claiming)	66, 67, ___, ___	Max. Daily 11 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 38 Conditions 01 04 Location(s) Oil House
Substance Name Xylene CAS No. 1330 -20 - 7 DOT No. 1307 Substance No. (if available) 2014 Percent 54 (Code) State L (Code) Trade Secret ☐ (Check if Claiming)	70, 66, 67, ___, ___	Max. Daily 12 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 38 Conditions 01 04 Location(s) Oil House

See Instruction Booklet for codes.

945750152

IMPORTANT: Read all instructions before completing.
Photocopy this sheet, if you need additional forms.
Please print or type all responses.

Page ___ of ___

Reporting Period: January 1 - December 31, 1988

FACILITY IDENTIFICATION AND SITE LOCATION

NJEIN _____

Street Address 100 Kingsland Road

Facility Name ITT AVIONICS

City Clifton State NJ Zip 07014

CHEMICAL DESCRIPTION	HAZARDS (Enter for all that apply.)	Inventory (Ranges) (Enter Code)	STORAGE CODES AND LOCATIONS (Enter Codes, except Location(s); supply narrative.)
Substance Name Cellosolve Acetate CAS No. 111 - 15 - 9 DOT No. 1172 Substance No. (if available) 840 Percent 54 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	70 66 67	Max. Daily 11 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 38 Conditions 01 04 Location(s) Oil House
Substance Name Celloslve Acetate CAS No. 111 - 15 - 9 DOT No. 1172 Substance No. (if available) 840 Percent 52 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	70 66 67	Max. Daily 11 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 46 Conditions 01 04 Location(s) Oil House
Substance Name Xylene CAS No. 1330 - 20 - 7 DOT No. 1307 Substance No. (if available) 2014 Percent 52 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	70 66 67	Max. Daily 12 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 46 Conditions 01 04 Location(s) Oil House
Substance Name Pine Oil CAS No. 8002 - 09 - 3 DOT No. ____ Substance No. (if available) ____ Percent 61 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66 67	Max. Daily 11 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 47 Conditions 01 04 Location(s) Oil House
Substance Name Zinc Oxide CAS No. 1314 - 13 - 2 DOT No. ____ Substance No. (if available) 2037 Percent 61 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66 67	Max. Daily 11 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 46 Conditions 01 04 Location(s) Oil House
Substance Name Ethyl Acetate CAS No. 141 - 78 - 6 DOT No. 1173 Substance No. (if available) 0841 Percent 52 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66 67 70	Max. Daily 11 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 39 Conditions 01 04 Location(s) Oil House
Substance Name Ethanol CAS No. 64 - 17 - 5 DOT No. ____ Substance No. (if available) ____ Percent 58 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66 67 70	Max. Daily 11 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 39 Conditions 01 04 Location(s) Oil House

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945750153

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Reporting Period: January 1 - December 31, 1988

FACILITY IDENTIFICATION AND SITE LOCATION

NJEIN

Facility Name ITT AVIONICS

Street Address 100 Kingsland Road

City Clifton State NJ Zip 07014

CHEMICAL DESCRIPTION	HAZARDS	Inventory (Ranges)	STORAGE CODES AND LOCATIONS
	(Enter for all that apply.)	(Enter Code)	(Enter Codes, except Location(s); supply narrative.)
Substance Name Xylene CAS No. 1330 - 20 - 7 DOT No. 1307 Substance No. (if available) Percent 51 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	70, 66, 67, 68,	Max. Daily 12 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 47 Conditions 01 04 Location(s) Oil House
Substance Name Diacetone Alcohol CAS No. 123 - 42 2 DOT No. 1148 Substance No. (if available) Percent 51 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	70, 66, 67, 68,	Max. Daily 11 Avg. Daily 10 Days Onsite 365 (Actual Number)	Container 47 Conditions 01 04 Location(s) Oil House
Substance Name Titanium Dioxide CAS No. 13463 - 67 - 7 DOT No. Substance No. (if available) Percent 51 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	70, 66, 67, 68,	Max. Daily 11 Avg. Daily 10 Days Onsite 365 (Actual Number)	Container 47 Conditions 01 04 Location(s) Oil House
Substance Name Mineral Spirits CAS No. 8032 - 32 - 4 DOT No. Substance No. (if available) Percent 59 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	68, 70, 66, 67,	Max. Daily 11 Avg. Daily 10 Days Onsite 365 (Actual Number)	Container 46 Conditions 01 04 Location(s) Oil House
Substance Name Mineral Oil CAS No. 8012 - 95 - 1 DOT No. Substance No. (if available) Percent 56 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66, 67,	Max. Daily 12 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 47 Conditions 01 04 Location(s) Oil House
Substance Name Mineral Spirits CAS No. 64742 - 47 - 8 DOT No. Substance No. (if available) Percent 61 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66 67 68	Max. Daily 11 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 46 Conditions 01 04 Location(s) Oil House
Substance Name Xylene 5 CAS No. 1330 - 20 - 7 DOT No. Substance No. (if available) Percent 61 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66 67 68	Max. Daily 12 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 47 Conditions 01 04 Location(s) Oil House

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945750154

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CHEMICAL DESCRIPTION	HAZARDS (Enter for all that apply.)	Inventory (Ranges) (Enter Code)	STORAGE CODES AND LOCATIONS (Enter Codes, except Location(s); supply narrative.)
Substance Name Toluene CAS No. 108-88-3 DOT No. ____ Substance No. (if available) ____ Percent 53 (Code) State L (Code) Trade Secret ☐ (Check if Claiming)	66, 67, 68, ____, ____	Max. Daily 12 Avg. Daily 12 Days Onsite 365 (Actual Number)	Container 47 Conditions 01 04 Location(s) Oil House
Substance Name Cyclohexanone CAS No. 108-94-1 DOT No. 1915 Substance No. (if available) ____ Percent 53 (Code) State L (Code) Trade Secret ☐ (Check if Claiming)	66, 67, 68, ____, ____	Max. Daily 11 Avg. Daily 10 Days Onsite 365 (Actual Number)	Container 47 Conditions 01 04 Location(s) Oil House
Substance Name Heptane CAS No. 142-82-5 DOT No. 1206 Substance No. (if available) ____ Percent 54 (Code) State L (Code) Trade Secret ☐ (Check if Claiming)	66, 67, 68, ____, ____	Max. Daily 11 Avg. Daily 10 Days Onsite 365 (Actual Number)	Container 47 Conditions 01 04 Location(s) Oil House
Substance Name Acetone CAS No. 67-64-1 DOT No. ____ Substance No. (if available) ____ Percent 60 (Code) State L (Code) Trade Secret ☐ (Check if Claiming)	66, 67, 68, 70, ____	Max. Daily 12 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 47 Conditions 01 04 Location(s) Oil House
Substance Name Isopropanol CAS No. 67-63-0 DOT No. ____ Substance No. (if available) ____ Percent 59 (Code) State L (Code) Trade Secret ☐ (Check if Claiming)	66, 67, 68, 70, ____	Max. Daily 12 Avg. Daily 12 Days Onsite 365 (Actual Number)	Container 47 Conditions 01 04 Location(s) Oil House
Substance Name Polystyrene Resin CAS No. - - DOT No. 2211 Substance No. (if available) 2700 Percent 53 (Code) State L (Code) Trade Secret ☐ (Check if Claiming)	66, 67, 70, ____, ____	Max. Daily 11 Avg. Daily 10 Days Onsite 365 (Actual Number)	Container 39 Conditions 01 04 Location(s) Oil House
Substance Name Mineral Oil CAS No. 64742-53-6 DOT No. ____ Substance No. (if available) ____ Percent 61 (Code) State L (Code) Trade Secret ☐ (Check if Claiming)	66, 67, ____, ____, ____	Max. Daily 12 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 47 Conditions 01 04 Location(s) Oil House

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Facility Name ITT AVIONICS

City Clifton State NJ Zip 07014

CHEMICAL DESCRIPTION	HAZARDS (Enter for all that apply.)	Inventory (Ranges) (Enter Code)	STORAGE CODES AND LOCATIONS (Enter Codes, except Location(s); supply narrative.)
Substance Name Sulfuric Acid CAS No. 7664 - 93 - 9 DOT No. 1831+ Substance No. (if available) 1761 Percent 59 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	68, 66, 67, —, —	Max. Daily 13 Avg. Daily 12 Days Onsite 365 (Actual Number)	Container 39 Conditions 01 04 Location(s) Chemical Storage Room
Substance Name Hydrogen Chloride CAS No. 7647 - 01 - 0 DOT No. 1050+ Substance No. (if available) 1012 Percent 54 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	68, 66, 67, —, —	Max. Daily 13 Avg. Daily 12 Days Onsite 365 (Actual Number)	Container 39 Conditions 01 04 Location(s) Chemical Storage Room
Substance Name Dipropylene Glycol Methyl Ether CAS No. 34590 - 94 - 8 DOT No. _____ Substance No. (if available) 0804 Percent 53 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	68, 66, 67, —, —	Max. Daily 12 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 41 Conditions 01 04 Location(s) Chemical Storage Room
Substance Name Hydrochloric Acid CAS No. 7647 - 01 - 0 DOT No. 1050+ Substance No. (if available) 1012 Percent 54 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66, 67, 68, —, —	Max. Daily 12 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 38 Conditions 01 04 Location(s) Chemical Storage Room
Substance Name Formaldehyde CAS No. 50 - 00 - 0 DOT No. 1198+ Substance No. (if available) 0946 Percent 54 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66, 67, 68, —, —	Max. Daily 12 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 38 Conditions 01 04 Location(s) Chemical Storage Room
Substance Name Methanol CAS No. 67 - 56 - 1 DOT No. 1230 Substance No. (if available) 1222 Percent 53 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66, 67, 68, —, —	Max. Daily 11 Avg. Daily 10 Days Onsite 365 (Actual Number)	Container 38 Conditions 01 04 Location(s) Chemical Storage Room
Substance Name Hydrochloric Acid CAS No. 7647 01 - 0 DOT No. 1050+ Substance No. (if available) 1012 Percent 54 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66, 67, 68, —, —	Max. Daily 11 Avg. Daily 10 Days Onsite 365 (Actual Number)	Container 38 Conditions 01 04 Location(s) Chemical Storage Room

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945750156

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Facility Name ITT AVIONICS

City Clifton State NJ Zip 07014

CHEMICAL DESCRIPTION	HAZARDS	Inventory (Ranges)	STORAGE CODES AND LOCATIONS
Substance Name Copper CAS No. 7440 - 50 - 8 DOT No. N/A Substance No. (if available) 0528 Percent 60 State S Trade Secret ☐ (Code) (Code) (Check if Claiming)	(Enter for all that apply.) 66 ___,___,___, ___,___	(Enter Code) Max. Daily 12 Avg. Daily 12 Days Onsite 365 (Actual Number)	(Enter Codes, except Location(s); supply narrative.) Container 42 Conditions 01 04 Location(s) ~~Chemical Storage Room~~
Substance Name ~~Aluminum~~ CAS No. 7429 - 90 - 5 DOT No. ~~1383+~~ Substance No. (if available) 0054 Percent 59 State S Trade Secret ☐ (Code) (Code) (Check if Claiming)	68 ___,___,___, ___,___	Max. Daily 13 Avg. Daily 13 Days Onsite 365 (Actual Number)	Container 34* Conditions 01 04 Location(s) Metal Fabrication Shop *shipped by skids
Substance Name _____ CAS No. ___-___-___ DOT No. _____ Substance No. (if available) _____ Percent ___ State ___ Trade Secret ☐ (Code) (Code) (Check if Claiming)	___,___,___, ___,___	Max. Daily _____ Avg. Daily _____ Days Onsite _____ (Actual Number)	Container _____ Conditions ___ ___ Location(s) _____
Substance Name _____ CAS No. ___-___-___ DOT No. _____ Substance No. (if available) _____ Percent ___ State ___ Trade Secret ☐ (Code) (Code) (Check if Claiming)	___,___,___, ___,___	Max. Daily _____ Avg. Daily _____ Days Onsite _____ (Actual Number)	Container _____ Conditions ___ ___ Location(s) _____
Substance Name _____ CAS No. ___-___-___ DOT No. _____ Substance No. (if available) _____ Percent ___ State ___ Trade Secret ☐ (Code) (Code) (Check if Claiming)	___,___,___, ___,___	Max. Daily _____ Avg. Daily _____ Days Onsite _____ (Actual Number)	Container _____ Conditions ___ ___ Location(s) _____
Substance Name _____ CAS No. ___-___-___ DOT No. _____ Substance No. (if available) _____ Percent ___ State ___ Trade Secret ☐ (Code) (Code) (Check if Claiming)	___,___,___, ___,___	Max. Daily _____ Avg. Daily _____ Days Onsite _____ (Actual Number)	Container _____ Conditions ___ ___ Location(s) _____
Substance Name _____ CAS No. ___-___-___ DOT No. _____ Substance No. (if available) _____ Percent ___ State ___ Trade Secret ☐ (Code) (Code) (Check if Claiming)	___,___,___, ___,___	Max. Daily _____ Avg. Daily _____ Days Onsite _____ (Actual Number)	Container _____ Conditions ___ ___ Location(s) _____

945750157

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Street Address 100 Kingsland Road

Facility Name ITT AVIONICS

City Clifton State NJ Zip 07014

CHEMICAL DESCRIPTION	HAZARDS	Inventory (Ranges)	STORAGE CODES AND LOCATIONS
	(Enter for all that apply.)	(Enter Code)	(Enter Codes, except Location(s); supply narrative.)
Substance Name Sodium Hydroxide CAS No. 1310 - 73 - 2 DOT No. 1823+ Substance No. (if available) 1706 Percent 52 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66, 67, 68, ___, ___	Max. Daily 10 Avg. Daily 10 Days Onsite 365 (Actual Number)	Container 39 Conditions 01 04 Location(s) Materials & Evaluation Lab
Substance Name Ammonium Hydroxide CAS No. 1336 - 21 - 6 DOT No. 2672+ Substance No. (if available) 0103 Percent 60 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66 67 66, ___, ___	Max. Daily 10 Avg. Daily 10 Days Onsite 365 (Actual Number)	Container 39 Conditions 01 04 Location(s) Materials & Evaluation Lab
Substance Name Sodium Hydroxide CAS No. ___ - ___ - ___ DOT No. ___ Substance No. (if available) ___ Percent 52 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66 67 68, ___, ___	Max. Daily 10 Avg. Daily 10 Days Onsite 365 (Actual Number)	Container 39 Conditions 01 04 Location(s) Materials & Evaluation Lab
Substance Name Nitric Acid CAS No. 7697 - 37 - 2 DOT No. 2031+ Substance No. (if available) 1356 Percent 55 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66 67 68, ___, ___	Max. Daily 13 Avg. Daily 13 Days Onsite 30 (Actual Number)	Container 47 Conditions 01 04 Location(s) Chemical Storage Room
Substance Name Chlorine CAS No. 7782 - 50 - 5 DOT No. 1017 Substance No. (if available) 0367 Percent 60 State G Trade Secret ☐ (Code) (Code) (Check if Claiming)	69 68 67, 66, ___	Max. Daily 13 Avg. Daily 13 Days Onsite 365 (Actual Number)	Container 40 Conditions 02 04 Location(s) Chlorine shed-100
Substance Name Sodium Hydroxide CAS No. 1310 - 73 - 2 DOT No. 1832+ Substance No. (if available) 1706 Percent 50 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66 67 68, ___, ___	Max. Daily 12 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 32 Conditions 01 04 Location(s) Chemical Storage Room
Substance Name 1,1,2-trichloro-1,2,2,-triflouroethane CAS No. 76 - 13 - 1 DOT No. N/A Substance No. (if available) 1904 Percent 60 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66 67, ___, ___	Max. Daily 12 Avg. Daily 12 Days Onsite 365 (Actual Number)	Container 47 Conditions 01 04 Location(s) Chemical Storage Room

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945750158

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Facility Name ITT AVIONICS

Street Address 100 Kingsland Road

City Clifton State NJ Zip 07014

CHEMICAL DESCRIPTION	HAZARDS (Enter for all that apply.)	Inventory (Ranges) (Enter Code)	STORAGE CODES AND LOCATIONS (Enter Codes, except Location(s); supply narrative.)
Substance Name Methanol CAS No. 67 - 56 - 1 DOT No. 1230 Substance No. (if available) 1222 Percent 52 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66 67 70	Max. Daily 11 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 39 Conditions 01 04 Location(s) Oil House
Substance Name Methyl Isobutyl Ketone CAS No. 108 - 10 - 1 DOT No. 1245 Substance No. (if available) 1268 Percent 52 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66 67 70	Max. Daily 12 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 39 Conditions 01 04 Location(s) Oil House
Substance Name Naptha, Solvent CAS No. - - DOT No. 1256 Substance No. (if available) 2575 Percent 53 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	70 66 67	Max. Daily 11 Avg. Daily 11 Days Onsite 365 (Actual Number)	Container 46 Conditions 01 04 Location(s) Oil House
Substance Name Methyl Chloroform CAS No. 71 - 55 - 6 DOT No. 2831 Substance No. (if available) 237 Percent 58 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	67 66	Max. Daily 13 Avg. Daily 13 Days Onsite 365 (Actual Number)	Container 47 Conditions 01 04 Location(s) Chemical Storage Room
Substance Name Dichlorodifluoromethane CAS No. 75 - 71 - 8 DOT No. 1028 Substance No. (if available) 0649 Percent 53 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	67 66	Max. Daily 13 Avg. Daily 13 Days Onsite 365 (Actual Number)	Container 47 Conditions 01 04 Location(s) Chemical Storage Room
Substance Name Hydrochloric Acid CAS No. 7647 - 01 - 0 DOT No. ____ Substance No. (if available) ____ Percent 60 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66 67 68	Max. Daily 13 Avg. Daily 12 Days Onsite 365 (Actual Number)	Container 47 Conditions 01 04 Location(s) Chemical Storage
Substance Name Hydrochloric Acid CAS No. 7647 - 01 - 0 DOT No. ____ Substance No. (if available) ____ Percent 54 State L Trade Secret ☐ (Code) (Code) (Check if Claiming)	66 67 68	Max. Daily 13 Avg. Daily 12 Days Onsite 365 (Actual Number)	Container 47 Conditions 01 04 Location(s) Chemical Storage Room

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April 15, 2002

Ms. Patricia Conti
New Jersey Department of Environmental Protection
Division of Responsible Party Site Remediation
Bureau of State Case Management
401 East State Street
Trenton, New Jersey 08625

Re: ITT Avionics Division, Clifton, New Jersey
NJPDES Permit No. NJ0076023

Dear Ms. Conti:

We are providing herein a response to the New Jersey Department of Environmental Protection's (NJDEP) letter of March 5, 2002. As requested, we have evaluated contaminant concentrations at the closest potential downgradient receptor through fate and transport calculations. Specifically, these calculations were performed for trichloroethene and 1,1-dichloroethene, which have marginally exceeded the NJDEP groundwater quality standards at the monitoring wells MW-13, MW13A and MW-14. The data reviewed by the NJDEP forming the basis for this request is summarized below:

Trichloroethene (ug/l)					
	MW-13	MW-13A	MW-14	MW-14A	GWQC
November 1999	1.0	**2.0**	<1.0	<1.0	1
November 2000	**7.0**	**4.0**	<1.0	<1.0	1
November 2001	**8.5**	**1.9**	**1.1**	<1.0	1

1,1-Dichloroethene (ug/l)					
	MW-13	MW-13A	MW-14	MW-14A	GWQC
November 1999	**7.0**	**3.0**	<1.0	<1.0	2
November 2000	**6.0**	**9.0**	<1.0	<1.0	2
November 2001	**4.3**	**2.9**	<1.0	<1.0	2

Background

On August 14, 1986 there was a release of 1,1,1-trichloroethane to the subsurface in the northeastern portion of the main manufacturing building. A groundwater investigation ensued and dissolved contaminants were detected within the groundwater. A groundwater pump and treat system was designed and constructed. The treatment system operation began in September 1992 and has continued to date.

Low levels of contaminants have been detected in the downgradient wells since the groundwater monitoring began at these locations in 1990. When monitoring wells were first sampled in August 1990, groundwater concentrations of trichloroethene (TCE) were detected in MW-13 at 6 ug/l and MW-13A at 6 ug/l. In November 1990 concentrations of 1,1-Dichloroethene (1,1-DCE) were detected in MW-13 at 5J ug/l (estimated concentration) and MW-13A at 12 ug/l. A highlighted history, including the highest historical groundwater concentrations of TCE and 1,1-DCE at MW-13, 13A and 14 is presented below:

MW-13 (ug/l)						
Date	August 1990	November 1990	August 1991	November 1999	November 2001	GWQC
1,1-DCE	<5	**5J**	<5.0	**7.0**	**4.3**	2
TCE	**6**	**6**	**26.0**	1.0	**8.5**	1

MW-13A (ug/l)						
Date	August 1990	November 1990	August 1991	November 1992	November 2001	GWQC
1,1-DCE	<5	**12**	<5.0	**36.0**	**2.9**	2
TCE	**6**	**13**	**15.0**	**16.0**	**1.9**	1

MW-14 (ug/l)						
Date	August 1990	November 1990	November 1999	November 2000	November 2001	GWQC
TCE	<5	**12**	<1.0	<1.0	**1.1**	1

As depicted above, groundwater concentrations are in general an order of magnitude below their respective historical highs detected in the early 1990's. As required by NJDEP, the groundwater pump and treat system was designed to provide hydraulic control of the source of groundwater contamination. Accordingly, these well couplets (MW-13, MW-13A, MW-14) are downgradient of the area of hydraulic control. The operation of the groundwater pump and treat system has been successful in controlling the offsite migration of dissolved contaminants, as evident in the decreasing contaminant concentrations at these downgradient locations. Further, groundwater contour maps are generated on a quarterly basis and continue to demonstrated hydraulic control immediately downgradient of the source area.

Contaminant Transport Calculations

Solute transport calculations were performed for TCE and 1,1-DCE detected above standard in groundwater, downgradient of the ITT Avionics site. The contaminant transport calculations were

performed in order to assess the contaminant concentrations in groundwater at the closest potential downgradient receptor, the Third River. Based upon the results of these calculations, if concentrations of contaminants were determined to reach the river before attenuating to NJDEP Groundwater Quality Criteria (GWQC), mass loading calculations were preformed to determine the potential impact to the river.

A sample calculation is presented below using site data for trichloroethene in monitoring well MW-13. A summary of all the calculations performed and the aquifer and contaminant characteristic values used are presented in Table 1.

The amount of time necessary for trichloroethene concentrations to decrease to the GWQC on site was calculated using the following equation:

$$C = C_o e^{-kt}$$

$$or \qquad [1]$$

$$t = -\frac{\ln(C/C_o)}{k}$$

where,

C = GWQC, [ug/l].

C_o = Initial contaminant concentration (using highest concentration of contaminant detected over the past three years at MW-13 sampled during May 2001 monitoring event), [ug/l].

t = time (days).

k = Degradation Rate or ($0.693/t_{1/2}$)

$t_{1/2}$ = Half-life for chemical compound (The Handbook of Environmental Degradation Rates, 1991), (1/days).

Based on a half-life of 1,653 days and an initial concentration of 8.5 ug/l, trichloroethene will degrade to meet its GWQC of 1 ug/l in approximately 14 years as summarized below.

Compound	C (ug/l)	Co (ug/l)	ln(C/Co)	$t_{1/2}$ (1/days)	k	t (days)	t (years)
Trichloroethene	1	8.5	-2.140	1,653	0.000419	5,107	14.0

The rate of contaminant migration was calculated based on the groundwater seepage velocity, the retardation factor for the specific contaminant and the previously calculated time necessary for degradation to occur to determine if the contaminant would reach the river. Seepage velocity is calculated using the following equation:

$$V_s = \frac{Ki}{n_e} \quad [2]$$

where,

V_s = Seepage velocity (L/T)

K = Hydraulic conductivity (L/T).

i = Hydraulic gradient, based on historic site data (unitless).

n_e = Effective porosity (dimensionless).

The retardation factor (R_f), which is a general term for many processes that slow the contaminant moving through the formation, is calculated using the following equation:

$$R_f = 1 + \frac{k_{oc} \times f_{oc} \times \rho_b}{n_e} \quad [3]$$

Where,

R_f = Retardation Factor (Dimensionless).

k_{oc} = Organic carbon partition (V/M).

f_{oc} = Fraction of organic carbon (%).

ρ_b = Dry bulk constant for site aquifer material (M/V)

n_e = Effective porosity based on historical site data (Dimensionless).

The rate of contaminant transport (V_{ct},) can now be calculated using the following equation:

$$V_{ct} = \frac{V_s}{R_f} \quad [4]$$

Based on the rate of contaminant transport, the distance (D) the contaminant will travel over the time period (t) necessary for the contaminant concentrations to degrade to meet the applicable GWQC is calculated as follows:

$$D = V_G \times t \quad [5]$$

Based on a conservative site hydraulic conductivity (K) value of 1.5 ft/day, an effective porosity (n_e) of 0.3 and a hydraulic gradient (i) of 0.032, the groundwater seepage velocity is estimated to be 0.160 feet/year. Using a k_{oc} value of 166 l/kg, a ρ_b of 1.7 g/cm^3, and f_{oc} value of 0.5 percent, a retardation factor of 5.70 was calculated. The f_{oc} value of 0.5 percent is considered to be conservative. Based on these values, in 14 years, TCE will migrate approximately 143 feet.

Since the river is located approximately 40 feet downgradient of MW-13 and the contaminant was expected to travel 143 feet before attenuating to groundwater quality standards, the concentration TCE at the river was calculated to be 4.67 ug/l using the following equation:

$$C = C_o e^{-kt}$$

Since the concentration of the groundwater at the river of 4.67 ug/l is greater than the Surface Water Standards for TCE of 1.09 ug/l, stream loading calculations were performed, utilizing the following equation:

$$c_{DS} = \frac{Q_{US}C_{US} + Q_{GW}C_{GW}}{(Q_{US} + Q_{GW})} \quad [6]$$

Where,

c_{DS} = Concentration of contaminant downstream (M/V).

Q_{US} = Flow of river upstream (V/T).

c_{US} = Concentration of contaminant upstream (M/V).

Q_{GW} = Flow of Groundwater to the river (V/T)

c_{GW} = Concentration of contaminant in Groundwater (M/V).

Utilizing stream flow data compiled by the USGS for the Third River at a location in the stream upgradient of the of the monitoring well locations, the average flow of 1.34 x 10^7 gal/day was determined

using data from 1978 through 1996. The concentration of TCE in the stream upgradient is assumed to be 0 ug/l. The concentration of TCE in groundwater at the river was calculated to be 4.67 ug/l.

Calculation of the groundwater flow to the river (Q_{GW}) was estimated utilizing the following equation:

$$Q_{GW} = Ki(LT) \quad [7]$$

Where,

K = Hydraulic conductivity (L/T).

i = Hydraulic gradient, based on historic site data (unitless).

L = Length of river receiving impacted groundwater (L)

T = Thickness of impacted groundwater zone discharging to river (L).

The hydraulic conductivity and hydraulic gradient as previously presented is 1.5 feet/day and 0.032 feet/foot, respectively. The length of river receiving groundwater discharge has been conservatively estimated at 200 feet. The depth to water in MW-13 is 12 feet and depth to bedrock in adjacent well MW-13A was 21 feet. Therefore, the saturated thickness of impacted groundwater is 9 feet.

Using the Equation 7 above, the flow of groundwater (Q_{GW}), slightly above Groundwater Quality Criteria, to the river has been calculated to be 646.3 gal/day. Plugging this value into Equation [6], the concentration in the river downgradient of the discharge is 0.00023 ug/l, which is four orders of magnitude below the Surface Water Standard of 1.09 ug/l.

Conclusions

Contaminant risk to ecological receptors was calculated using the equations above. The low level of contaminants in the groundwater downgradient of the ITT facility were found to attenuate to the NJDEP Groundwater Quality Criteria before reaching the closest potential receptor (Third River) with the only exception being TCE in MW-13 (presented in the sample equation above). Considering the concentration of groundwater at the river and subsequent mass loading to the Third River indicates that downstream river concentrations would be four (4) orders of magnitude below the surface water and groundwater quality criteria.

Even taking a more conservative approach and assuming that advection, dispersion and degradiation of contaminants did not occur (i.e. concentration at the well is the concentration at the river) the downstream river concentrations would be 0.00041 ug/l, still be four (4) order of magnitudes below surface and groundwater quality criteria.

As far as NJDEP's concern of the groundwater pump and treat system effectively capturing the plume, as presented in the background section above, groundwater concentrations are, in general, an order of magnitude below their respective historical highs. As required by NJDEP, the groundwater pump and treat system was designed to provide hydraulic control of the source of groundwater contamination. Groundwater contour maps, generated on a quarterly basis for the past nine (9) years have demonstrated hydraulic control on groundwater immediately downgradient of the source area and subsequently, operation of the groundwater pump and treat system has been successful in controlling the offsite migration of dissolved contaminants. Considering the relatively low groundwater velocities and contaminant transport velocities, as presented in detail in the fate and transport calculations above, residual contamination, slightly exceeding groundwater quality criteria, remains at these downgradient locations.

We will continue to monitor groundwater these downgradient locations. Please call if you have any questions or comments.

Very truly yours,
H2M ASSOCIATES, INC.

Charles A. Martello, P.E.

Enc.

CC: Donald T. Polzo, ITT Avionics Division

ITT Avionics Division
100 Kingsland Road, Clifton, New Jersey
Aquifer and Contaminant Characteristic Values

Seepage Velocity						Retardation Factor			
Aquifer Zone	Contaminant	K(ft/day)	i(ft/foot)	N_e	V_s(ft/day)	K_{OC}(l/kg)	Pb(g/cm^3)	f_{OC}	R_F
Shallow	1,1-Dichloroethene	1.5	0.032	0.3	0.160	58.9	1.7	0.005	2.669
Deep		1.5	0.017	0.3	0.085	58.9	1.7	0.005	2.669
Shallow	Trichloroethene	1.5	0.032	0.3	0.160	166	1.7	0.005	5.703

Notes

Hydraulic conductivity based on site historical data.
Hydraulic gradients based on November 2001 Shallow and Deep Groundwater Elevation Contour Maps.
K_{oc} = Organic Partitian Coefficient taken from Chemical Properties for SSL Development, (USEPA).

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ITT Avionics Division
100 Kinglands Road, Clifton, New Jersey
Contaminant Transport Calculations

H2MGROUP

1,1-DICHLOROETHENE													
Well ID	C(ppb)	C_O(ppb)	$\ln(C/C_O)$	$t_{1/2}$ (1/days)	k (days)	t (days)	t (years)	V_s(ft/day)	R_F	V_C(ft/day)	Distance to Receptor	Distance Traveled Prior to Compliance with NJDEP GWQC	Risk to Receptor
MW-13	2	7.0	-1.253	132	0.005250	238.622	0.654	0.160	2.669	0.060	40	14.306	NO
MW-13A	2	9.0	-1.504	132	0.005250	286.491	0.785	0.085	2.669	0.032	55	9.124	NO

TRICHLORETHENE													
Well ID	C(ppb)	C_O(ppb)	$\ln(C/C_O)$	$t_{1/2}$ (1/days)	k (days)	t (days)	t (years)	V_s(ft/day)	R_F	V_C(ft/day)	Distance to Receptor	Distance Traveled Prior to Compliance with NJDEP GWQC	Risk to Receptor
MW-13	1	8.5	-2.140	1653	0.000419	5104.660	13.985	0.160	5.703	0.028	40	143.205	YES
MW-13A	1	4.0	-1.386	1653	0.000419	3306.702	9.059	0.085	5.703	0.015	55	49.282	NO
MW-14	1	1.1	-0.095	1653	0.000419	227.342	0.623	0.160	5.703	0.028	130	6.378	NO

H:ZITA/Zita_02/ITTfate12:14 PMransportMW13

ADC000360

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REMEDIAL ACTION REPORT

ITT Avionics Division

100 Kingsland Road

Clifton, Passaic County, New Jersey

ISRA Case No. E96303

SEPTEMBER 1997

H2M ASSOCIATES, INC.
555 Preakness Avenue
Totowa, New Jersey 07512

H2M GROUP
Engineers, Scientists, Planners

945750171

ITT Industries
AUTOMOTIVE
DEFENSE & ELECTRONICS
FLUID TECHNOLOGY

Environmental Health & Safety

ITT Avionics
100 Kingsland Road
Clifton, NJ 07014-1993
Tel: (973) 284-4852
Fax: (973) 284-3345

Federal Express

December 10, 1997

Bureau of State Case Management
New Jersey Department of Environmental Protection
401 East State Street
Trenton, New Jersey 08625
Attention: Mr. Gary Lipsius

Re: ITT Industries/ Avionics Division, Manufacturing Site, ISRA # E96303.
100 Kingsland Road, Clifton, New Jersey
RAWP Remedial Action Report (RAR).

Dear Mr. Lipsius,

Enclosed please find three copies of the Remedial Action Report pertaining to the referenced site. ITT Avionics is anxiously awaiting your review to the October 1997 letter request concerning the Phase I Release Parcel. Hopefully, the information contained in the enclosed RAR will provide you with an updated over-all site picture that further supports a favorable NFA determination on the Phase I Release Parcel. The property owner is planning development activities very early in 1998. If there is anything I can do to help you in this review process, don't hesitate to call me at 973-284-4036 or beep me at 973-730-1706.
Thank you for your past and future consideration to ITT Avionics' property concerns.

Sincerely,

Donald T. Polzo
Manager, Environment, Health & Safety

RECEIVED
DEC 1 1 1997

(Enclosures)

IR9098 Iss. 8/97

945750172

CERTIFICATION:

A. The following certification shall be signed by the highest ranking individual at the site with overall responsibility for that site or activity. Where there is no individual at the site with overall responsibility for that site or activity, this certification shall be signed by the individual having responsibility for the overall operation of the site or activity.

I certify under penalty of law that the information provided in this document is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information, and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties.

Typed/Printed Name Henry J. Driesse Title President & Gen. Manager

Signature _____ Date September 26, 1997

Sworn to and Subscribed Before Me on this 26th day of September 1997

Date of 9-26-97 1997 Anna Marie Simonetti
Notary

ANNA MARIE SIMONETTI
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires June 8, 2002

B. The following certification shall be signed as follows:

1. For a corporation, by a principal executive officer of at least the level of vice president;
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, Federal or other public agency, by either a principal executive officer or ranking elected official; or
4. For persons other than 1-3 above, by the person with the legal responsibility for the site.

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information, and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute I am personally liable for the penalties.

Typed/Printed Name Henry J. Driesse Title President & Gen. Manager

Signature _____ Date September 26, 1997

Sworn to and Subscribed Before Me on this 26th day of September 1997

Date of 9-26-97 1997 Anna Marie Simonetti
Notary

ANNA MARIE SIMONETTI
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires June 8, 2002

945750173

H2M GROUP

REMEDIAL ACTION REPORT

ITT Avionics Division
100 Kingsland Road
Clifton, Passaic County, New Jersey
ISRA Case No. E96303

September 1997

Table of Contents

		Page No.
1.0	Introduction	1-1
2.0	Site Description	2-1
2.1	Location and Description	2-1
2.2	Physical Setting	2-1
2.2.1	Topography and Drainage	2-1
2.2.2	Geology and Hydrogeology	2-1
2.3	Areas of Environmental Concern	2-3
2.3.1	AOC-4: Chemical Waste Storage Building	2-3
2.3.2	AOC-6: Industrial Wastewater Pretreatment System	2-4
2.3.3	AOC-8: Areas without Vegetation	2-4
2.3.4	AOC-9: 1,1,1-Trichloroethane Still	2-4
2.3.5	AOC-12: Building Transformers	2-5
2.3.6	AOC-14: Shipping and Receiving Bays	2-5
2.3.7	Groundwater	2-6
3.0	Remedial Action Report	3-1
3.1	AOC-4: Chemical/Waste Storage Building	3-1
3.2	AOC-6: Industrial Wastewater Pretreatment System	3-2
3.3	AOC-8: Areas without Vegetation	3-2
3.4	AOC-9: 1,1,1-Trichloroethane Still	3-3
3.5	AOC-12: Building Transformers	3-3
3.6	AOC 14a: Lower Level Northwest Loading Bay	3-4
3.7	Groundwater	3-4
4.0	Conclusions	4-1

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Table of Contents

(Continued)

List of Figures

Figure 2-1	Location Map
Figure 2-2	Site Map
Figure 2-3	Bedrock Elevation Contour Map
Figure 2-4	Shallow Groundwater Elevations (January 8, 1997)
Figure 2-5	Shallow Groundwater Elevations (February 4, 1997)
Figure 2-6	Shallow Groundwater Elevations (May 7, 1997)
Figure 2-7	Shallow Groundwater Elevation Contour Map (Chemical/Waste Storage & Boiler House Area - March 3, 1997)
Figure 2-8	Shallow Groundwater Elevation Contour Map (Chemical/Waste Storage & Boiler House Area - April 2, 1997)
Figure 2-9	Deep Groundwater Contour Map (January 8, 1997)
Figure 2-10	Deep Groundwater Contour Map (February 4, 1997)
Figure 2-11	Deep Groundwater Contour Map (May 7, 1997)
Figure 2-12	Remaining Areas of Environmental Concern
Figure 2-13	Total Volatile Organic Compounds Quantified in the Shallow Aquifer (September 17, 1996)
Figure 2-14	Total Volatile Organic Compounds Quantified in the Shallow Aquifer (August 6, 1997)
Figure 3-1	Soil Boring Locations AOC-4
Figure 3-2	Soil Boring Locations AOC-4 (Final Excavation Sample Location)
Figure 3-3	Sampling Locations AOC-6/AOC-9
Figure 3-4	Soil Boring Locations AOC-8
Figure 3-5	Sampling Locations AOC-12
Figure 3-6	Soil Sampling Locations AOC-14

List of Tables

Table 2-1	Summary of Monitoring Well Construction Details
Table 2-2	Elevation of Top of Bedrock Surface
Table 2-3	Volatile Organic Compounds Quantified in Groundwater
Table 3-1	Volatile Organic Compounds Quantified in Soil Samples (AOC-4)
Table 3-2	Metals Quantified in Material Below Floorboards (AOC-4)
Table 3-3	Final Post Excavation Soil Sample Results (AOC-4)

H2M GROUP

Table of Contents

(Continued)

List of Tables

(Continued)

Table 3-4	Volatile Organic Compounds Quantified in Surface Concrete Chip Samples (AOC-6 & 9)
Table 3-5	Priority Pollutant Metals Quantified in Concrete Chip Samples (AOC-6)
Table 3-6	Priority Pollutant Metals Quantified in Concrete Chip Samples (AOC-6)
Table 3-7	Priority Pollutant Metals and Total Petroleum Hydrocarbons Quantified in Soil Samples (AOC-8)
Table 3-8	Polychlorinated Biphenyls and Total Petroleum Hydrocarbons Quantified in Concrete Chip Samples (AOC-12)
Table 3-9	Polychlorinated Biphenyls and Total Petroleum Hydrocarbons Quantified in Soil and Concrete Chip Samples (AOC-12)
Table 3-10	Volatile Organic Compounds Quantified in Soil and Sediment Samples (AOC-14a)
Table 3-11	Volatile Organic Compounds Quantified in Groundwater (Boiler House Area)
Table 3-12	Volatile Organic Compounds Quantified in Groundwater (Chemical/Waste Storage Building Area

List of Appendices

Appendix A	Photographs

H2M GROUP

REMEDIAL ACTION REPORT

ITT Avionics Division
100 Kingsland Road
Clifton, Passaic County, New Jersey
ISRA Case No. E96303

September 1997

1.0 Introduction

This report summarizes the remedial actions performed at the ITT Avionics Division (ITT) facility located at 100 Kingsland Road, Clifton, New Jersey. These actions were performed in accordance with the NJDEP-approved Remedial Investigation Workplan (RAWP) submitted by H2M on behalf of ITT dated June 1996. This Remedial Action Report (RAR) has been prepared in accordance with the NJDEP Technical Requirements for Site Remediation (N.J.A.C. 7:26E) and the Industrial Site Recovery Act (ISRA).

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2.0 Remedial Investigation Summary

2.1 Location and Description

The ITT facility is shown in Figure 2-1, Location Map, and Figure 2-2, Site Map. The site is located in an area of Clifton occupied by residential dwellings and industrial facilities. The nearly 50-acre site is bordered to the north by New Jersey State Highway Route 3, a Shell gasoline service station, and a Ramada Inn hotel. Yantacaw Pond is immediately north of Route 3. A vacant facility formerly operated by Automated Data Processing borders the northwestern portion of the site. The eastern site boundary is River Road, the southern boundary is Kingsland Road. The Third River, a tributary of the Passaic River, borders part of the site to the west, and flows around to the property to the west, north and east. This tributary discharges to the Passaic River approximately one-quarter mile east of the site. The site contains seven buildings, six of which house non-manufacturing operations, including maintenance, boiler, electrical, and storage areas. These six buildings range in size from 1,700 to 24,000 square feet. Site manufacturing operations are limited to the main building, which contains approximately 919,000 square feet of floor space. The site was occupied by a country club and golf course prior to its purchase by ITT in 1946.

ITT assembles electronic equipment used in the defense industry. Former operations have included manufacturing of television and radio tubes, telephones, radios, washing machines, and printed circuit boards. Current site operations include welding, soldering, painting, printing, degreasing, drilling, machining, grinding, assembly, and testing of products.

2.2 Physical Setting

2.2.1 Topography, and Drainage

Overall site relief is approximately 40 feet, from a high of approximately 70 feet above mean sea level in the southwestern portion of the site to a low of approximately 30 feet above mean sea level in the northeastern portion of the site. The site slopes towards the Third River, which drains into the Passaic River approximately one quarter-mile east of the site. The subject property is within the Passaic River drainage basin, with local drainage to storm sewers.

2.2.2 Geology and Hydrogeology

The site lies within the Piedmont Province of northern New Jersey. The uppermost unconsolidated materials in this area generally consist of fill material, and glacial till of Pleistocene Age, composed of red-brown sand and gravel with some silts and clays. These glacial deposits are underlain by the weathered reddish-brown shales and sandstones of the Passaic, or Brunswick Formation. The Brunswick Formation was deposited within the Newark Basin, one of many Triassic rift basins formed during the separation of North America from Africa and the opening of the Atlantic Ocean, during the Late Triassic period.

Sediments, eroded from adjacent uplands, were deposited along rivers and in lakes within the basins during this time. These sediments became compacted and lithified to form conglomerate (at the basin margins), mudstone, sandstone, siltstone, and shale. In the course of rifting, the rock layers of the Piedmont became tilted northwestward. The strata generally strikes northeast to southwest and dips northwest at 5 to 25 degrees. A directional, anisotropic response to pumping is often documented in the Brunswick. Major fracture orientations, measured by a previous consultant in an outcrop at the Third River located southwest of the site, were found to be approximately northeast (N59°E) and northwest (N52°W).

Twenty-seven monitoring wells have been installed as part of site assessment and remedial investigation activities to evaluate sub-surface conditions and groundwater quality. The locations of these wells are identified in Figure 2-2. A summary of monitoring well construction details is provided in Table 2-1. The unconsolidated strata encountered consists primarily of fill material varying in thickness from 1 to 5 feet, typically composed of brown silt, occasional gray gravel (roadbase), and tan silt and clay. The fill overlies glacial till of Pleistocene Age, composed of red-brown sand and gravel with some silts and clays. Weathered shale and sandstone of the Brunswick Formation occurs beneath the fill. Rock cores, collected during the installation of MW-1A, indicated that bedrock becomes more competent at a depth of 34 to 59 feet below grade. The upper bedrock surface, from 20 feet below grade to 34 feet below grade, is heavily weathered and fractured. The rock was also less competent at a depth ranging from 59 to 69 feet below grade, and became competent again at 69 to 79 feet below grade. The elevation of the top of the weathered bedrock surface at each monitoring well location is provided in Table 2-2. A contour map of the bedrock elevation is provided in Figure 2-3. The contour map shows that bedrock slopes to the northwest in the southwestern portion of the site at an angle of about 4 degrees, or 0.054 feet per foot. Bedrock topography is more complex in the northeastern portion of the site, where the slope is predominantly to the northeast, except for a ridge in the vicinity of MW-4 and MW-5, and an apparent trough which reaches a low at MW-11.

Contour maps depicting the most recent 1997 shallow groundwater elevation data for the northeastern portion of the site are provided in Figures 2-4 through 2-6. Shallow groundwater flow direction is primarily toward Yantacaw Pond to the north and the Third River to the northeast, and influenced by the bedrock slope. Groundwater in these shallow wells generally occurs below the bedrock/overburden interface, with the exception of MW-11, 13, and 14, where groundwater is present in the overburden. Groundwater was also encountered in MW-10 above the bedrock surface in the overburden prior to pumping associated with the current groundwater remediation system. Groundwater extraction has created drawdown in MW-10 to an elevation currently within the bedrock. Ignoring the hydraulic effect of the groundwater extraction system at RW-1, RW-2 and RW-3 and the recharge system, groundwater flow is primarily northward in the southern portion of the site. In the northern portion of the

site, groundwater flow becomes east-northeasterly, to the Third River. The hydraulic gradient in the central portion of the site is approximately 0.036 feet per foot. Average linear flow velocity, using this gradient and an average hydraulic conductivity (determined from slug tests performed in selected monitoring wells screened in the overburden and shallow weathered bedrock) of approximately 1.5 feet per day, and a porosity of 20%, is estimated at 0.3 feet per day.

Shallow groundwater flow in the vicinity of the chemical/waste storage building and boiler house is depicted in Figures 2-7 and 2-8. Groundwater flow in this area of the site is also to the north and northeast.

Deeper groundwater flow beneath the site is to the northeast and southeast, as depicted in contour maps depicting the most recent 1997 deep groundwater elevation data in Figures 2-9 through 2-11. The gradient in the deeper flow zone is slightly less than that of the shallower zone, at approximately 0.014 feet per foot, resulting in a lower groundwater flow velocity. Hydraulic conductivity and groundwater flow velocity in the deeper zone will be most affected by bedding planes, fracture frequency, and the interconnectivity of fractures. Downward flow exists between the shallow and deeper zones where monitoring well couplets are present to evaluate vertical flow conditions (MW-1/MW-1A, MW-13/MW-13A), with the exception of the MW-14/MW-14-A well couplet, where vertical flow is not apparent.

2.3 Areas of Environmental Concern

Sixteen areas and site groundwater were identified as Areas of Potential Environmental Concern (AOC) and characterized during the remedial investigation. Of the sixteen areas, the NJDEP concurred that ten required no further action. The six remaining areas of concern and site groundwater are the subject of this RAR and are described below. The locations of the six remaining AOCs are identified in Figure 2-12.

2.3.1 AOC-4: Chemical/Waste Storage Building

The chemical/waste storage building, located north of the main building, was identified as an AOC due to the current and historical handling of raw and hazardous materials in this area. Chemicals which have been stored at the building, typically in 55-gallon drums, include methylene chloride, trichloroethene (TCE), and 1,1,1-trichloroethane (1,1,1-TCA). The wells are located on the northern and southern sides of the building. Three soil samples were collected during the installation of each monitoring well and analyzed for priority pollutant metals (PPM), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and pH. All analytical results were below the NJDEP's impact to groundwater and unrestricted use soil cleanup criteria. Although this data implied that no further action relative to soils was necessary, additional characterization was proposed in the RAWP based on groundwater quality in this area and to verify that soil has not been impacted due to daily operations.

2.3.2 AOC-6: Industrial Wastewater Pretreatment System

Historically, industrial wastewater from facility process operations was conveyed to a pretreatment system located in the sub-basement of the main building for pretreatment prior to discharge to the municipal sanitary sewer operated by the Passaic County Sewerage Commissioners (PVSC). Pretreatment consisted of chrome reduction (i.e., hexavalent to trivalent), metal hydroxide precipitation and pH neutralization. The pretreatment system began operation in 1982 and discontinued operation in 1990 because of the termination of process operations generating industrial wastewater. The pretreatment system currently operates as a neutralization system in the event that the pH of other industrial wastewater generated throughout the facility is outside of discharge limits.

In 1992, groundwater samples were obtained from MW-10 and used to evaluate the potential impact of this AOC, since MW-10 is downgradient of the wastewater pretreatment system. MW-10 was sampled and analyzed for VOCs, SVOCs, PPM, and pH. Volatile organic compounds attributable to the 1,1,1-TCA release (AOC-1) were present in MW-10 above the NJDEP groundwater quality criteria. No semi-volatile compounds were quantified above their respective detection limits, and all of the metals detected were quantified at concentrations below their respective NJDEP groundwater quality criteria. Given the absence of metals above NJDEP's groundwater quality criteria, groundwater does not appear to have been impacted by the operation of the pretreatment system.

Since operations at ITT have changed since 1992, facilitating access to this area, surface sampling of the floor for metals was proposed in the RAWP to provide additional information with respect to this AOC.

2.3.3 AOC-8: Areas without Vegetation

Two areas without vegetation, each approximately twenty feet by twenty feet in size, were identified by an NJDEP representative during a recent site visit. Both areas are located adjacent to the fence which encircles the ITT property, one outside of the fence at the northeast corner of the property near MW-9, and the other inside of the fence just northeast of the guard house and immediately north of the east gate. Weathered bedrock can be observed at the location outside of the fence. Site operations have not been conducted in the area outside of the fence, according to aerial photographs, records, or the recollection of site personnel. Nonetheless, sampling and analysis for total petroleum hydrocarbons (TPH) and PPM in this area was proposed in the RAWP as requested by NJDEP.

2.3.4 AOC-9: 1,1,1-Trichloroethane Still

1,1,1-Trichloroethane was utilized to clean printed circuit boards and metal parts prior to electroplating and metal finishing. The still is located in the northeast corner of the industrial wastewater

pretreatment system subbasement. Spent solvent was transferred in piping from the degreaser units to the still for reclamation with reclaimed solvent pumped back to the degreasers. The still is situated on a raised concrete platform. The platform is currently provided with protective coatings and a secondary containment berm. There is no recollection of the original condition of the flooring system, nor are there any recollections of spills associated with the still at this location. The nearest floor drain discharges directly to the industrial wastewater pretreatment system for pretreatment prior to sewer discharge. Concentrations of VOCs detected in samples collected from MW-10 are attributable to the 1,1,1-TCA release which is presently undergoing active remediation. It was therefore proposed in the RAWP that no further action was required with respect to this AOC. However, the NJDEP has requested that additional information be provided prior to eliminating this area as an AOC. Therefore, floor sampling and analysis conducted in the industrial wastewater pretreatment system subbasement area as part of the AOC-6 investigation was expanded to include VOCs. Furthermore, groundwater quality for wells recently installed near this area was evaluated with respect to this AOC.

2.3.5 AOC-12: Building Transformers

Oil filled electrical transformers and switches are located throughout the facility. Since 1985 ITT has undertaken an extensive assessment of all potential PCB-containing electrical equipment. Analytical testing of transformer and switchgear oil was performed on all units. Those units found to contain PCBs were retrofilled and retested until the PCB concentrations were below 50 ppm. Most of the electrical systems were found to contain less than 10 ppm PCBs.

A visual inspection of each transformer and switchgear was conducted by H2M on May 15, 1996. Each location was inspected to identify any physical indication of leaking or stains. During the inspection, three locations were identified as having stains adjacent to transformers:

1. Area T-2 - one transformer and three switches are located on a concrete pad on the south side of the boiler house.
2. Area T-3 - one transformer is located on a concrete pad on the north side of the main building, immediately opposite of the electrical substation.
3. Transformer 12-H - six transformers and associated switch gears located in the subbasement on the east side of the main building (currently used for record storage).

Concrete chip sampling and analysis for PCBs was proposed in the RAWP.

2.3.6 AOC-14: Shipping and Receiving Bays

Four shipping and receiving bays are located at the facility identified as AOC 14a through 14d. All raw materials received at the facility and goods shipped from the facility are transferred through one of

the loading bays. Each loading bay consists of an elevated dock and recessed truck bays. The loading docks were formerly constructed of wood block flooring sitting on a concrete floor. In the late 1970s, the wood block flooring was removed and replaced with concrete. A visual inspection was conducted in each loading bay on May 14, 1996. There are no records of any spills having occurred at any of the loading bays, and there were no visual indications of historic releases observed during the inspection. Of the four loading bays, additional characterization was proposed for two, since the other two bays were used almost exclusively for the shipping of dry finished goods.

AOC 14a: (Lower Level Northwest Loading Bay)

The lower level northwest loading bay is the main receiving location for all materials utilized at the facility. A catch basin is located in the middle of three bays which is approximately upgradient of the chemical/waste storage building. A second catch basin is located in the western bay which reportedly receives condensate from an air conditioning unit. The loading bay is paved throughout with slope toward each catch basin. Water collected within the catch basins is conveyed to the stormwater collection system. Additional characterization was proposed in the RAWP to assess this area's potential as a source of groundwater contamination, since groundwater downgradient of this location in the vicinity of the chemical/waste storage building was found to contain VOCs above groundwater quality criteria.

AOC 14b: (Upper Level West Loading Bay)

The upper level west loading bay was utilized intermittently for shipping and receiving as well for temporary storage of finished materials. A catch basin appeared to be located in the middle of the loading bay but was obscured, and sampling was proposed in the RAWP to assess this area. However, upon subsequent inspection during sampling of AOC-14a, no catch basin was present. Therefore, no further action is required.

2.3.7 Groundwater

Groundwater in the Area of the 1,1,1-TCA and UST Releases

Groundwater affected by the former 1,1,1-TCA release in the northeastern portion of the facility is currently undergoing remediation. Active remediation, which commenced in September 1992, is being conducted in accordance with the NJPDES-DGW permit (No. NJ0076023), issued May 1, 1990 (modified on April 23, 1992) and the former Memorandum of Agreement (MOA), dated March 30, 1993. Since September 1992, the treatment system has operated continuously at a combined groundwater extraction rate of approximately ten gpm. To date, the treatment plant has treated and recharged approximately sixteen million gallons of groundwater. ITT has remained in compliance with all performance monitoring, compliance monitoring, hydraulic control, and delineation requirements of the MOA and NJPDES DGW

permit. The groundwater extraction, treatment and recharge system has been effective in controlling and concentrating the plume, and removing contaminants from groundwater.

Although not required due to the effectiveness of the existing pump and treat system, a more aggressive approach using in-situ chemical oxidation technology has been undertaken in order to remediate the concentrated plume in the vicinity of RW-1, RW-2, MW-11 and MW-18. A pilot treatability study in accordance with a permit-by-rule granted by the NJDEP using in-situ chemical oxidation technology commenced on October 27, 1995, and was completed on November 13, 1995. This initial pilot treatability study demonstrated that the chemistry is successful in reducing the concentrations of dissolved 1,1,1-TCA and 1,1-dichloroethene (1,1-DCE) within groundwater at the ITT facility.

A long term treatability study began in May 1996 with the installation of eleven additional injection wells. A baseline round of groundwater sampling was conducted on September 17, 1997 to determine pre-injection concentrations of volatile organic compounds. Samples were obtained from the twelve injection wells inside of the building (MW-18 and IW-1 through IW-11), five monitoring wells (MW-3, MW-5, MW-6, MW-9, and MW-11), and the three groundwater extraction wells (RW-1, RW-2, and RW-3). Groundwater elevations were collected from on-site monitoring and injection wells to establish groundwater elevations and flow direction within the treatment zone prior to the initiation of the injection process. Groundwater quality results are provided in Table 2-3, and a contour map of groundwater concentrations is provided as Figure 2-13. Concentrations within injection wells were observed to be on the order of 100,000 ppb. Concentrations in monitoring wells have generally be en several order of magnitudes less. This indicates that the injection well network is installed in the area of the source contributing to dissolved VOC concentrations.

On September 19, 1996, the in-situ chemical oxidation chemistry was injected into the eleven injection wells (IW-1 through IW-11) and monitoring well (MW-18). Approximately 2,200 gallons of process chemistry (consisting of acetic acid, ferrous sulfate, and hydrogen peroxide) was distributed among the twelve injection wells. Groundwater sampling was conducted on September 24, 1997 (one week following injection inception), November 5, 1997 (seven weeks following injection inception), and January 9, 1997 (sixteen weeks following injection inception). Based upon these sampling results a second injection was performed on June 2 through June 13, 1997. A total of 360 gallons of chemistry was injected into IW-4 during that period. Groundwater sampling was conducted on August 6, 1997, seven weeks following the completion of the second injection (forty six weeks following injection inception). Groundwater quality results are provided in Table 2-3, and a contour map of groundwater concentrations is provided as Figure 2-14.

Groundwater affected by the former UST release in the northeastern portion of the facility has been remediated by the groundwater pump and treat system. Free product in this area no longer exists, and dissolved concentrations of non-halogenated organic compounds have been remediated to below NJDEP groundwater quality criteria, with the exception that benzene is occasionally quantified at concentrations typically less than 5 ppb in MW-3 and MW-15.

Groundwater in the Vicinity of the Boiler House

To assess the effect that the six former UST systems in the vicinity of the boiler house may have had on groundwater quality, three monitoring wells (MW-203, MW-204 and MW-205) were installed on the northern side of the boiler house. Two rounds of monitoring were performed at these wells in May of 1991, and a third round was performed in September 1995. SVOCs were analyzed for but not detected in both initial rounds. However, VOCs not associated with petroleum storage were detected in the groundwater samples at each of the three wells. Chloroform was found in all three rounds, at concentrations ranging from 4 ppb to 20 ppb, with some results above the NJDEP groundwater quality criteria of 6 ppb. TCE, not found in MW-204 (the upgradient well), was found in MW-203 and MW-205 at concentrations ranging from 5 ppb to 18 ppb, above the NJDEP groundwater quality criteria of 1 ppb. Based on a comparison of the September 1995 round of groundwater sampling to the May 1991 rounds of groundwater sampling, a decreasing trend in dissolved contaminant concentrations has been observed. Additional sampling was proposed in the RAWP to assess appropriate further action.

Groundwater in the Vicinity of the Chemical/Waste Storage Area

Two soil borings were constructed and completed as monitoring wells (MW-APC1-A and MW-APC1-B) in the vicinity of the chemical/waste storage building. One monitoring well was installed to the north of the waste storage building as a downgradient well (MW-APC1-A). The other monitoring well was installed to the south of the building as the upgradient well (MW-APC1-B). One round of samples were collected on December 4, 1992 and analyzed for VOCs, SVOCs, dissolved PPM, and pH. One VOC was quantified above the NJDEP groundwater quality criteria in the MW-APC1-A (1,1,1-TCA, at a concentration of 31 ppb). VOCs were also quantified in MW-APC1-B above their respective groundwater quality criteria (chloroform at 77 ppb, TCE at 36 ppb, total 1,2-dichloroethene at 11 ppb, and carbon tetrachloride at 78 ppb). There were no SVOCs or dissolved PPMs present at concentrations above detection limits in both wells. Two rounds of groundwater monitoring for VOCs were conducted in September and December of 1995. In both rounds, MW-APC1-B VOCs were not present above groundwater quality criteria, but were still present above criteria in MW-APC1-A. Therefore, additional sampling was proposed in the RAWP to assess appropriate further action.

3.0 Remedial Action Report

3.1 AOC-4: Chemical/Waste Storage Building

Although soil samples collected during the installation of monitoring wells MW-APC-1A and MW-APC-1B were analyzed and all concentrations were found to be below the NJDEP's impact to groundwater and unrestricted use cleanup criteria, additional sampling was conducted to ensure that soil has not been impacted due to daily operations performed in the area. Three soil borings were advanced with a stainless steel hand auger. Samples were collected from three different intervals (0.5-1.0', 1.0-1.5', and 1.5-2.0') and screened with an HNu photoionization detector (PID). The sample exhibiting the highest reading above background was retained for laboratory analysis. If no elevated PID readings were observed, the deepest sample (1.5-2.0') was retained for analysis. Sample locations are provided on Figure 3-1. Sample AOC-4-1 was collected from a boring advanced on the south side of the chemical/waste storage building, adjacent to a concrete pad immediately in front of the loading dock at the 1.5-2.0' interval, since no PID readings above background were observed. AOC-4-2 is located on the north side of the building just outside of the access door. The 1.5-2.0' interval of AOC-4-2 was retained for analysis, since this interval exhibited a PID response of 3 ppm above background. AOC-4-3 was collected from immediately beneath the floor boards within a small room inside the chemical/waste storage building. All results of the VOC analysis of the soil samples were found to be below NJDEP criteria. These results are provided in Table 3-1.

A small area in the middle of the room where AOC-4-3 was collected was observed to contain miscellaneous debris, including cardboard and a yellowish-white powder-like substance underneath the floor boards. A sample of this material was collected and analyzed for PPMs. The results, provided in Table 3-2, showed that arsenic (44 mg/kg), antimony (4,160 mg/kg), thallium (29.4 mg/kg), and zinc (458,000 mg/kg) were present at levels above the NJDEP restricted use cleanup criteria. As a result of these findings, on April 14, 1997, a 5 ft. by 5 ft. area encompassing the debris and the top layer of soil (approximately 6 inches) was removed and contained in three DOT approved 55 gallon drums for disposal. Four post-excavation samples of the underlying soil, AOC-4-4-N, AOC-4-4E, AOC-4-4-W, and AOC-4-4-S, were collected and analyzed for antimony, arsenic, chromium, thallium, and zinc. Arsenic was the only compound detected above the NJDEP restricted use soil cleanup criterion of 20 mg/kg, at concentrations ranging from 21.9 to 33.6 mg/kg. Based on these results, an additional volume of soil measuring approximately 5 ft. by 5 ft. by 1 ft. was removed and contained in two DOT approved 55 gallon drums for disposal. Following soil removal, eight post-excavation soil samples were collected and analyzed for antimony, arsenic, and chromium. Final post-excavation sample locations and analytical results are provided in Figure 3-2 and Table 3-3, respectively. All results were found to be below unrestricted use soil criteria. Therefore, no further action with respect to this AOC is required.

3.2 AOC-6: Industrial Wastewater Pretreatment System

Surface sampling of the floor for metals was proposed in the RAWP to provide additional information with respect to this AOC. Eleven concrete chip samples designated AOC-6-1 through AOC-6-11 were collected on March 13, 1997 for VOC and PPM analyses. Sample locations are shown on Figure 3-3. Sample locations were biased to areas which the concrete floor appeared to be deteriorated. Concrete chips were collected directly from the floor if loose material was present. In areas where loose material was not present, concrete chip samples were collected utilizing using an electric hammer drill or chisel and hammer. The results of the analyses were compared to NJDEP soil cleanup criteria. While these criteria are not applicable to concrete, they were applied to determine if soils underlying the concrete could be impacted above soil criteria, if compounds were present in the concrete above these criteria. All results of the VOC analysis were found to be below NJDEP soil criteria (Table 3-4). Various metals, including cadmium, chromium, copper, lead, and zinc were detected above the restricted use soil criteria at all locations, except AOC-6-6. Antimony, silver, and nickel were also identified at a number of locations at concentrations below the restricted use criteria but above the unrestricted use criteria. These results are provided in Table 3-5. Additional sampling was conducted at selected appropriate locations based on these results. The additional sampling involved coring through the concrete floor at each location. Prior to obtaining the concrete core of the floor, each location was first broom cleaned and then scarified. The bottom of the concrete core was retained for metals analysis. All results of the concrete floor samples were found to be below the NJDEP's restricted use soil cleanup criteria (Table 3-6). As such, no further action is required for this AOC.

3.3 AOC-8: Areas without Vegetation

On March 13, 1997 two shallow soil samples were collected from the unvegetated area outside of the fence (AOC-8a) and one shallow soil sample was collected from the area located inside the fence boundary (AOC-8b). Samples AOC-8a-1 and AOC-8a-2 were collected from at the soil/bedrock interface, less than one foot below grade. Sample AOC-8b-1, inside of the fence, was collected from the 6 inch to 12 inch interval. The location of this sample was moved adjacent to a concrete pad which was encountered approximately 2 to 6 inches below grade. Soil sample locations are provided in Figure 3-4. Samples were analyzed for TPH and PPMs; the results are summarized in Table 3-7. TPH was not present in the samples. Metals were not present above NJDEP criteria at AOC-8b-1. One analyte, cadmium, exceeded the current NJDEP unrestricted use criterion of 1 ppm at concentrations of 7.2 ppm and 10.4 ppm, but was below the restricted use criteria of 100 ppm, at AOC-8a-1 and AOC-8a-2. However, the NJDEP is currently re-establishing NJDEP unrestricted use criterion for cadmium which is understood to be greater than the calculations quantified. The lack of vegetation is most likely attributable to the natural conditions (proximity of bedrock to the surface at these locations). Since it has been demonstrated by aerial photography and current/historic site practices that ITT has not conducted site operations in the vicinity of

AOC-8a, in accordance with N.J.A.C. 7:26E-3.10(b), no further action is warranted or proposed. In addition, since cadmium is present below restricted use criteria, no further action is required with respect to this AOC.

3.4 AOC-9: 1,1,1-Trichloroethane Still

Floor sampling and analysis conducted as part of the investigation of AOC-6 (industrial wastewater pretreatment system subbasement area) was expanded to include VOCs (see Figure 3-3). All VOCs were below NJDEP criteria (see Table 3-4). In addition, a competent floor thickness of approximately 3.5 inches was measured in the closest sample (AOC-6-1). Furthermore, groundwater quality for wells recently installed near this area for the in-situ oxidation treatability study shows that groundwater quality improves in this area when compared to the area of the 1,1,1-TCA release. Therefore, no further action is required with respect to this AOC.

3.5 AOC-12: Building Transformers

Concrete chip samples were collected from AOC-12a (transformer in front of the boiler house), where light staining was observed on the northwest corner of the concrete pad, and AOC-12b (transformer south of the electrical sub-station), where an oil stain was observed on the concrete pad south of the transformer. Two concrete chip samples were collected from AOC-12c (located in the sub-basement on the east side of main building) where a stain exists directly in front of the transformers. AOC-12-RS-N and AOC-12-RS-S were collected from the north and south ends of the transformer/stain, respectively. Sample locations are presented in Figure 3-5. All samples were analyzed for TPH and PCBs. The analytical results are presented in Table 3-8. Samples AOC-12a and AOC-12b were found to contain TPH concentrations of 787 mg/kg and 23,700 mg/kg, respectively. PCB concentrations were below both the restricted and unrestricted use criteria at AOC-12b. Concentrations found at AOC-12a exceeded the unrestricted use criterion of 0.49 mg/kg, at a concentration of 1.283 mg/kg. TPH was detected in sample AOC-12-RS-N at a concentration of 18,200 mg/kg, and in sample AOC-12-RS-S at a concentration of 14,100 mg/kg. PCB concentrations were found to exceed NJDEP restricted and unrestricted use criteria in both samples, at 2.38 mg/kg (AOC-12-RS-N) and 6.24 mg/kg (AOC-12-RS-S). Additional sampling was then conducted as a result of this data.

On April 4, 1997, soil borings were advanced at AOC-12a and AOC-12b. A core was advanced through the asphalt (approximately 3" thick) on the west end of the transformer located at AOC-12a to gain access to the underlying soils; the other boring was advanced in the grass on the southwest end of the transformer at AOC-12b. Soil samples from the 0-6" and 6-12" intervals were collected. Two borings were advanced at AOC-12c through the concrete at the locations of the original concrete chip samples.

Samples of the bottom 1.5" of concrete floor, and soils from the 0-6" and 6-12" intervals below the concrete floor were collected from each boring.

All samples were analyzed for TPH and PCB. Shallow soil samples (AOC-12a and AOC-12b) and the bottom 1.5" of concrete floor (AOC-12c) were analyzed initially. All analytical results for both PCB and TPH analyses were found to be below the NJDEP restricted and unrestricted use criteria. These results are provided in Table 3-9. Therefore, no additional sample analysis was conducted, and no further action is required for this AOC.

3.6 AOC 14a: (Lower Level Northwest Loading Bay)

On March 13, 1997, two soil samples were collected adjacent to the center floor drain at AOC-14a. A core was cut through the concrete floor (approximately eight inches in thickness), to gain access to the unconsolidated material below, at two locations (Figure 3-6). A stainless steel hand auger was then utilized to obtain samples from 8-12", 12-18", and 18-24" below grade. Each sample was screened with a PID. The sample yielding the highest reading was then collected for VOC analysis. In addition to collecting soil samples, one sediment sample was collected from each of the three floor drains located in the bay area. The sediment samples were also analyzed for the presence of VOCs. All equipment was detergent washed and distilled water rinsed between each sample location and each hole was filled with concrete following sample collection.

Soil sample AOC-14a-1 was collected from the 18-24" interval, which yielded a reading of 2.5 ppm above background. Soil sample AOC-14a-2 was obtained from the 12-18" interval (1.0 ppm) and analyzed for VOCs. Sediment samples AOC-14a-C and AOC-14a-W were collected through the drain cover, which could not be removed. A stainless steel hand auger was used to collect sample AOC-14a-C, while sample AOC-14a-W was directly collected through the grate by hand. The cover at AOC-14a-E was broken, therefore the sample was hand collected. Styrofoam packing material was observed at both AOC-14a-W and AOC-14a-E. The analytical results are presented in Table 3-10. All results are below the NJDEP soil criteria and no further action is warranted.

3.7 Groundwater

Groundwater in the Area of the 1,1,1-TCA and UST Releases

Figure 2-2 provides the monitoring well locations for this area of the site. Groundwater affected by the former UST release in the northeastern portion of the facility has been remediated by the groundwater pump and treat system. Free product in this area no longer exists, and dissolved concentrations of non-halogenated organic compounds have been remediated to below NJDEP groundwater

quality criteria, with the exception that benzene is occasionally quantified at concentrations typically less than 5 ppb in MW-3 and MW-15.

Groundwater affected by the former 1,1,1-TCA release in the northeastern portion of the facility is currently undergoing remediation utilizing the existing groundwater pump and treat system, which commenced operation in September 1992. The groundwater extraction, treatment and recharge system has been effective in controlling and concentrating the plume, and removing contaminants from groundwater.

In-situ chemical oxidation technology was implemented in order to remediate. This initial pilot treatability study demonstrated that the chemistry is successful in reducing the concentrations of dissolved 1,1,1-TCA and 1,1-DCE at the ITT facility. A long term pilot treatability study began on September 19, 1996. The long term pilot treatability study demonstrated that the injection chemistry is successful in reducing dissolved 1,1,1-TCA and 1,1 DCE in the groundwater to varying degrees at specific injection well locations. Significant positive effects were observed in eight of the twelve injection wells, where reductions averaging 72% have been sustained for nearly one year. Four injection wells, IW-4, IW-7, IW-8 and IW-9, have rebounded to levels near or greater than pre-injection concentrations. This is indicative of source material in close proximity to these wells that continue to feed dissolved concentrations in groundwater.

Groundwater in the Vicinity of the Boiler House

Chloroform and TCE were detected and observed to exhibit a decreasing concentration trend over the first two sampling events, which were conducted on May 8 and 22, 1991 at MW-203, MW-204, and MW-205. One round of groundwater sampling was then conducted on September 27, 1995. Results of this sampling event indicated that TCE was still above groundwater quality standards at MW-203 (6 ug/l) and MW-205 (5 ug/l). Chlorobenzene was also detected at MW-204 at a concentration of 15 ug/l,, which exceeds the groundwater criteria for chlorobenzene of 4 ug/l.

As proposed in the RAWP, groundwater sampling was conducted on March 4, 1997 and April 2, 1997; Figure 2-7 provides the monitoring well locations. Laboratory results are summarized in Table 3-11. Results of the March 1997 event indicate that TCE marginally exceeded the groundwater criteria of 1 ppb at the three wells, at concentrations of 5 ppb (MW-203) and 2 ppb (MW-204 and MW-205). Chlorobenzene also marginally exceeded the criteria of 4 ppb at MW-204, at a concentration of 6 ppb. The April 1997 sampling event showed a decrease in contaminant concentrations. TCE exceeded the criteria only at MW-203, at a concentration of 4 ppb. MW-204 and MW-205 contained no VOCs above criteria. One additional round of groundwater sampling was conducted on May 22,1997. Results of this sampling event indicated that TCE marginally exceeded the groundwater criteria of 1 ppb at MW-203 (5

ppb), MW-204 (2 ppb), and MW-205 (2 ppb). Chlorobenzene marginally exceeded the criteria at MW-204, at a concentration of 8 ug/l.

Groundwater quality in this area has improved since initial sampling performed in 1991. The data demonstrate that contaminant levels are decreasing and have been sufficiently reduced such that two compounds occasionally, and then marginally, exceed the groundwater quality criteria. Therefore, it is recommended that No Further Action (NFA) be granted for groundwater in this area.

Groundwater in the Vicinity of the Chemical/Waste Storage Area

As proposed in the RAWP, groundwater sampling was conducted on March 4, 1997 and April 2, 1997, as well as on May 22, 1997. This data is presented in Table 3-12, Figure 2-7 provides the monitoring well locations. MW-APC-1-B contained no VOCs above groundwater quality criteria in the three rounds. In MW-APC-1A, the results for the three rounds indicate that TCE (4 to 20 ppb), carbon tetrachloride (32 to 56 ppb), and chloroform (180 to 370 ppb) exceed the groundwater quality criteria of 1 ug/l, 2 ug/l, and 6 ug/l, respectively. Tetrachloroethene (PCE) exceeded the criteria of 1 ppb in the May round, at a concentration of 2 ppb.

Groundwater in this area remains a concern, since concentrations of these three compounds are above criteria.

4.0 Conclusions

Six AOCs remained at the site and were characterized as part of RAWP implementation. The results described in this RAR demonstrate that no further action is required with respect to these AOCs. No soil issues remain at the site.

Three areas of groundwater contamination exist at the site. The most significant area is associated with the release of 1,1,1-TCA. This area is currently undergoing active remediation since 1992. The groundwater extraction, treatment and recharge system has been effective in controlling and concentrating the plume, and removing contaminants from groundwater. Completion of the long -term pilot treatability study with respect to in-situ chemical oxidation has resulted in significant reduction in eight of the twelve injection wells. Four injection wells have rebounded in concentration and appear to be oriented along the dominant fracture trends for this area. The rebound of concentration within these injection wells is indicative of source material. Recognizing the significant concentrations within these wells, groundwater will be extracted for the treatment within the groundwater treatment system. The rate of groundwater extraction from this area will be a function of the geology. Extracted groundwater will be transferred to the treatment plant and either directly introduced to the system, or be slowly feed into the system from the storage/feed tank. Modifications of the treatment process will not be required.

Groundwater in the area of the chemical/waste storage building remains a concern. Supplemental groundwater sampling using direct push methods will be conducted in this area to delineate concentrations. Additional monitoring wells may be installed if warranted based upon the initial groundwater sampling results.

State of New Jersey
Department of Environmental Protection

James E. McGreevey
Governor

Bradley M. Campbell
Commissioner

Division of Water Quality
P.O. Box 029 Trenton, NJ 08625-0029
Phone: (609) 633-3869
Fax: (609) 984-7938

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

OCT 31 2002

Donaldo Polzo, Director
Environmental Health & Safety
100 Kingsland Road
Clifton, N.J. 07014-1904

Re Surface Water GPA Mod
Category: CG - Gen Non-Contact Cooling Water
NJPDES Permit No. NJG0020214
ITT Avionics Division
Clifton City, Passaic County

Dear Mr. Polzo:

Enclosed is an Individual NJPDES/DSW General Permit Authorization under the General Non-Contact Cooling Water (CG) Permit, which was issued by the Department on May 30, 2000. This General Permit Authorization is issued in accordance with the New Jersey Pollutant Discharge Elimination System (NJPDES) Regulations N.J.A.C. 7:14A-1 et seq., and replaces the existing permit issued on July 1, 2000.

This individual General Permit Authorization is issued in response to your request to eliminate Discharge Serial Number (DSN) 001 and monitor the discharge of non-contact cooling water through outfalls DSN 002 and 003, identified on Part III of the enclosed permit. Please note, violation of any condition of this authorization may subject the permittee to significant penalties.

The enclosed Authorization to discharge non-contact cooling water under the General Permit shall expire on June 30, 2005 or the expiration date of the Individual Authorization Page. Applications for renewal of this Authorization must be submitted to the Department at least 180 days prior to expiration of the Individual Authorization pursuant to N.J.A.C. 7:14A-4.2(e)3.

A copy of the Department's most recently revised Discharge Monitoring Report (DMR) Instruction Manual is available if needed by contacting the Bureau of Point Source Permitting. Please note that if there is a discrepancy between the General Permit Authorization and the DMR Instruction Manual, the General Permit Authorization always takes precedence.

All monitoring shall be conducted in accordance with 1) the Department's "Field Sampling Procedures Manual" applicable at the time of sampling (N.J.A.C. 7:14A-6.5(b)4), and/or 2) the method approved by the Department in Part IV of the permit. The Field Sampling Procedures Manual is available through Maps and Publications Sales Office; Bureau of Revenue, PO Box 417, Trenton, New Jersey 08625, at (609) 777-1038.

Hon'ble

RECEIVED
NOV 04 2002
CITY MANAGER

If you have questions or comments regarding the draft action, please contact Ben Manhas at (609) 633-3869.

Sincerely,

Howard B. Tompkins, Chief
Bureau of Point Source Permitting Region 1

Enclosures

c: Permit Distribution List

Masterfile #: 14749; PI #: 46479

New Jersey Department of Environmental Protection
Bureau of Point Source Permitting – Region 1
Division of Water Quality
PO Box 029
Trenton, NJ 08625-0029
(609) 633-3869

AUTHORIZATION TO DISCHARGE
CG -Gen Non-Contact Cooling Water

Facility Name:

PI ID #: 46479

ITT AVIONICS DIVISION

Facility Address:
100 KINGSLAND RD
CLIFTON, NJ 07014-1904

NJPDES #: NJG0020214

SIC Code: 3677

Type of Activity: Surface Water GPA Mod
Owner:
ITT INDUSTRIES
4 WEST RED OAK LN
WHITE PLAINS, NY 10604

Operating Entity:
ITT AVIONICS DIVISION
100 KINGSLAND RD
CLIFTON, NJ 07014-1904

Issuance Date:	Effective Date:	Expiration Date:
10/30/2002	11/01/2002	06/30/2005

Your Request for Authorization under NJPDES General Permit No. NJ0070203 has been approved by the New Jersey Department of Environmental Protection.

Howard B. Tompkins, Chief
Bureau of Point Source Permitting – Region 1
Division of Water Quality
New Jersey Department of Environmental Protection

945750196

PART I
GENERAL REQUIREMENTS: NJPDES

A. General Requirements of all NJPDES Permits

1. Requirements Incorporated by Reference

a. The permittee shall comply with all conditions set forth in this permit and with all the applicable requirements incorporated into this permit by reference. The permittee is required to comply with the regulations, including those cited in paragraphs b. through e. following, which are in effect as of the effective date of the final permit.

b. General Conditions

Penalties for Violations	N.J.A.C. 7:14-8.1 et seq.
Incorporation by Reference	N.J.A.C. 7:14A-2.3
Toxic Pollutants	N.J.A.C. 7:14A-6.2(a)4i
Duty to Comply	N.J.A.C. 7:14A-6.2(a)1 & 4
Duty to Mitigate	N.J.A.C. 7:14A-6.2(a)5 & 11
Inspection and Entry	N.J.A.C. 7:14A-2.11(e)
Enforcement Action	N.J.A.C. 7:14A-2.9
Duty to Reapply	N.J.A.C. 7:14A-4.2(e)3
Signatory Requirements for Applications and Reports	N.J.A.C. 7:14A-4.9
Effect of Permit/Other Laws	N.J.A.C. 7:14A-6.2(a)6 & 7 & 2.9(c)
Severability	N.J.A.C. 7:14A-2.2
Administrative Continuation of Permits	N.J.A.C. 7:14A-2.8
Permit Actions	N.J.A.C. 7:14A-2.7(c)
Reopener Clause	N.J.A.C. 7:14A-6.2(a)10
Permit Duration and Renewal	N.J.A.C. 7:14A-2.7(a) & (b)
Consolidation of Permit Process	N.J.A.C. 7:14A-15.5
Confidentiality	N.J.A.C. 7:14A-18.2 & 2.11(g)
Fee Schedule	N.J.A.C. 7:14A-3.1
Treatment Works Approval	N.J.A.C. 7:14A-22 & 23

c. Operation And Maintenance

Need to Halt or Reduce not a Defense	N.J.A.C. 7:14A-2.9(b)
Proper Operation and Maintenance	N.J.A.C. 7:14A-6.12

d. Monitoring And Records

Monitoring	N.J.A.C. 7:14A-6.5
Recordkeeping	N.J.A.C. 7:14A-6.6
Signatory Requirements for Monitoring Reports	N.J.A.C. 7:14A-6.9

e. Reporting Requirements

Planned Changes	N.J.A.C. 7:14A-6.7
Reporting of Monitoring Results	N.J.A.C. 7:14A-6.8
Noncompliance Reporting	N.J.A.C. 7:14A-6.10 & 6.8(h)
Hotline/Two Hour & Twenty-four Hour Reporting	N.J.A.C. 7:14A-6.10(c) & (d)
Written Reporting	N.J.A.C. 7:14A-6.10(e) &(f) & 6.8(h)
Duty to Provide Information	N.J.A.C. 7:14A-2.11, 6.2(a)14 & 18.1
Schedules of Compliance	N.J.A.C. 7:14A-6.4
Transfer	N.J.A.C. 7:14A-6.2(a)8 & 16.2

PART II

GENERAL REQUIREMENTS: DISCHARGE CATEGORIES

A. Additional Requirements Incorporated By Reference

1. Requirements for Discharges to Surface Waters

a. In addition to conditions in Part I of this permit, the conditions in this section are applicable to activities at the permitted location and are incorporated by reference. The permittee is required to comply with the regulations which are in effect as of the effective date of the final permit.

i. Surface Water Quality Standards N.J.A.C. 7:9B-1

ii. Water Quality Management Planning Regulations N.J.A.C. 7:15

B. General Conditions

1. Scope

a. The issuance of this permit shall not be considered as a waiver of any applicable federal, state, and local rules, regulations and ordinances.

2. Permit Renewal Requirement

a. Permit conditions remain in effect and enforceable until and unless the permit is modified, renewed or revoked by the Department.

b. Submit a complete permit renewal application: 180 days before the the Expiration Date.

3. Notification of Non-Compliance

a. The permittee shall notify the Department of all non-compliance when required in accordance with N.J.A.C. 7:14A-6.10 by contacting the DEP HOTLINE at 1-877-WARNDEP (1-877-927-6337).

b. The permittee shall submit a written report as required by N.J.A.C. 7:14A-6.10 within five days.

4. Notification of Changes

a. The permittee shall give written notification to the Department of any planned physical or operational alterations or additions to the permitted facility when the alteration is expected to result in a significant change in the permittee's discharge and/or residuals use or disposal practices including the cessation of discharge in accordance with N.J.A.C. 7:14A-6.7.

b. Prior to any change in ownership, the current permittee shall comply with the requirements of N.J.A.C. 7:14A-16.2, pertaining to the notification of change in ownership.

5. Access to Information

a. The permittee shall allow an authorized representative of the Department, upon the presentation of credentials, to enter upon a person's premises, for purposes of inspection, and to access / copy any records that must be kept under the conditions of this permit.

6. Operator Notification

a. Pursuant to N.J.A.C. 7:10A-1.1 et seq. every wastewater system not exempt pursuant to N.J.A.C. 7:10A-1.1(b) requires a licensed operator. The operator of a system shall meet the Department's requirements pursuant to N.J.A.C. 7:10A-1.1 and any amendments. The name of the proposed operator, where required, shall be submitted to the Department at the address below, in order that his/her qualifications may be determined prior to initiating operation of the treatment works.

   i. The permittee shall notify the Department of any changes in licensed operator within two weeks of the change.

   ii. Notifications shall be submitted to:

   NJDEP
   Examination and Licensing Unit
   P.O. Box 441
   Trenton, New Jersey 08625
   (609) 777-1012

7. **Operation Restrictions**

   a. The operation of a waste treatment or disposal facility shall at no time create: (a) a discharge, except as authorized by the Department in the manner and location specified in Part III of this permit; (b) any discharge to the waters of the state or any standing or ponded condition for water or waste, except as specifically authorized by a valid NJPDES permit.

8. **Intermittent Discharges (If applicable)**

   a. The permittee is required to provide representative sampling of any regulated intermittent activity pursuant to N.J.A.C. 7:14A-6.5(a). Therefore, although a discharge may occur on an intermittent basis, it does not exempt the permittee from complying with the requirements of the permit. For example, if the permittee has a monthly monitoring and reporting requirement and the discharge occurs three separate times during the month, the permittee should sample during at least one of the discharge events occuring during the monitoring period. The permittee should report "NODI" on the DMR (or other required form) only if there is no discharge events during the entire reporting period.

9. **Applicability of Numerical Limitations**

   a. If only one analysis for a given parameter is made during any sampling period specified in this permit, the result of such analysis shall be construed as the average value of the parameter, as well as the maximum, for said sampling period. The permittee may take samples and have analysis made by a New Jersey Certified laboratory on additional occasions to those specified in this permit. If so, the average and the maximum values of all analytical results taken during the sampling period shall be reported as the applicable average and maximum values. However, for pH, minimum and maximum values are reported rather than average values.

10. **Schedule of Maintenance**

   a. Any maintenance of facilities, which might necessitate unavoidable interruption of operation and degradation of effluent quality, shall be scheduled during non-critical water quality periods and carried out in a manner approved by the Department.

PART III
LIMITS AND MONITORING REQUIREMENTS

A. 002A NCCW OUTFALL

Location Description

Sampling shall be conducted in the manhole between buildings E and H identified as MEL discharge. The discharge is to the Third River, via a storm sewer, classified as FW2-NT at the following coordinates: Latitude 40d 49' 36" Longitude 74d 08' 16". The initial phase begins at EDPA and expires on 6/30/2003. The final phase begins on 7/1/2003.

Discharge Categories

Gen Non-Contact Cooling Water

Surface Water DMR Reporting Requirements:

Submit a Quarterly DMR: Within twenty-five days after the end of every quarterly monitoring period beginning from the effective date of the permit (EDP)..

Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements

Parameter	Sample Point	Limit	Statistical Base	Sampling Frequency	Sample Type	Monitoring Period	Phase	Quantification Limit
Flow, In Conduit or Thru Treatment Plant	Effluent Gross Value	REPORT GPD	Monthly Average	1 / Quarter	Representative	January thru December	1- Initial	
Flow, In Conduit or Thru Treatment Plant	Effluent Gross Value	REPORT GPD	Daily Maximum	1 / Quarter	Representative	January thru December	1- Initial	
pH	Effluent Gross Value	6 SU	Daily Minimum	2 / Year	Grab	January thru December	1- Initial	
pH	Effluent Gross Value	9 SU	Daily Maximum	2 / Year	Grab	January thru December	1- Initial	
Solids, Total Suspended	Effluent Gross Value	REPORT MG/L	Monthly Average	2 / Year	Grab	January thru December	1- Initial	
Solids, Total Suspended	Effluent Gross Value	20 MG/L	Daily Maximum	2 / Year	Grab	January thru December	1- Initial	
Chlorine Produced Oxidants	Effluent Gross Value	REPORT MG/L	Monthly Average	2 / Year	Grab	January thru December	1- Initial	0.1 Method Detect Level
Chlorine Produced Oxidants	Effluent Gross Value	REPORT MG/L	Daily Maximum	2 / Year	Grab	January thru December	1- Initial	0.1 Method Detect Level
Temperature, oC	Effluent Gross Value	REPORT DEG.C	Monthly Average	1 / Quarter	Grab	January thru December	1- Initial	
Temperature, oC	Effluent Gross Value	30 DEG.C	Daily Maximum	1 / Quarter	Grab	January thru December	1- Initial	
Oxygen Demand,Chem. (High Level) (COD)	Effluent Gross Value	REPORT MG/L	Monthly Average	2 / Year	Grab	January thru December	1- Initial	
Oxygen Demand,Chem. (High Level) (COD)	Effluent Gross Value	50 MG/L	Daily Maximum	2 / Year	Grab	January thru December	1- Initial	
Petroleum Hydrocarbons	Effluent Gross Value	REPORT MG/L	Monthly Average	1 / Year	Grab	January thru December	1- Initial	

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Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements

Parameter	Sample Point	Limit	Statistical Base	Sampling Frequency	Sample Type	Monitoring Period	Phase	Quantification Limit
Petroleum Hydrocarbons	Effluent Gross Value	10 MG/L	Daily Maximum	1 / Year	Grab	January thru December	1- Initial	
Flow, In Conduit or Thru Treatment Plant	Effluent Gross Value	REPORT GPD	Monthly Average	1 / Quarter	Representative	January thru December	2- Final	
Flow, In Conduit or Thru Treatment Plant	Effluent Gross Value	REPORT GPD	Daily Maximum	1 / Quarter	Representative	January thru December	2- Final	
pH	Effluent Gross Value	6 SU	Daily Minimum	2 / Year	Grab	January thru December	2- Final	
pH	Effluent Gross Value	9 SU	Daily Maximum	2 / Year	Grab	January thru December	2- Final	
Solids, Total Suspended	Effluent Gross Value	REPORT MG/L	Monthly Average	2 / Year	Grab	January thru December	2- Final	
Solids, Total Suspended	Effluent Gross Value	20 MG/L	Daily Maximum	2 / Year	Grab	January thru December	2- Final	
Chlorine Produced Oxidants	Effluent Gross Value	REPORT MG/L	Monthly Average	2 / Year	Grab	January thru December	2- Final	0.1 Method Detect Level
Chlorine Produced Oxidants	Effluent Gross Value	0.1 MG/L	Daily Maximum	2 / Year	Grab	January thru December	2- Final	0.1 Method Detect Level
Temperature, oC	Effluent Gross Value	REPORT DEG.C	Monthly Average	1 / Quarter	Grab	January thru December	2- Final	
Temperature, oC	Effluent Gross Value	30 DEG.C	Daily Maximum	1 / Quarter	Grab	January thru December	2- Final	
Oxygen Demand,Chem. (High Level) (COD)	Effluent Gross Value	REPORT MG/L	Monthly Average	2 / Year	Grab	January thru December	2- Final	
Oxygen Demand,Chem. (High Level) (COD)	Effluent Gross Value	50 MG/L	Daily Maximum	2 / Year	Grab	January thru December	2- Final	
Petroleum Hydrocarbons	Effluent Gross Value	REPORT MG/L	Monthly Average	1 / Year	Grab	January thru December	2- Final	
Petroleum Hydrocarbons	Effluent Gross Value	10 MG/L	Daily Maximum	1 / Year	Grab	January thru December	2- Final	

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B. 003A NCCW OUTFALL

Location Description

Sampling shall be conducted in the manhole identified as GPS discharge. The discharge is to the Third River, via a storm sewer, classified as FW2-NT at the following coordinates: Latitude 40d 49' 37" Longitude 74d 08' 08" The initial phase begins at EDPA and expires on 6/30/2003. The final phase begins on 7/1/2003.

Discharge Categories

Gen Non-Contact Cooling Water

Surface Water DMR Reporting Requirements:

Submit a Quarterly DMR: Within twenty-five days after the end of every quarterly monitoring period beginning from the effective date of the permit (EDP)..

Table III - B - 1: Surface Water DMR Limits and Monitoring Requirements

Parameter	Sample Point	Limit	Statistical Base	Sampling Frequency	Sample Type	Monitoring Period	Phase	Quantification Limit
Flow, In Conduit or Thru Treatment Plant	Effluent Gross Value	REPORT GPD	Monthly Average	1 / Quarter	Representative	January thru December	1 - Initial	
Flow, In Conduit or Thru Treatment Plant	Effluent Gross Value	REPORT GPD	Daily Maximum	1 / Quarter	Representative	January thru December	1 - Initial	
pH	Effluent Gross Value	6 SU	Daily Minimum	2 / Year	Grab	January thru December	1 - Initial	
pH	Effluent Gross Value	9 SU	Daily Maximum	2 / Year	Grab	January thru December	1 - Initial	
Solids, Total Suspended	Effluent Gross Value	REPORT MG/L	Monthly Average	2 / Year	Grab	January thru December	1 - Initial	
Solids, Total Suspended	Effluent Gross Value	20 MG/L	Daily Maximum	2 / Year	Grab	January thru December	1 - Initial	
Chlorine Produced Oxidants	Effluent Gross Value	REPORT MG/L	Monthly Average	2 / Year	Grab	January thru December	1 - Initial	0.1 Method Detect Level
Chlorine Produced Oxidants	Effluent Gross Value	REPORT MG/L	Daily Maximum	2 / Year	Grab	January thru December	1 - Initial	0.1 Method Detect Level
Temperature, oC	Effluent Gross Value	REPORT DEG.C	Monthly Average	1 / Quarter	Grab	January thru December	1 - Initial	
Temperature, oC	Effluent Gross Value	30 DEG.C	Daily Maximum	1 / Quarter	Grab	January thru December	1 - Initial	
Oxygen Demand,Chem. (High Level) (COD)	Effluent Gross Value	REPORT MG/L	Monthly Average	2 / Year	Grab	January thru December	1 - Initial	
Oxygen Demand,Chem. (High Level) (COD)	Effluent Gross Value	50 MG/L	Daily Maximum	2 / Year	Grab	January thru December	1 - Initial	
Petroleum Hydrocarbons	Effluent Gross Value	REPORT MG/L	Monthly Average	1 / Year	Grab	January thru December	1 - Initial	

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Table III - B - 1: Surface Water DMR Limits and Monitoring Requirements

Parameter	Sample Point	Limit	Statistical Base	Sampling Frequency	Sample Type	Monitoring Period	Phase	Quantification Limit
Petroleum Hydrocarbons	Effluent Gross Value	10 MG/L	Daily Maximum	1 / Year	Grab	January thru December	1 - Initial	
Flow, In Conduit or Thru Treatment Plant	Effluent Gross Value	REPORT GPD	Monthly Average	1 / Quarter	Representative	January thru December	2 - Final	
Flow, In Conduit or Thru Treatment Plant	Effluent Gross Value	REPORT GPD	Daily Maximum	1 / Quarter	Representative	January thru December	2 - Final	
pH	Effluent Gross Value	6 SU	Daily Minimum	2 / Year	Grab	January thru December	2 - Final	
pH	Effluent Gross Value	9 SU	Daily Maximum	2 / Year	Grab	January thru December	2 - Final	
Solids, Total Suspended	Effluent Gross Value	REPORT MG/L	Monthly Average	2 / Year	Grab	January thru December	2 - Final	
Solids, Total Suspended	Effluent Gross Value	20 MG/L	Daily Maximum	2 / Year	Grab	January thru December	2 - Final	
Chlorine Produced Oxidants	Effluent Gross Value	REPORT MG/L	Monthly Average	2 / Year	Grab	January thru December	2 - Final	0.1 Method Detect Level
Chlorine Produced Oxidants	Effluent Gross Value	0.1 MG/L	Daily Maximum	2 / Year	Grab	January thru December	2 - Final	0.1 Method Detect Level
Temperature, oC	Effluent Gross Value	REPORT DEG.C	Monthly Average	1 / Quarter	Grab	January thru December	2 - Final	
Temperature, oC	Effluent Gross Value	30 DEG.C	Daily Maximum	1 / Quarter	Grab	January thru December	2 - Final	
Oxygen Demand,Chem. (High Level) (COD)	Effluent Gross Value	REPORT MG/L	Monthly Average	2 / Year	Grab	January thru December	2 - Final	
Oxygen Demand,Chem. (High Level) (COD)	Effluent Gross Value	50 MG/L	Daily Maximum	2 / Year	Grab	January thru December	2 - Final	
Petroleum Hydrocarbons	Effluent Gross Value	REPORT MG/L	Monthly Average	1 / Year	Grab	January thru December	2 - Final	
Petroleum Hydrocarbons	Effluent Gross Value	10 MG/L	Daily Maximum	1 / Year	Grab	January thru December	2 - Final	

PART IV

SPECIFIC REQUIREMENTS: NARRATIVE

Notes and Definitions

A. Footnotes

1. General Footnotes

a. The representative flow sample shall be taken by an appropriate flow measurement devices and methods consistent with accepted engineering/scientific practices shall be selected and used to insure the accuracy and reliability of measurements of the volume of monitored discharges. Unless specified otherwise in this permit, devices shall be installed, calibrated and maintained to insure that the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than +/-10% from the true discharge rates throughout the range of expected discharge volumes. Guidance in selection, installation, calibration and operation of acceptable flow measurement devices can be obtained from the following references:

i. A Guide to Methods and Standards for the Measurement of Water Flow, U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 421, May 1975, 97 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by SD Catalog No. C13.10:421).

ii. Water Measurement Manual, U.S. Department of Interior, Bureau of Reclamation, Second Edition, Revised Reprint, 1974, 327 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by Catalog No. 127.19/2:W29/2, Stock No. S/N 24003-0027.)

iii. Flow Measurement in Open Channels and Closed Conduits, U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 484, October 1977, 982 pp. (Available in paper copy or microfiche from National Technical Information Service (NTIS), Springfield, VA 22151. Order by NTIS No. PB-273 535/5ST.)

iv. NPDES Compliance Sampling Manual, U.S. Environmental Protection Agency, Office of Water Enforcement, Publication MCD-51, 1977, 140 pp. (Available from the General Services Administration (8FFS), Centralized Mailing Lists Services, Building 41, Denver Federal Center, Denver CO 80225.)

Gen Non-Contact Cooling Water

A. SPECIAL CONDITIONS

1. Construction and Operation of a Treatment System

a. Pursuant to N.J.S.A. 58:10A-6, no person shall build, install modify or operate any facility for the collection, conveyance, treatment or discharge of any industrial or domestic wastewater except in conformance with N.J.A.C. 7:14A-22.

b. The operation of the treatment works shall be under the supervision of a licensed operator. The operator shall meet the requirements of the Department of Environmental Protection of the State of New Jersey pursuant to provisions of N.J.S.A. 58:11-64 and amendments thereto.

c. If subsequent to the issuance of this permit, the permittee proposes to install or modify a treatment works, the permittee shall submit to the Department, for approval of the treatment works and determination of the operator's appropriate license classification, a complete application for Treatment Works Approval pertaining to the proposed treatment works installation or modification pursuant to N.J.A.C. 7:14A-22. A Treatment Works Approval shall be submitted to the following address:

i. New Jersey Department of Environmental Protection
Bureau of Engineering and Construction Permitting
401 East State Street
P.O. Box 425
Trenton, N.J. 08625

2. Discharge Restrictions

a. During the period beginning at the effective date of the individual permit authorization (EDPA) and lasting through the expiration date of this general permit, the permittee is authorized to discharge non-contact cooling water into surface waters of the State, from the authorized outfall serial number(s).

b. There shall be no discharge of floating solids or visible foam in other than trace amounts. There shall be no visible sheen.

c. Samples taken in compliance with the specified monitoring requirements shall be reported as specified in the effluent limitations table.

3. Toxic Pollutant Reopener Clause

a. Pursuant to N.J.A.C. 7:14A-6.2(a)(10)iii, the Department may modify or revoke and reissue any permit to incorporate limitations or requirements to control the discharge of toxic pollutants, including whole effluent, chronic and acute toxicity requirements, chemical specific limitations or toxicity reduction requirements, as applicable.

4. Use of Biocides or Other Cooling Water Additives

a. In general, the use of biocides or cooling water additives is prohibited under this general permit. However, if a facility decides that they may want to use a biocide, or if they want to change the use of their current approved biocide, they must notify the Department at least 180 days prior to use so that the Department can evaluate the continued eligibility for coverage under this general permit.

5. Monitoring and Reporting

a. The permittee shall report monitoring results on the Discharge Monitoring Report (DMR) forms or other monitoring report forms required by the permit or the Department at the intervals specified in the permit. Monitoring results shall be summarized and reported on the appropriate form following the completed reporting period. If a discharge does not occur during a particular reporting period, the permittee should write "NODI" across the face of the form. Unless otherwise specified or directed, signed copies of these forms shall be submitted postmarked no later than the 25th day of the calendar month following the completed reporting period to the following address:

i. NJDEP
Bureau of Permit Management
PO Box 029
Trenton, New Jersey 08625-0029

b. In addition to the monitoring and reporting requirements in Part I, a duplicate signed copy of all other monitoring reports required from the permittee including the DMRs shall be submitted to the DRBC (only for dischargers to the Delaware River Basin), and the ISC (only for dischargers to the Interstate Sanitation Commission district) at the following addresses:

i. Delaware River Basin Commission
P.O. Box 7360
West Trenton, New Jersey 08628
Attn: Executive Director

ii. Interstate Sanitation Commission
311 West 43rd Street
New York, New York 10036
Attn: Director/Chief Engineer

6. **Modification of Monitoring Requirements**

a. Facilities with monthly monitoring for flow and temperature, may request that the monitoring frequency be reduced for all parameters provided they meet the following conditions:

i. All parameters are in compliance with the Phase 2 limitations and,

ii. There has been at least three consecutive years of consistent compliance with the Phase 2 limitations.

b. Reduction of monitoring frequency is not automatic; the Department shall determine whether or not a reduction is warranted. The Discharge Monitoring Reports (DMRs) shall be reviewed to verify consistent compliance with permit limitations and conditions. If the Department agrees to grant the request, the Department will perform a conditional change to the permit to change the monitoring frequency of the affected parameters.

c. A request for a modification of the monitoring frequency should be sent to:

Chief of the Bureau of Permit Management
P.O. Box 29
Trenton, New Jersey 08625

B. Toxicity Requirements

1. **Chronic Toxicity Testing Requirements**

a. The permittee shall conduct chronic toxicity tests on its wastewater discharge in accordance with the provisions in this section. Such testing will determine if appropriately selected effluent concentrations adversely affect the survival, growth and/or reproduction of the test species.

i. Chronic toxicity tests shall be conducted in accordance with with the Department's "Chronic Toxicity Testing Specifications For Use In The NJPDES Permit Program". Any test that does not meet the specifications must be repeated within 30 days of the completion of the initial test.

ii. Chronic toxicity test results shall be expressed as the IC25 for each test endpoint. Where a chronic toxicity testing methodology yields IC25s from more than one test endpoint, the most sensitive endpoint will be used to determine permit compliance.

iii. The test species to be used for the chronic toxicity test is as follows:

For discharges to a freshwater receiving water body, the Ceriodaphnia dubia, 3 brood survival and reproduction test shall be utilized. For discharges to a saline receiving water body (having a salinity of greater than 3.5 ppt.), the Mysidopsis bahia, 7 day survival, growth, and fecundity test shall be utilized.

2. **Monitoring Requirements**

a. The monitoring requirements for chronic toxicity testing are as follows:

i. The permittee shall perform an initial chronic toxicity test within three months of the effective date of the permit authorization.

ii. If the results of a toxicity test indicate an exceedance with the Chronic Toxicity threshold (IC25 greater than or equal to 61%), the facility shall perform an evaluation of their practice at the site (Toxicity Investigation requirements/Part IV, General Non-Contact Cooling Water, Section C) as to the reason for the exceedance. The permittee shall implement the necessary measures to rectify the exceedance and then redo the toxicity test within one year of the chronic toxicity exceedance.

iii. If the result of the chronic toxicity test is still not in compliance with the thresholds mentioned above, the permittee shall notify the Bureau of Point Source Permitting - Region 1 or 2 of the exceedance and furnish a report containing the following items by the effective date of the permit authorization + 18 months:

a) results of the initial toxicity test,
b) the Preliminary Toxicity Evaluation (PTE) followed by the permittee,
c) the corrective measures taken by the permittee,
d) the results of the final toxicity test

The permittee may continue to discharge in accordance with this general permit pending the evaluation of the report by the Department to determine the need for an individual permit.

iv. If the results of the chronic toxicity tests are in compliance with the thresholds mentioned above, the permittee has fulfilled the WET requirements and shall continue to discharge in accordance with the permit authorization.

3. **Reporting Requirements**

a. The reporting requirements for chronic toxicity testing are as follows:

i. A fully completed "Methodology Questionnaire for Chronic Toxicity Tests," which includes an identification of the toxicity testing laboratory responsible for the testing shall be submitted to the address below within the Effective Date of Permit Authorization + 2 months . This information must also be resubmitted within two months of a change of contract laboratory. Copies of this form are provided to certified laboratories and may also be obtained by contacting the address below.

ii. Chronic toxicity test results shall be reported on the "NJPDES Biomonitoring Report Form - Chronic Toxicity Tests", copies of which are provided to certified laboratories. Copies of this report form may also be obtained by contacting the address below. TWO COPIES of each completed report form shall be submitted within 60 days of test completion to:

New Jersey Department of Environmental Protection
Division of Water Quality, Bureau of Point Source Permitting Region 1 or 2
P.O. Box 29
Trenton, New Jersey 08625
Attention: Biomonitoring Program

If a facility is located in the Delaware River Basin, one copy of each completed report form shall be submitted to the DRBC at the address cited in Part IV, General Non-Contact Cooling Water, Section A.5.b.i. of the permit.

C. Toxicity Investigation (TI)

1. Preliminary Toxicity Evaluation (PTE)

a. The permittee shall initiate a toxicity investigation if the toxicity tests demonstrate that the effluent does not comply with the chronic threshold of IC25 greater than or equal to 61%.

i. Within 30 days after the exceedance of the chronic toxicity threshold, stated above, the permittee shall initiate a PTE as to the reason for the exceedance(s). The PTE shall be completed within 2 months of the exceedance(s) and shall include but not be limited to:

- An evaluation of the use of biocides
- An evaluation of the use of additives
- A check for cross connections of the discharge prior to sampling
- A check if stormwater is included in the discharge
- A dilution evaluation

2. Preliminary Corrective Measures (PCM)

a. The permittee shall perform the following corrective measures:

i. Within 3 months of the exceedance of the threshold stated in Part IV, General Non-Contact Cooling Water, Section B.3.a.ii. above, the permittee shall outline a PCM that will bring the discharge in compliance with the effluent limits.

ii. Within 6 months of the exceedance of the threshold, the permittee shall implement the PCM to bring the discharge into compliance with the threshold levels stated in Part IV, General Non-Contact Cooling Water, Section B.3.a.ii. above.

3. Compliance Monitoring (CM)

a. The permittee shall adhere to the following compliance schedule:

i. Within 12 months of the exceedance of the threshold, the permittee shall resample for chronic toxicity for compliance with the threshold level referenced in Part IV, General Non-Contact Cooling Water, Section B.3.a.ii. above.

ii. If the results of the compliance monitoring exceeds the threshold for chronic toxicity, the permittee shall meet the requirements set forth in Part IV, General Non-Contact Cooling Water, Section B.3.a.iii.

iii. If the results of the chronic toxicity tests are in compliance with the thresholds mentioned in Part IV, General Non-Contact Cooling Water, Section B.3.a.ii. above, the permittee has fulfilled the WET requirements and shall continue to discharge in accordance with the permit authorization.

APPENDIX A:

CHRONIC TOXICITY TESTING SPECIFICATIONS

FOR USE IN THE NJPDES PERMIT PROGRAM

Version 2.1

May 1997

TABLE OF CONTENTS

I. AUTHORITY AND PURPOSE

II. GENERAL CONDITIONS

A. Laboratory Safety and Glassware
B. Test Concentrations / Replicates
C. Dilution Water
D. Effluent Sample Collection
E. Physical Chemical Measurements
F. Statistics

III. TEST ACCEPTABILITY CRITERIA

IV. STANDARD REFERENCE TOXICANT TESTING

A. Initial Testing Requirements
B. Subsequent Testing Requirements
C. Changing an Established Reference Toxicant
D. Control Charts
E. Unacceptable SRT Results
F. Annual Submittals

V. TEST CANCELLATION / RESCHEDULING EVENTS

VI. REPORTING

VII. METHODS SPECIFICATIONS

A. Fathead Minnow (*Pimephales promelas*), Larval Survival and Growth Test, method 1000.0
B. *Ceriodaphnia dubia*, Survival and Reproduction Test, method 1002.0
C. Algal, (*Selenastrum capricornutum*), Growth Test, method 1003.0
D. Sheepshead Minnow (*Cyprinodon variegatus*), Larval Survival and Growth Test, method 1005.0
E. Inland Silverside (*Menidia beryllina*), Larval Survival and Growth Test, method 1006.0
F. *Mysidopsis bahia*, Survival, Growth, and Fecundity Test, method 1007.0
G. *Champia parvula*, Sexual Reproduction Test, method 1009.0

VIII. REFERENCES

Notice: Mention of trade names or commercial products do not constitute endorsement or recommendation for use.

I. AUTHORITY AND PURPOSE

These methods specifications for the conduct of whole effluent chronic toxicity testing are established under the authority of the NJPDES permitting program, N.J.A.C. 7:14A-6.5(a)2 and 40 CFR 136, for discharges to waters of the State. The methods referenced herein are included by reference in 40 CFR 136, Table 1.A. and, therefore, constitute approved methods for chronic toxicity testing. The information contained herein serves to clarify testing requirements not sufficiently clarified in those methods documents and also serves to outline and implement the interlaboratory Standard Reference Toxicant Program until a formal laboratory certification program is established under N.J.A.C. 7:18. As such these methods are intended to be used to determine compliance with discharge permits issued under the authority of the NJPDES permit program. Tests are to be conducted in accordance with the general conditions and test organism specific method specifications contained in this document. All other conditions and specifications can be found in 40 CFR 136 and USEPA methodologies.

Until a subchapter on chronic toxicity testing within the regulations governing the certification of laboratories and environmental measurements (N.J.A.C. 7:18) becomes effective, tests shall be conducted in conformance with the methodologies as designated herein and contained in 40 CFR 136. The laboratory performing the testing shall be within the existing acute toxicity testing laboratory certification program established under N.J.A.C. 7:18, as required by N.J.A.C. 7:9B-1.5(c)5.

Testing shall be in conformance with the subchapter on chronic toxicity testing within the N.J.A.C. 7:18 when such regulations become effective. The laboratory performing the toxicity testing shall be within the chronic toxicity testing laboratory certification program to be established under that subchapter, when it becomes effective.

These methods are incorporated into discharge permits as enforceable permit conditions. Each discharge permit will specify in Part IV of the permit, the test species specific methods from this document that will be required under the terms of the discharge permit. Although the test species specific methods for each permit are determined on a case-by-case basis, the purpose of this methods document is to assure consistency among dischargers and to provide certified laboratories with information on the universe of tests to be utilized so that they can make the necessary preparations, including completing the required Standard Reference Toxicant testing. Please note that these methodologies are required for compliance testing only. Facilities and/or laboratories conducting testing under the requirements of a Toxicity Identification Evaluation or for informational purposes are not bound by these methods.

This document constitutes the second version of the NJDEP's interim chronic methodologies. This version contains no significant changes to the test methods themselves. However, in keeping with the Department's continued emphasis on good laboratory practices and quality control, the areas addressing the Standard Reference Toxicant Program, data analysis and data reporting, have been significantly revised.

II. GENERAL CONDITIONS

A. LABORATORY SAFETY, GLASSWARE, ETC.

All safety procedures, glassware cleaning procedures, etc., shall be in conformance with 40 CFR 136 and USEPA's "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms," "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms" and N.J.A.C. 7:18.

B. TEST CONCENTRATIONS / REPLICATES

All testing is to be performed with a minimum of five effluent concentrations plus a dilution water control. A second reference water control is optional when a dilution water other than culture water is used. The use of both a 0.5 or 0.75 dilution factor is acceptable for the selection of test concentrations. If hypothesis testing will be used to determine the test endpoint, one effluent concentration shall be the chronic permit limitation, unless the existing data for the discharge indicate that the NOEC is expected to be significantly less than the permit limit. The use of the 0.5 dilution factor may require more than five dilutions to cover the entire range of effluent concentrations as well as the chronic permit limit, since the permit limit will often not be one of the nominal concentrations in a 0.5 dilution series. In such an instance, the 0.5 dilution series may be altered by including an additional test concentration equal to the permit limit in the dilution series, or by changing the concentration closest to the permit toxicity limit to be equal to that limit. The Department recommends the use of the 0.75 dilution factor using Table 1.0 to determine test concentrations. That table establishes test concentrations based on the chronic toxicity limitation.

For either the 0.5 or 0.75 dilution factor, there shall be at least one test concentration above the permit limitation and at least three test concentrations below the permit limit along with the dilution water control unless the permit limitation prohibits such (e.g., limitations greater than 75% effluent). An effort shall be made to bracket the anticipated test result.

To use Table 1.0, locate the permit limit in column 4. The dilution series becomes the row that corresponds to the permit limit in column 4. For example, a permit limit of 41 would require a dilution series of the dilution water control, 17%, 23%, 31%, 41% and 55% effluent.

The number of replicates used in the test must, at a minimum, satisfy the specifications of the applicable methods contained herein. Increased data sensitivity can be obtained by increasing the number of replicates equally among test concentrations and thus an increased number of replicates is acceptable. Further, the use of nonparametric statistical analysis requires a minimum of four replicates per test concentration. If the data for any particular test is not conducive to parametric analyses and if less than four replicates were included, the test may not be considered acceptable for compliance purposes.

The use of single concentration tests consisting of the permit limitation as a concentration and a control is not permitted for compliance purposes, but may be used by a permittee in the conduct of a Toxicity Investigation Evaluation (TIE) or for information gathering purposes. Such a test would be considered a "pass" if there was no significant difference in test results, using hypothesis testing methods.

Table 1.0: 0.75 DILUTION SERIES INDEXED BY PERMIT LIMIT

				Permit Limit						Permit Limit	
Col #	1	2	3	4	5	Col #	1	2	3	4	5
	0.4	0.6	0.8	1	1.3		22	29	38	51	68
	0.8	1.1	1.5	2	2.7		22	29	39	52	69
	1.3	1.7	2.3	3	4		22	30	40	53	71
	1.7	2.3	3	4	5.3		23	30	41	54	72
	2.1	2.8	3.8	5	6.7		23	31	41	55	73
	2.5	3.4	4.5	6	8		24	32	42	56	75
	3	4	5	7	9		24	32	43	57	76
	3	5	6	8	11		24	33	44	58	77
	4	5	7	9	12		25	33	44	59	79
	4	6	8	10	13		25	34	45	60	80
	5	6	8	11	15		26	34	46	61	81
	5	7	9	12	16		26	35	47	62	83
	5	7	10	13	17		27	35	47	63	84
	6	8	11	14	19		27	36	48	64	85
	6	8	11	15	20		27	37	49	65	87
	7	9	12	16	21		28	37	50	66	88
	7	10	13	17	23		28	38	50	67	89
	8	10	14	18	24		29	38	51	68	91
	8	11	14	19	25		29	39	52	69	92
	8	11	15	20	27		30	39	53	70	93
	9	12	16	21	28		30	40	53	71	95
	9	12	17	22	29		30	41	54	72	96
	10	13	17	23	31		31	41	55	73	97
	10	14	18	24	32		31	42	56	74	99
	11	14	19	25	33		32	42	56	75	100
	11	15	20	26	35	24	32	43	57	76	
	11	15	20	27	36	24	32	43	58	77	
	12	16	21	28	37	25	33	44	59	78	
	12	16	22	29	39	25	33	44	59	79	
	13	17	23	30	40	25	34	45	60	80	
	13	17	23	31	41	26	34	46	61	81	
	14	18	24	32	43	26	35	46	62	82	
	14	19	25	33	44	26	35	47	62	83	
	14	19	26	34	45	27	35	47	63	84	
	15	20	26	35	47	27	36	48	64	85	
	15	20	27	36	48	27	36	48	65	86	
	16	21	28	37	49	28	37	49	65	87	
	16	21	29	38	51	28	37	50	66	88	
	16	22	29	39	52	28	38	50	67	89	
	17	23	30	40	53	28	38	51	68	90	
	17	23	31	41	55	29	38	51	68	91	
	18	24	32	42	56	29	39	52	69	92	
	18	24	32	43	57	29	39	52	70	93	
	19	25	33	44	59	30	40	53	71	94	
	19	25	34	45	60	30	40	53	71	95	
	19	26	35	46	61	30	41	54	72	96	
	20	26	35	47	63	31	41	55	73	97	
	20	27	36	48	64	31	41	55	74	98	
	21	28	37	49	65	31	42	56	74	99	
	21	28	38	50	67	32	42	56	75	100	

* Select the dilution series by finding the row which contains the permit limit in column #4.
NOTE: All values are in units of "% effluent" not toxic units.

C. DILUTION WATER

1. Marine and Estuarine Waters

A high quality natural water, such as the Manasquan River Inlet is strongly recommended as the dilution water source for chronic toxicity testing with marine and estuarine organisms. The use of the receiving water as the dilution water source is not required. Saline waters prepared with hypersaline brine and deionized water may also be used as dilution water. Hypersaline brines shall be prepared from a high quality natural seawater and shall not exceed a concentration of 100 ppt. The type of a dilution water for a permittee may not be changed without the prior approval of the Department.

The standard test salinity shall be 25 ppt, except for *Champia parvula,* which shall be tested at 30 ppt. Since most effluents are freshwater based, in most cases it will be necessary to adjust the salinity of the test concentrations to the standard test salinity.

2. Fresh Waters

A high quality natural water, such as Round Valley Reservoir (if access is allowed) or Lake Hopatcong, is strongly recommended as the dilution water source for chronic toxicity testing with freshwater organisms. It is not required to perform the toxicity testing with the receiving water as dilution water. Tests performed with a reconstituted water or up to 20% Diluted Mineral Water (DMW) as dilution water is acceptable. For testing with *Ceriodaphnia dubia*, the addition of 5 μg/l selenium (2 μg/l selenium with natural water) and 1 μg/l vitamin B12 is recommended (Keating and Dagbusan, 1984: Keating, 1985 and 1988). The source of a dilution water for a permittee may not be changed without the prior approval of the Department. Reconstituted water and DMW should be prepared with Millipore Super Q^{R} or equivalent, meet the requirements of N.J.A.C. 7:18-6 and should be aerated a minimum of 24 hrs prior to use, but not supersaturated.

D. EFFLUENT SAMPLE COLLECTION

Effluent samples shall be representative of the discharge being regulated. For each discharge serial number (DSN), the effluent sampling location shall be the same as that specified in the NJPDES permit for other sampling parameters unless an alternate sampling point is specified in the NJPDES discharge permit. For industrial dischargers with a combined process/sanitary waste stream, effluent sampling shall be after chlorination, unless otherwise designated in the permit.

For continuous discharges, effluent sampling shall consist of 24 hour composite samples consisting either of equal volumes taken once every hour or of a flow-proportionate composite sample, unless otherwise approved by the Department. At a minimum, three samples shall be collected as specified above, one every other day. The first sample shall be used for test initiation and the first renewal. The second sample for the next two renewals. The third sample shall be used for the final three renewals. For the *Champia* and *Selenastrum* tests, a single sample shall be collected not more than 24 hours prior to test initiation. No effluent sample shall be over 72 hours old at the time of its use to initiate or renew solutions in a test. It is acceptable to collect samples more frequently for chronic WET testing and if samples are collected daily for acute toxicity testing conducted concurrently, available samples may be used to renew the test solutions as appropriate.

For all other types of discharges, effluent sampling shall be conducted according to specifications contained within the discharge permit, methodology questionnaire or as otherwise specified by the Department. The use of grab samples or other special sampling procedures will be based on time of occurrence and duration of intermittent discharge events.

If a municipal discharger has concerns that the concentrations of ammonia and/or chlorine in an effluent are adequate to cause violations of the permit limit for chronic toxicity testing, the permittee should conduct analyses, as specified in USEPA's toxicity investigation methods documents, to illustrate the relationship between chronic effluent toxicity and chlorine and/or ammonia as applicable. This data may then be submitted

to the Department as justification for a request to use modified test procedures, which account for ammonia and/or chlorine toxicity, in future chronic toxicity tests. The Department may, where adequate justification exists, permit the adjustment of these pollutants in the effluent sample if discharge limits for these pollutants are contained in the NJPDES permit and those permit limitations are adequate for the protection of water quality. Any proposed modified test procedures to adjust effluent chlorine and/or ammonia shall be approved by the Department prior to use of those test procedures for any compliance testing.

Except for filtration through a 2 mm or larger screen or an adjustment to the standard test salinity, no other adjustments to the effluent sample shall be made without prior written approval by the Department. Aeration of samples prior to test start shall be minimized where possible and samples shall not be aerated where adequate saturation exists to maintain dissolved oxygen.

E. PHYSICAL CHEMICAL MEASUREMENTS

At a minimum, the physical chemical measurements shall be as follows:

- pH and dissolved oxygen shall be measured at the beginning and end of each 24 hour exposure period, in at least one chamber, of the high, medium and low test concentrations and the control. In order to ensure that measurements for these parameters are representative of the test concentrations during the test, measurements for these parameters should be taken in an additional replicate chamber for such concentrations which contains no test organisms, but is subject to the same test conditions.

- Temperature shall either be monitored continuously, measured daily in at least two locations in the environmental control system, or measured at the beginning of each 24 hr exposure period in at least one replicate for each treatment.

- Salinity shall be measured in all salt water tests at the beginning of each 24 hour exposure period, in at least one replicate for each treatment.

- For all freshwater tests, alkalinity, hardness and conductivity shall be measured in each new sample (100% effluent) and control.

- Nitrite, nitrate and ammonia shall be measured in the control before each renewal in the mysid test only.

- For samples of discharges where concentrations of ammonia and/or chlorine are known or are suspected to be sufficient to cause toxicity, it is recommended that the concentrations of these pollutants be determined and submitted with the standardized report form. The laboratory is advised to consult with the permittee to determine if these parameters should be measured in the effluent. Where such measurements are deemed appropriate, measurements shall be conducted at the beginning of each 24 hour exposure period. Also, since a rise in the test pH can affect the toxicity of ammonia in the effluent, analysis of ammonia during the test may be appropriate if a rise in pH is accompanied by a significant increase in mortality.

F. STATISTICS

The use of both hypothesis testing techniques and point estimate techniques are currently in use by the Department or by permittees for compliance purposes. The NJPDES permit should be checked to determine which type of analysis is required and appropriate for each specific facility. It is not acceptable to simply evaluate any data by "visual data review" unless in the analysis of survival data, no mortality occurred in the test. All data sets must be appropriately statistically evaluated.

For hypothesis testing techniques, statistical analysis shall follow the protocols in USEPA (1988, 1989) to evaluate adverse effects. A significance level of 0.05 shall be utilized to evaluate such effects. Use of a protocol not contained in these documents must be accompanied by a reference and explanation addressing its

applicability to the particular data set. Please note the following when evaluating data using hypothesis testing techniques.

Special attention should be given to the omission and inclusion of a given replicate in the analysis of mysid fecundity data (USEPA 1994, p. 275) and *Ceriodaphnia* reproduction data (USEPA 1994, page 174).

Determination of acceptability criteria and average individual dry weight for the growth endpoints must follow the specifications in the applicable documents (e.g., p.84 for saltwater methods document.)

Use of nonparametric statistical analyses requires a minimum of four replicates per test concentration. If the data for any particular test are not conducive to parametric analyses and if less than four replicates were included, the test may not be acceptable to the Department.

Where hypothesis testing is used for compliance purposes, if the results of hypothesis testing indicate that a deviation from the dose response occurs such that two test concentrations are deemed statistically significant from the control but an intermediate test concentration is not, the test is deemed unacceptable and cannot be used for compliance testing purposes.

For point estimate techniques, statistical analysis should follow the protocol contained in "A Linear Interpolation Method for Sublethal Toxicity: The Inhibition Concentration (ICp) Approach (Version 2.0), July 1993, National Effluent Toxicity Assessment Center Technical Report 03-93." Copies of the program can be obtained by contacting the Department. The linear interpolation estimate ICp values and not the bootstrap mean ICp, shall be reported for permit compliance purposes. The ICp value reported on the Discharge Monitoring Report shall be rounded off as specified in the Department's "Discharge Monitoring Report (DMR) Instruction Manual, December 1993." IC25 values shall be reported under the parameter code listed as "NOEC" on the DMR, until the DMR's are adjusted accordingly.

If the result reported by the ICp method is greater than the highest concentration tested, the test result is reported as "greater than C" where "C" is the highest tested concentration. If the ICp is lower than the lowest concentration tested, the test result is reported as "less than C" where "C" is the lowest tested concentration.

If separate NOEC's/IC25's can be calculated from multiple test endpoints, for example a reproductive endpoint and a growth endpoint, the lowest NOEC/IC25 value expressed in units of "% effluent" will be used to determine permit compliance and should, therefore, be reported as the NOEC/IC25 value for the test. If the NOEC value for growth and/or reproduction is not lower than that for survival, the NOEC/IC25 value reported for the test shall be as survival. For saltwater tests, where additional controls are used in a test (i.e. brine and/or artificial sea salt control), a T-test shall be used to determine if there is a significant difference between the original test control and the additional controls. If there is a significant difference between any of the controls, the test may be deemed unacceptable and if so, will not be used for permit compliance.

III. TEST ACCEPTABILITY CRITERIA

Any test that does not meet these acceptability criteria will not be used by the Department for any purpose and must be repeated as soon as practicable, with a freshly collected sample.

1. Tests must be performed by a laboratory approved for the conduct of chronic toxicity tests and certified for acute toxicity testing under N.J.A.C. 7:18.

2. Test results may be rejected due to inappropriate sampling, including the use of less than three effluent samples in a test and/or use of procedures not specified in a permit or methodology questionnaire, use of frozen or unrefrigerated samples or unapproved pretreatment of an effluent sample.

3. Controls shall meet the applicable performance criteria specified in the Table 2.0 and in the individual method specifications contained herein.

4. Acceptable and applicable Standard Reference Toxicant Data must be available for the test.

5. No unapproved deviations from the applicable test methodology may be present.

6. When using hypothesis testing techniques, a deviation from the dose response as explained in the statistical portion of this document shall not be present in the data.

Table 2.0: CONTROL PERFORMANCE

TEST ORGANISM	MINIMUM SURVIVAL	MINIMUM WEIGHT GAIN	MINIMUM FECUNDITY/ REPRODUCTION
Pimephales promelas	80%	0.25 mg avg	N/A
Ceriodaphnia dubia	80%	N/A	Average of ≥15 young per surviving female
Selenastrum capricornutum	Density ≥$2x10^5$cells/ml	N/A	Variability in controls not to exceed 20%.
Cyprinodon variegatus	80%	0.60 mg (unpreserved) avg 0.50 mg (preserved) avg	N/A
Menidia beryllina	80%	0.50 mg (unpreserved) avg 0.43 mg (preserved) avg	N/A
Mysidopsis bahia	80%	0.2 mg per mysid avg	egg production by 50% of control females if fecundity is used as an endpoint.
Champia parvula	100%	N/A	≥10 cystocarps per plant Plants in controls and lower test concentrations shall not fragment so that individual plants cannot be identified.

THE DETERMINATION OF A TEST AS UNACCEPTABLE DOES NOT RELIEVE THE FACILITY FROM MONITORING FOR THAT MONITORING PERIOD

IV. STANDARD REFERENCE TOXICANT TESTING

All chronic testing shall be accompanied by testing with a Standard Reference Toxicant (SRT) as a part of each laboratory's internal quality control program. Such a testing program should be consistent with the quality assurance/quality control protocols described in the USEPA chronic testing manuals. Laboratories may utilize the reference toxicant of their choice and toxicants such as cadmium chloride, potassium chloride, sodium dodecyl sulfate and copper sulfate are all acceptable. However, Potassium chloride has been chosen by several laboratories and is recommended by the Department. The concentration of the reference toxicant shall be verified by chemical analysis in the low and high test concentrations once each year or every 12 tests, whichever is less. It is not necessary to run SRT tests, for all species using the same SRT.

A. INITIAL STANDARD REFERENCE TOXICANT (SRT) TESTING REQUIREMENTS

At a minimum, this testing shall include an initial series of at least five SRT tests for each test species method. Acceptable SRT testing for chronic toxicity shall be performed utilizing the short term chronic toxicity test methods as specified herein. Reference toxicant tests utilizing acute toxicity testing methods, or any method other than those contained in this document are not acceptable. The laboratory should forward results of the initial SRT testing, including control charts, the name of the reference toxicant utilized, the supplier and appropriate chemical analysis of the toxicant to either address listed in the reporting requirements section herein. The initial series of a least five SRT tests for a specific test species method shall be completed and approved in writing by the Department prior to the conduct of any chronic toxicity testing for compliance purposes.

B. SUBSEQUENT SRT TESTING REQUIREMENTS

After receiving the initial approval from the Department to conduct chronic toxicity tests for compliance purposes, subsequent SRT testing shall be conducted as follows:

1. Where organisms used in testing are cultured at the testing laboratory, SRT testing should be conducted once per month for each species/method.

2. Where the laboratory purchases organisms from a laboratory certified in New Jersey for the conduct of acute toxicity testing and approved for the conduct of chronic toxicity testing for the test organism in question (i.e. the "supplier laboratory"), SRT data provided by the "supplier laboratory" for each lot of organisms purchased is acceptable as long as the SRT test result falls within the control limits of the control chart established by the "supplier laboratory" for that organism. The laboratory using purchased organisms is responsible for the results of any compliance tests they perform.

3. A testing laboratory purchasing organisms from a supplier laboratory must still perform SRT testing on a quarterly basis at a minimum, for each species they test with, in order to adequately document their own interlaboratory precision.

4. If a testing laboratory purchasing organisms elects not to use the SRT data from a "supplier laboratory" or such data is unavailable or where organisms are purchased from another organism supplier, the testing laboratory must conduct SRT testing on each lot of organisms purchased.

5. For industrial laboratories certified under N.J.A.C. 7:18 to conduct acute toxicity tests, only the SRT testing conditions specified in 2. through 4. above apply. Where that laboratory/facility cultures their own test organisms, the frequency of SRT testing required will be determined on a case by case basis, based on the frequency of testing for that facility.

NOTE: Based on these requirements, SRT data are considered applicable to a compliance test when the SRT test results are acceptable and the SRT test is conducted within 30 days of the compliance test, for the test species and SRT in question. Therefore, it is not necessary for an approved laboratory to run an SRT test every month if the laboratory is not conducting compliance tests for a particular species.

C. CHANGING OF AN ESTABLISHED REFERENCE TOXICANT

The SRT used for any species by a laboratory may be changed at any time provided that the following conditions have been satisfied:

1. A series of at least three reference toxicant tests are conducted with the new reference toxicant and the results of those tests are identified as satisfactory, in writing, by the Department.

2. Laboratories must continue using the already approved SRT in their ongoing QA/QC program, until such time as the letter referenced above, is received by the laboratory.

D. CONTROL CHARTS

Control charts shall be established from SRT test results in accordance with the procedures outlined in the USEPA methods documents. Control charts shall be constructed using IC25's using the following methods:

1. The upper and lower control limits shall be calculated by determining +/- two standard deviations above and below the mean.

2. SRT test results which exhibit an IC25 that is greater than the highest concentration tested or less than the lowest concentration tested (i.e. a definitive endpoint cannot be determined), shall not be used to establish control charts.

3. SRT tests which do not meet the acceptability criteria for a specific species shall not be used to establish control charts.

4. All values used in the control charts should be as nominal concentrations. However, the control charts shall be accompanied by a chart tabulating the test results as measured concentrations.

5. An outlier (i.e. values which fall outside the upper and lower control limits) should be included on the control chart unless it is determined that the outlier was caused by factors not directly related to the test organisms (e.g., test concentration preparation) as the source of variability would not be directly applicable to effluent tests. In such case, the result and explanation shall be reported to the Department within 30 days of the completion of the SRT test.

The control chart established for the initial series of SRT data submitted will be used by the laboratory and the Department to determine outliers from SRT test results reported in the "NJPDES Biomonitoring Report Form - Chronic Toxicity Test" submitted by the permittees for the test species. These initial control limits will remain unchanged until twenty SRT tests have been completed by the laboratory.

The following procedures shall be used for continually updating control charts after twenty acceptable SRT tests have been completed:

1. Once a laboratory has completed twenty acceptable SRT tests for a test species, the upper and lower control limits shall be recalculated with those twenty values.

2. For each successive SRT test conducted after these first twenty tests, a moving average shall be calculated and the control limits reevaluated using the last twenty consecutive test results.

3. The upper and lower control limits shall be reported on the "NJPDES Biomonitoring Report Form - Chronic Toxicity Tests" along with the SRT test result.

E. UNACCEPTABLE SRT TEST RESULTS

If a laboratory produces any SRT test results which are outside the established upper and lower control limits for a test species at a frequency greater than one test in any ten tests, a report shall be forwarded to the Department at the address contained herein. This report shall include any identified problem which caused the values to fall outside the expected range and the corresponding actions that have been taken by the laboratory. The Department may not accept or may require repeat testing for any toxicity testing that may have been affected by such an occurrence.

If a laboratory produces two consecutive SRT test results or three out of any ten test results which are outside the established upper and lower limits for a specific test species, the laboratory shall be unapproved to conduct chronic toxicity tests for compliance purposes for that test species. Reapproval shall be contingent upon the laboratory producing SRT test results within the established upper and lower control limits for that test species in two consecutive SRT tests. If one or both of those test results again fall outside the established control levels, the laboratory is unapproved for that test species until five consecutive test results within the established upper and lower control limits are submitted and approved by the Department.

F. ANNUAL SUBMITTALS

Control charts shall be forwarded to the Department on an annual basis, on the anniversary of approval for the test species.

The Department may request, at any time, any information which is essential in the evaluation of SRT results and/or compliance data.

V. TEST CANCELLATION / RESCHEDULING EVENTS

A lab may become aware of QA problems during or immediately following a test that will prevent data from being submitted or a lab may be unable to complete a tests due to sample collection or shipping problems. If for any reason a chronic toxicity test is initiated and then prematurely ended by the laboratory or at the request of the permittee, the laboratory shall submit the form entitled "Chronic Whole Effluent Toxicity Testing Test Cancellation / Rescheduling Event Form" contained herein. This form shall be used to detail the reason for prematurely ending the test. This completed form and any applicable raw data sheets shall be submitted to the appropriate biomonitoring program at the address above within 30 days of the cessation of the test.

Tests are considered to be initiated once test organisms have been added to all test chambers.

Submission of this form does not relieve the facility from monitoring for that monitoring period.

VI. REPORTING

The report form entitled "NJPDES Biomonitoring Report Form - Chronic Toxicity Tests" should be used to report the results of all NJPDES chronic compliance biomonitoring tests. Laboratory facsimiles are acceptable but must contain all information included on any recent revisions of the form by the Department. Statistical printouts and raw data sheets for all endpoints analyzed shall be included with the report submitted to the Department. Two copies of all chronic toxicity test report forms shall be submitted to the following address as applicable:

Bureau of Point Source Permitting Region 1 **OR**
Bureau of Point Source Permitting Region 2 (as indicated in the cover letter)

New Jersey Department of Environmental Protection
Division of Water Quality
PO Box 29
Trenton, NJ 08625-0029

It is not necessary to attach a copy of a test report form to the Discharge Monitoring Report (DMR) form when submitting this form to the Department. However, the results of all chronic toxicity tests conducted for compliance purposes must be reported on the DMR form under the appropriate parameter code in the monitoring period in which the test was conducted.

VII. METHOD SPECIFICATIONS

The following method specifications shall be followed as specified in the NJPDES permit. Any changes to these methods will not be considered acceptable unless they are approved in writing by the Department, prior to their use.

A. Fathead Minnow (*Pimephales promelas*), Larval Survival and Growth Test, method 1000.0
B. *Ceriodaphnia dubia*, Survival and Reproduction Test, method 1002.0
C. Algal, (*Selenastrum capricornutum*), Growth Test, method 1003.0
D. Sheepshead Minnow (*Cyprinodon variegatus*), Larval Survival and Growth Test, method 1005.0
E. Inland Silverside (*Menidia beryllina*), Larval Survival and Growth Test, method 1006.0
F. *Mysidopsis bahia*, Survival, Growth, and Fecundity Test, method 1007.0
G. *Champia parvula*, Sexual Reproduction Test, method 1009.0

VIII. REFERENCES

1. Keating, K. 1985. The influence of Vitamin B12 deficiency on the reproduction of Daphnia pulex Leydig (Cladocera). J. Crustacean Biology 5:130-136.

2. Keating, K. 1988. N.J.D.E.P. Project C29589, Fiscal 1988 Third Quarter Summary Report. Producing Nutritionally Competent Daphnids for Use in Bioassay. 44p.

3. Keating, K., and B. Dagbusan. 1984. Effect of selenium deficiency on cuticle integrity in Cladocera (Crustacea). Proc. Natl. Acad. Sci. USA 81:3433-3437.

4. NJDEP, 1993. Discharge Monitoring Report (DMR) Instruction Manual.

5. USEPA. 1994. Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. EPA-600/4-91-003. July 1994. Second Edition.

6. USEPA. 1994. Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. July 1994. Third Edition.

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
PO Box 29
TRENTON, NEW JERSEY 08625-0029
BIOMONITORING PROGRAM

CHRONIC WHOLE EFFLUENT TOXICITY TESTING
TEST CANCELLATION / RESCHEDULING EVENT FORM

THIS FORM IS TO BE COMPLETED AND SUBMITTED TO THE DEPARTMENT DIRECTLY BY THE LABORATORY CONDUCTING CHRONIC TOXICITY TESTS WHENEVER A CHRONIC TOXICITY TEST IS PREMATURELY ENDED FOR ANY REASON

NJPDES No.: _____

FACILITY NAME: _____

LOCATION: _____

CONTACT: _____ PHONE: _____

CANCELLATION EVENT:

LABORATORY NAME / NUMBER: _____

CONTACT: _____

TEST START DATE: ____/____/____ TEST END DATE: ____/____/____

REASON FOR CANCELLATION: _____

_____

_____

_____

_____

_____

EFFLUENT SAMPLING:

SAMPLING POINT / DESCRIPTION OF SAMPLING SITE: _____

_____

SAMPLING INITIATED: DATE: ___/___/___ TIME: _____

SAMPLING ENDED: DATE: ___/___/___ TIME: _____

NUMBER OF EFFLUENT SAMPLES COLLECTED: _____

SAMPLE TYPE (GRAB/COMPOSITE): _____

RECEIVED IN LAB BY/FROM: _____

_____

METHOD OF SHIPMENT: _____

(ALL APPLICABLE RAW DATA SHEETS MUST BE ATTACHED)

c: Permittees authorized agent.

945750223

REMEDIAL INVESTIGATION REPORT

AND

REMEDIAL ACTION WORK PLAN

ITT Avionics Division

100 Kingsland Road

Clifton, Passaic County, New Jersey

ISRA Case No. E96303

JUNE 1996

[June 12,]

H2M ASSOCIATES, INC.

999 Riverview Drive

Totowa, New Jersey 07512

H2MGT

Engi

ITT Industries
AUTOMOTIVE
DEFENSE & ELECTRONICS
FLUID TECHNOLOGY

Environmental Health & Safety

ITT Avionics
100 Kingsland Road
Clifton, NJ 07014-1993
Tel: (201)284-4852
Fax: (201)284-3345

November 19, 1996.

Certified Mail.

Mr. Albert Greco
Clifton City Health Officer
900 Clifton Avenue
Clifton, New Jersey 07015

Re: ITT Avionics ISRA Case No. E96303.
Remedial Action Work Plan (RAWP).

Dear Mr. Greco:

At the request of Mr. Gary Lipsius, NJDEP Case Manager for the referenced ISRA case site, I am forwarding the enclosed RAWP for your reference. Please feel free to call me directly at 201-284-4036 or Mr. Lipsius at 609-984- 0955 with any questions. Thank you.

Sincerely,

Donald T. Polzo
Manager, Environment
Health & Safety.

cc: G. Lipsius (NJDEP).

REMEDIAL INVESTIGATION REPORT

AND

REMEDIAL ACTION WORK PLAN

ITT Avionics Division

100 Kingsland Road

Clifton, Passaic County, New Jersey

ISRA Case No. E96303

JUNE 1996

[June 12, 1996]

H2M ASSOCIATES, INC.
999 Riverview Drive
Totowa, New Jersey 07512

H2M GROUP
Engineers, Scientists, Planners

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Holzmacher, McLendon & Murrell, P.C. • H2M Associates, Inc.
H2M Construction Management, Inc. • H2M Labs, Inc.

ACEC Member
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999 Riverview Drive, Totowa, NJ 07512
(201) 256-5454 • FAX: (201) 256-8289

Via Federal Express

August 8, 1996

Mr. Gary Lipsius
New Jersey Department of Environmental Protection
Division of Responsible Party Site Remediation
Bureau of State Case Management
401 East State Street
Trenton, New Jersey 08625

Re: Remedial Investigation Report and Remedial Action Work Plan
ITT Avionics Division, Clifton, New Jersey
ISRA Case No. E96303

Dear Mr. Lipsius:

On behalf of ITT Avionics Division and in accordance with your telephone conversation of this date, H2M is providing herewith one copy of the Remedial Investigation Report (RIR) and Remedial Action Work Plan (RAWP) pertaining to ITT's facility located at 100 Kingsland Road in Clifton, New Jersey. In addition, one copy is being provided to George Nicholas of the NJDEP under separate cover. Additional copies will be provided to you as requested.

The RIR and RAWP are being submitted under the requirements of ISRA for the triggering event that occurred on July 17, 1996 for which a General Information Notification (GIN) was submitted to the NJDEP. The RIR and RAWP was developed to satisfy the requirements of the *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E). This report is also being submitted to satisfy the notification requirements of N.J.A.C. 7:1E-5.2. To facilitate your review of past activities, a time line has been developed with references to appropriate sections, tables and figures within the report.

At your earliest convenience, we would like to schedule a meeting at the ITT facility to view the site and review the RIR and RAWP for conditional approval. A contract of sale for the subject property has been executed and time is of the essence. If you should have any questions or comments, please feel free to contact this office.

Very truly yours,
H2M ASSOCIATES, INC.

Stanley G. Puszcz, P.E., CGWP

CC: Ronald J. Wienckoski, Jr., NJDEP, BFO
George Nicholas, NJDEP
Donald T. Polzo, ITT Avionics Division
Jack Russo, ITT Avionics Division
Alan Leibowitz, ITT Defense and Electronics
Andrew DiCicco, Esq., ITT Defense and Electronics

Enc.

[June 12, 1996]

CERTIFICATIONS : ISRA RAWP June 1996. ITT Avionics Case #E96303.

A. The following certification shall be signed by the highest ranking individual at the site with overall responsibility for that site or activity. Where there is no individual at the site with overall responsibility for that site or activity, this certification shall be signed by the individual having responsibility for the overall operation of the site or activity.

I certify under penalty of law that the information provided in this document is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties.

Typed/Printed Name Henry J. Driesse Title President

Signature Date 8-6-96

Sworn to and Subscribed Before Me
on this 6th
Date of August 1996

Gina Marie Simonetti ~~ANNA MARIE SIMONETTI~~
Notary
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires June 8, 1997

B. The following certification shall be signed as follows:

1. For a corporation, by a principal executive officer of at least the level of vice president;
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, Federal or other public agency, by either a principal executive officer or ranking elected official; or
4. For persons other than 1-3 above, by the person with the legal responsibility for the site.

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties.

Typed/Printed Name Henry J. Driesse Title President

Signature Date 8-6-96

Sworn to and Subscribed Before Me
on this 6th
Date of August 1996

Gina Marie Simonetti
Notary

ANNA MARIE SIMONETTI
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires June 8, 1997

9/95 PILOT STUDY SOURCE AREA

SOURCE AREA TIGATION 3, TABLE 2-4)

5/96 PILOT STUDY SOURCE AREA

AOC 1: 1,1,1-TRICHLOROETHANE RELEASE
AOC 2: FORMER GASOLINE & DIESEL USTs

1985	1995	1996

9/95 GROUNDWATER SAMPLING (FIGURE 2-29, TABLE 2-15)

AOC 3: FORMER No.2 & No.4 FUEL OIL USTs

1985	1995	1996

9/95 & 12/95 GROUNDWATER SAMPLING (FIGURE 2-17, TABLE 2-16)

AOC 4: CHEMICAL/WASTE STORAGE BUILDING

1985	1995	1996

AOC 5: FORMER GARDENER'S SHED
AOC 6: INDUSTRIAL WASTEWATER PRETREATMENT SYSTEM

1985	1995	1996

AOC 7: ELECTRICAL SUBSTATION

1985	1995	1996

AOC 11: FORMER METAL FINISHING & ELECTROPLATING PROCESS AREA

1985	1995	1996

AOC 12: BUILDING TRANSFORMERS

1985	1995	1996

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REMEDIAL INVESTIGATION REPORT
AND
REMEDIAL ACTION WORK PLAN

ITT Avionics Division
100 Kingsland Road
Clifton, Passaic County, New Jersey
NJPDES Permit No. NJ0076023

June 1996

TABLE OF CONTENTS

		Page No.
1.0	Introduction	1-1
2.0	Remedial Investigation Report	2-1
2.1	Location and Description	2-1
2.2	Physical Setting	2-1
2.2.1	Topography and Drainage	2-1
2.2.2	Geology and Hydrogeology	2-1
2.3	Summary of Environmental Concerns	2-3
2.3.1	AOC 1: 1,1,1-Trichloroethane Release	2-3
2.3.2	AOC 2: Former Gasoline and Diesel USTs	2-5
2.3.3	AOC 3: Former No. 2 & No. 4 Fuel Oil USTs	2-6
2.3.4	AOC 4: Chemical/Waste Storage Building	2-7
2.3.5	AOC 5: Former Gardener's Shed	2-8
2.3.6	AOC 6: Industrial Wastewater Pretreatment System	2-8
2.3.7	AOC 7: Electrical Substation	2-9
2.3.8	AOC 8: Areas Without Vegetation	2-10
2.3.9	AOC 9: 1,1,1-Trichloroethane Still	2-10
2.3.10	AOC 10: Chemical Storage Room	2-11
2.3.11	AOC 11: Former Metal Finishing and Electroplating Process Area	2-11
2.3.12	AOC 12: Building Transformers	2-13
2.3.13	AOC 13: Machine Shop	2-14
2.3.14	AOC 14: Shipping and Receiving Bays	2-14
2.3.15	AOC 15: Laboratory/Testing Areas	2-15
2.3.16	AOC 16: Detrex Process Area	2-17
2.3.17	Summary of Soil Quality	2-17
2.4	Groundwater Investigation	2-17
2.4.1	AOCs 1 and 2	2-17
2.4.2	AOC 3	2-21
2.4.3	AOC 4	2-22

H2M GROUP

TABLE OF CONTENTS

(Continued)

		Page No.
	2.5 Remedial Investigation Conclusions	2-22
	2.5.1 Soil	2-22
	2.5.2 Groundwater	2-23
3.0	Remedial Alternatives Evaluation	3-1
	3.1 Proposed Additional Sampling	3-1
	3.1.1 Soil	3-1
	3.1.2 Groundwater	3-5
	3.2 Identification of Applicable Remediation Standards	3-6
	3.3 Classification Exception Area	3-6
	3.4 Remedial Alternative Evaluation	3-7
	3.4.1 Groundwater Extraction, Treatment and Recharge	3-7
	3.4.2 Source Area Remediation	3-7
	3.4.2.1 Technology	3-8
	3.4.2.2 Remedial Approach	3-9
4.0	Remedial Action Requirements Summary	4-1
5.0	Permitting and Approvals	5-1
6.0	Quality Assurance Project Plan	6-1
7.0	Health and Safety Plan	7-1
8.0	Site Restoration	8-1
9.0	Costs	9-1
10.0	Project Schedule	10-1
11.0	References	11-1

List of Appendices

Appendix A Figures

Appendix B Tables

Appendix C York Laboratories Sample Results

Appendix D Quality Assurance Project Plan

Appendix E Health and Safety Plan

H2MGROUP

List of Figures

Figure 2-1	Location Map
Figure 2-2	Site Map
Figure 2-3	Bedrock Elevation Contour Map
Figure 2-4	Shallow Groundwater Elevation - May 1995
Figure 2-5	Shallow Groundwater Elevation - August 1995
Figure 2-6	Shallow Groundwater Elevation - November 29, 1995
Figure 2-7	Shallow Groundwater Elevation - February 8, 1996
Figure 2-8	Deep Groundwater Elevation - May 1995
Figure 2-9	Deep Groundwater Elevation - August 1995
Figure 2-10	Deep Groundwater Elevation - November 1995
Figure 2-11	Deep Groundwater Elevation - February 1996
Figure 2-12	Areas of Potential Concern
Figure 2-13	Electrical Manufacturing Area
Figure 2-14	Post-Excavation Confirmatory Soil Sampling Locations - Former Gasoline UST's
Figure 2-15	Post-Excavation Confirmatory Soil Sampling Locations - Former Gasoline and Diesel Fuel UST's
Figure 2-16	Post-Excavation Confirmatory Soil Sampling Locations - Former No. 2 and 4 Fuel Oil UST's
Figure 2-17	Soil Boring/Monitoring Well Locations - Chemical/Waste Storage Building
Figure 2-18	Soil Boring/Monitoring Well Locations - Former Gardener's Shed
Figure 2-19	Wastewater Treatment Plant Area
Figure 2-20	Soil Boring Locations - Electrical Sub Station
Figure 2-21	Total Targeted Volatile Organic Concentrations in Shallow Aquifer - May 1994
Figure 2-22	Total Targeted Volatile Organic Concentrations in Shallow Aquifer - August 1994
Figure 2-23	Total Targeted Volatile Organic Concentrations in Shallow Aquifer - November 1994
Figure 2-24	Total Targeted Volatile Organic Concentrations in Shallow Aquifer - November 1995
Figure 2-25	Total Targeted Volatile Organic Concentrations in Deep Aquifer - May 1994
Figure 2-26	Total Targeted Volatile Organic Concentrations in Deep Aquifer - August 1994
Figure 2-27	Total Targeted Volatile Organic Concentrations in Deep Aquifer - November 1994
Figure 2-28	Total Targeted Volatile Organic Concentrations in Deep Aquifer - November 1995
Figure 2-29	Monitoring Well - Locations Former No. 2 and 4 Fuel Oil UST's
Figure 2-30	Groundwater Elevation Contour Map - Former No. 2 and 4 Fuel Oil UST's

H2MGROUP

List of Tables

Table 2-1	Summary Matrix of Monitoring Well Construction Details
Table 2-2	Elevation of Top of Bedrock Surface
Table 2-3	Groundwater Elevations
Table 2-4	Volatile Organic Compounds Quantified in Borehole Soils
Table 2-5	Volatile Organic Compounds Quantified in Post-Excavation Confirmatory Soil Samples - 2 Former 4,000 Gallon Gasoline UST Systems
Table 2-6	Volatile Organic Compounds and Total petroleum Hydrocarbons Quantified in Post-Excavation Confirmatory Soil Samples - Former 1,000 Gallon Diesel Fuel and 4,000 Gasoline UST Systems
Table 2-7	Post-Excavation Soil Sample Results
Table 2-8	Analytical Soil Sample Results
Table 2-9	Summary of Concrete Floor Sampling - Printed Circuit Board Area
Table 2-10	Summary of Wall Wipe Sampling - Printed Circuit Board Area
Table 2-11	Summary of Ceiling Tile Sampling - Printed Circuit Board Area
Table 2-12	Volatile Organic Compounds Quantified in Groundwater (ug/L)
Table 2-13	Volatile Organic Compounds Quantified in Groundwater (ug/L)
Table 2-14	Volatile Organic Compounds Quantified in Groundwater (ppb)
Table 2-15	Volatile Organic Compounds Quantified in Groundwater (ug/L) - Former No. 2 and 4 Fuel Oil UST's
Table 2-16	Volatile Organic Compounds Quantified in Groundwater (ug/L) - AOC4 - Chemical/Waste Storage Building

H2MGROUP

REMEDIAL INVESTIGATION REPORT
AND
REMEDIAL ACTION WORK PLAN

ITT Avionics Division
100 Kingsland Road
Clifton, Passaic County, New Jersey

June 1996

1.0 Introduction

The objective of this Remedial Investigation Report and Remedial Action Work Plan is to establish a basis for and identify the appropriate remedial action for the ITT Avionics Division (ITT) facility located at 100 Kingsland Road, Clifton, New Jersey. This report summarizes previous remedial investigation activities performed at the site, including work performed as part of the New Jersey Department of Environmental Protection (NJDEP or Department) Bureau of Underground Storage Tanks (BUST) and New Jersey Pollutant Discharge Elimination System (NJPDES) programs, as well as voluntary investigation work performed under a corporate environmental survey program, and presents the proposed remedial action for remaining areas of concern. This report also serves as notification pursuant to N.J.A.C. 7:1E-5.2. This Remedial Action Work Plan has been prepared in accordance with the NJDEP Technical Requirements for Site Remediation (N.J.A.C. 7:26E) and the Industrial Site Recovery Act (ISRA).

2.0 Remedial Investigation Summary

2.1 Location and Description

The ITT facility is shown in Figure 2-1, Location Map, and Figure 2-2, Site Map. The site is located in an area of Clifton occupied by residential dwellings and industrial facilities. The nearly 50-acre site is bordered to the north by New Jersey State Highway Route 3, a Shell gasoline service station, and a Ramada Inn hotel. Yantacaw Pond is immediately north of Route 3. A vacant facility formerly operated by Automated Data Processing borders the northwestern portion of the site. The eastern site boundary is River Road, the southern boundary is Kingsland Road. The Third River, a tributary of the Passaic River, borders part of the site to the west, and flows around to the property to the west, north and east. This tributary discharges to the Passaic River approximately one-quarter mile east of the site. The site contains seven buildings, six of which house non-manufacturing operations, including maintenance, boiler, electrical, and storage areas. These six buildings range in size from 1,700 to 24,000 square feet. Site manufacturing operations are limited to the main building, which contains approximately 919,000 square feet of floor space. The site was occupied by a country club and golf course prior to its purchase by ITT in 1946.

ITT assembles electronic equipment used in the defense industry. Historical operations have included manufacturing of television and radio tubes, telephones, radios, washing machines, and printed circuit boards. Current site operations include welding, soldering, painting, printing, degreasing, drilling, machining, grinding, assembly, and testing of products.

2.2 Physical Setting

2.2.1 Topography, and Drainage

Overall site relief is approximately 40 feet, from a high of approximately 70 feet above mean sea level in the southwestern portion of the site to a low of approximately 30 feet above mean sea level in the northeastern portion of the site. The site slopes towards the Third River, which drains into the Passaic River approximately one quarter-mile east of the site. The subject property is within the Passaic River drainage basin, with local drainage to storm sewers.

2.2.2 Geology and Hydrogeology

The site lies within the Piedmont Province of northern New Jersey. The uppermost unconsolidated materials in this area generally consist of fill material, and glacial till of Pleistocene Age, composed of red-brown sand and gravel with some silts and clays. These glacial deposits are underlain by the weathered reddish-brown shales and sandstones of the Passaic, or Brunswick Formation. The Brunswick Formation was deposited within the Newark Basin, one of many Triassic rift basins formed during the separation of North America from Africa and the opening of the Atlantic Ocean, during the Late Triassic period.

Sediments, eroded from adjacent uplands, were deposited along rivers and in lakes within the basins during this time. These sediments became compacted and lithified to form conglomerate (at the basin margins), mudstone, sandstone, siltstone, and shale. In the course of rifting, the rock layers of the Piedmont became tilted northwestward. The strata generally strikes northeast to southwest and dips northwest at 5 to 25 degrees. A directional, anisotropic response to pumping is often documented in the Brunswick. In most cases, monitoring wells aligned along the strike of the formation react faster and show much greater drawdown than those located perpendicular to the strike. This is especially true when wells are drilled to greater depths, since wells installed to similar depths or elevations down-dip or up-dip of a pumping well may screen different water-bearing units. Major fracture orientations, measured by a previous consultant in an outcrop at the Third River located southwest of the site, were found to be approximately northeast (N59°E) and northwest (N52°W).

Twenty-seven (27) monitoring wells have been installed as part of site assessment and remedial investigation activities to evaluate sub-surface conditions and groundwater quality. The locations of these wells are also provided in Figure 2-2. A summary of monitoring well construction details is provided in Table 2-1. Borehole logs, NJDEP Forms-A and B, and monitoring well records have been previously submitted to the Department as they related to Bureau of Underground Storage Tank (BUST) or New Jersey Pollution Discharge Elimination System (NJPDES) requirements. The unconsolidated strata encountered consists primarily of fill material varying in thickness from 1 to 5 feet, typically composed of brown silt, occasional gray gravel (roadbase), and tan silt and clay. The fill overlies glacial till of Pleistocene Age, composed of red-brown sand and gravel with some silts and clays. Weathered shale and sandstone of the Brunswick Formation occurs beneath the fill. Rock cores, collected during the installation of MW-1A, indicated that bedrock becomes more competent at a depth of 34 to 59 feet below grade. The upper bedrock surface, from 20 feet below grade to 34 feet below grade, is heavily weathered and fractured. The rock was also less competent at a depth ranging from 69 to 79 feet below grade, and became competent again at 69 to 79 feet below grade. The elevation of the top of the weathered bedrock surface at each monitoring well location is provided in Table 2-2. A contour map of the bedrock elevation is provided in Figure 2-3. The contour map shows that bedrock slopes to the northwest in the southwestern portion of the site at an angle of about 4 degrees, or 0.054 feet per foot. Bedrock topography is more complex in the northeastern portion of the site, where the slope is predominantly to the northeast, except for a ridge in the vicinity of MW-4 and MW-5, and an apparent trough which reaches a low at MW-11.

Contour maps identifying the potentiometric surface of the shallow and deep aquifer zones have been developed from 23 shallow groundwater monitoring wells screening the first water encountered, and 4 deeper monitoring wells screened exclusively in more competent Brunswick (Figures 2-4 through 2-11). Shallow groundwater flow direction is primarily toward Yantacaw Pond to the north and the Third River to

the northeast, and influenced by the bedrock slope. Groundwater in these shallow wells generally occurs below the bedrock/overburden interface, with the exception of MW-11, 13, 14, where groundwater is present in the overburden. Groundwater was also encountered in MW-10 above the bedrock surface in the overburden prior to pumping associated with the current groundwater remediation system. Groundwater extraction has created drawdown in MW-10 to an elevation currently within the bedrock. Contour maps presenting the May 1995, August 1995, November 1995 and February 1996 rounds of groundwater elevations from the shallow monitoring wells are presented as Figures 2-4 through 2-7. Ignoring the hydraulic effect of the groundwater extraction system at RW-1, RW-2 and RW-3 and the recharge system, groundwater flow is primarily northward in the southern portion of the site. In the northern portion of the site, groundwater flow becomes east-northeasterly, to the Third River. The hydraulic gradient in the central portion of the site is approximately 0.036 feet per foot. Average linear flow velocity, using this gradient and an average hydraulic conductivity (determined from slug tests performed in selected monitoring wells screened in the overburden and shallow weathered bedrock) of approximately 1.5 feet per day, and a porosity of 20%, is estimated at 0.3 feet per day.

Deeper groundwater flow beneath the site is to the northeast and southeast, as demonstrated by three and a half years of quarterly water level data. Contour maps for the May 1995, August 1995, November 1995 and February 1996 are provided in Figure 2-8 through Figure 2-11. The gradient in the deeper flow zone is slightly less than that of the shallower zone, at approximately 0.014 feet per foot, resulting in a lower groundwater flow velocity. Hydraulic conductivity and groundwater flow velocity in the deeper zone will be most affected by bedding planes, fracture frequency, and the interconnectivity of fractures. Downward flow exists between the shallow and deeper zones where monitoring well couplets are present to evaluate vertical flow conditions (MW-1/MW-1A, MW-13/MW-13A), with the exception of the MW-14/MW-14-A well couplet, where vertical flow is not apparent.

Groundwater elevation data associated with historic quarterly groundwater monitoring events (August 1990 through February 1996) are summarized in Table 2-3.

2.3 Summary of Environmental Concerns

Sixteen areas of Potential Environmental Concern (AOC) were identified throughout the investigation. Remedial actions have been taken at some of these AOCs. The location of each AOC is identified in Figure 2-12.

2.3.1 AOC 1: 1,1,1-Trichloroethane Release

On August 14, 1986, approximately 300 gallons of 1,1,1-trichloroethane (1,1,1-TCA) was released to the subsurface beneath the main manufacturing building. 1,1,1-TCA was released into a piping

vault which discharged to the subsurface. Due to structural limitations of the building, excavation of contaminated soil under the floor slabs and pier footings was not feasible. In January 1987, one monitoring well (MW-1) was installed downgradient of the spill in agreement with the NJDEP and was found to contain 1,1,1-TCA. The presence of 1,1,1-TCA prompted a groundwater investigation and the groundwater remediation program presently being undertaken. The groundwater investigation and remediation is discussed in Section 2.4.

In October of 1993, a source area investigation was conducted to determine the extent of contamination remaining in soil in the vicinity of the original 1,1,1-TCA release. Mechanical and hand boring equipment were used to obtain soil samples in four boreholes beneath the building in the vicinity of the historic 1,1,1-TCA release. The locations of the four borings are presented in Figure 2-13. Boring B-2 was advanced through the floor adjacent to a small concrete vault which the 1,1,1-TCA collected in. At the time of the release, the vault had an earthen bottom. Borings B-1 and B-3 are located 20 to 25 feet adjacent to B-2 with boring B-4 located 25 feet northeast (downgradient) of B-2. A concrete utility trench, recessed in the floor, is located immediately adjacent to borings B-1 and B-3. Borings B-1, B-2, and B-3 were constructed utilizing a rotary hammer powered by an air compressor. Due to height restrictions in the room adjacent to the source area, boring No. B-4 was constructed utilizing a stainless steel hand-held bucket auger. Soil sampling was conducted at six-inch intervals utilizing a hand auger to accommodate field screening with a portable photoionization detector (PID). The uppermost (shallow) sample was collected upon encountering the first soil strata beneath the floor slab, approximately six inches thick. No gravel sub-base was encountered at any of the boring locations. The maximum depth of each boring was established when weathered bedrock or boulders were encountered, preventing further penetration by the sampling tools. Boring Nos. B-1, B-2, and B-3 were advanced to a depth of 8 to 8.5 feet below grade. Boring B-4 was advanced to a depth of 5.5 feet. Elevated PID responses were observed at one location, during advancement of boring No. B-2. The PID responses ranged from 70 ppm calibration gas equivalents (3 feet below grade) to 30 ppm calibration gas equivalents (8 feet below grade) within the borehole.

Soil samples submitted for laboratory analysis were collected in each borehole at the first encounter of native soils beneath the floor slab, at an intermediate depth of 5 to 5.5 feet below grade, and at a depth of 8 to 8.5 feet below grade (with the exception of B-4 due to refusal at 5.5 feet). Sample results are provided in Table 2-4. Acetone, a common laboratory contaminant, was quantified in many of the samples, but below the Department's most stringent soil cleanup criteria. 1,1,1-TCA was quantified at one location, B-2, at concentrations ranging from 0.036 ppm (0 to 6 inches below grade) to 0.120 ppm (5 to 5.5 feet below grade), below the NJDEP's Impact to Groundwater Soil Cleanup Criteria of 1 ppm as well as NJDEP's Residential Direct Contact Soil Cleanup Criteria of 210 ppm. Lower concentrations of some

breakdown compounds were also found. All volatile organic compounds were well below the Department's most stringent soil cleanup criteria.

As part of the source area investigation, monitoring well MW-18 was installed in this vicinity of the source area. This part of the source area investigation is described in Section 2.4.

Soils in the vicinity of the historic 1,1,1-TCA release have been investigated to the extent practicable. No further action is warranted for soils in this area, based on the results of the source area investigation performed, which indicated that volatile organic compounds are not present in overburden soils at levels above NJDEP's most stringent soil cleanup criteria. The effect of the 1,1,1-TCA release on groundwater has been evaluated, and is addressed in Section 2.4.

2.3.2 AOC 2: Former Gasoline and Diesel USTs

On August 27, 1987, Fairfield Maintenance, Inc. (FMI) conducted petrotite tests of two (2) adjacent 4,000 gallon leaded gasoline USTs in the vicinity of the northeast corner of the main manufacturing building. Both USTs failed the petrotite test. These USTs (BUST Case No. 87-08-21-1419) and all appurtenances were subsequently removed on February 8, 1988. A total of eight post-excavation confirmatory soil samples were collected by Dan Raviv Associates, Inc. (DRAI) and analyzed for Volatile Organic Compounds(VOCs). Sample locations are presented in Figure 2-14. Table 2-5 presents the analytical soil data for the UST systems. All sample results were quantified at concentrations below current NJDEP Impact to Groundwater Cleanup Criteria as well as NJDEP's Residential Direct Contact Soil Cleanup Criteria. A summary of UST removal procedures and analytical data was submitted to the Department in the DRAI report entitled, "Investigation of the Impact From Past TCA Spillage and Former Gasoline Underground Storage Tanks on Surface and Hydrogeologic Conditions," on July 25, 1988. Groundwater data is summarized further in a supplemental hydrogeologic investigation documented in a DRAI report submitted to the NJDEP on May 18, 1989. No further action is required for these tank excavations.

On September 15, 1989, two (2) additional USTs were pressure tested by FMI. The results indicated that a 1,000 gallon diesel fuel UST (UST system E-10) failed the test and a 4,000 gallon leaded gasoline UST (UST system E-9) tested inconclusively. On December 19 and 20, 1989, the two USTs (BUST Case No. 89-09-15-1420) and all appurtenances were excavated and removed from the site under the field oversight of an H2M representative and a NJDEP Northern Bureau of Regional Enforcement representative. Product from within the tanks was transported to S&W Waste (EPA I.D. No. NJD991291105) under manifest No. NJA0633829. Four post-excavation confirmatory soil samples were collected from each excavation and analyzed for VOCs and total petroleum hydrocarbons (TPHC).

Sampling locations are identified on Figure 2-15. VOCs were not detected above NJDEP's Impact to Groundwater Cleanup Criteria at any of the eight locations nor did they exceed NJDEP's Residential Direct Contact Soil Cleanup Criteria. TPHC concentrations were below method detection limits in five of the eight sampling locations. The remaining samples had TPHC concentrations of 240 ppm, 10,000 ppm, and 12,000 ppm, respectively. Sample results are provided in Table 2-6.

All four USTs were located in an area where depth to the weathered bedrock surface is generally 5 to 10 feet. Removal of weathered bedrock under the tanks was performed until the backhoe bucket could no longer penetrate the strata. The groundwater treatment plant has since been constructed at this location. Approximately 13 cubic yards of soil and rock was removed.

A summary of UST removal procedures and analytical data is included in the H2M report submitted to the NJDEP entitled, "Discharge Investigation and Corrective Action Report," dated January 1990.

No further action is required with respect to soils at this location. Volatile organic compounds are not present above the Department's Impact to Groundwater and Residential Direct Contact Soil Cleanup criteria. The excavations were advanced in weathered bedrock to the extent practical. The effects of the UST releases on groundwater have been evaluated, and are currently being addressed by the groundwater remediation system, described in Section 2.4.

2.3.3 AOC 3: Former No. 2 and No. 4 Fuel Oil USTs

Six (6) USTs, identified as UST systems E1 through E6, were closed and removed from the northern side of the boiler house (Building 100 D) by Direct Environmental, Inc. between July 12, 1990 and October 25, 1990. UST systems Nos. E1 through E4 were 22,000 gallons in capacity and were used for the storage of No. 6 fuel oil. UST systems E5 and E6 were 2,000 and 6,000 gallons in capacity, respectively, and were used for the storage of No. 4 fuel oil.

The UST system E5 excavation was sampled on August 17, 1990. A total of five (5) post-excavation soil samples were collected and analyzed for VOCs and TPHC. VOCs were not present in any of the samples. TPHC concentrations ranged from 14.4 mg/kg to 202 mg/kg. Twelve (12) post-excavation soil samples were collected from the excavation of E1 through E4 and E6. Post-excavation soil sample locations are presented in Figure 2-16. Each sample was analyzed for TPHC and VOCs. Four of these samples (sample 1, 4, 7, and 12) were also analyzed for B/N + 15. VOCs were not detected above NJDEP's Impact to Groundwater Cleanup Criteria nor were they detected above NJDEP's Residential Direct Contact Soil Cleanup Criteria at any of the twelve locations. TPHC concentrations were below

method detection limits in six of the twelve sampling locations. TPHC concentrations in the remaining samples ranged from 76 mg/kg to 5800 mg/kg. B/Ns were not detected above NJDEP's Impact to Groundwater Cleanup Criteria nor were they detected above NJDEP's Residential Direct Contact soil Cleanup Criteria at any of the four locations. Table 2-7 presents the analytical soil results. Excavated soils were stockpiled and characterized for disposal. Based on analytical results, approximately 900 cubic yards of soil was removed and disposed of off-site as a non-hazardous waste. Documentation of the management of excavated soils was included within the report submitted to NJDEP.

To assess the effect that the former UST systems may have had on the groundwater quality, three monitoring wells were installed on the northern side of the boiler house. Results of the groundwater investigation are presented in Section 2.4.

A summary of UST removal procedures and analytical data is included in the H2M report entitled, "Discharge Investigation and Corrective Action Report For 100 Kingsland Road," submitted to the NJDEP, dated February 1991. This area was closed by the Department's Bureau of Underground Storage Tanks with NJDEP correspondence dated September 9, 1991.

No further action is required for soils in this area, since all parameters were below NJDEP's Impact to Groundwater Soil Cleanup Criteria and NJDEP's Residential Direct Contact Soil Cleanup Criteria.

2.3.4 AOC 4: Chemical/Waste Storage Building

The chemical/waste storage building, located north of the main building, is identified as an AOC due to the current and historical handling of raw and hazardous materials in this area. This AOC was investigated under ITT's corporate environmental survey program. Chemicals which have been stored at the building, typically in 55-gallon drums, include methylene chloride, trichloroethene (TCE), and 1,1,1-TCA.

Two (2) soil borings were constructed and completed as monitoring wells. One monitoring well was installed on the north of the waste storage building as a downgradient well. The other monitoring well was installed on the south of the building as the upgradient well. Soil boring and monitoring well locations are presented in Figure 2-17. Three (3) soil samples were collected from each borehole at depths of 0.5 to 2.5, 6 to 8, and either 10 to 12 or 13 to 15 feet below grade. Samples were analyzed for metals, VOCs, semi-volatile organic compounds, and pH. Analytical results are presented in Table 2-8. Concentrations of all parameters throughout the soil column were below the NJDEP's Impact to Groundwater and Residential Direct Contact Soil Cleanup Criteria in all six samples. While this implies that no further

action is required for soils in this area, two additional samples will be collected to ensure that operations conducted within the building have not impacted soil quality. One shallow soil sample will be collected from immediately outside the building adjacent to the loading dock on the south side of the building. The other shallow sample will be collected from just outside the access doors on the north side of the building. While there are no records of spills having occurred within the building, this sample will provide a greater level of assurance that a spill did not occur and become released through the doors. The shallow soil sample will be analyzed for VOCs. Groundwater quality is addressed in Section 2.4.

2.3.5 AOC 5: Former Gardener's Shed

The former gardener's shed, located southwest of the west parking area, was used for the storage of gardening materials and supplies for grounds maintenance. This storage shed burned down during a fire in the early 1970s. This AOC was investigated under ITT's corporate environmental survey program.

One soil boring was constructed and completed as a monitoring well at APC 2-A, the approximate location of the former gardener's shed as part of an ITT Corporate site assessment program conducted in 1992. The location of the soil boring is identified in Figure 2-18. Three (3) soil samples were collected from discrete six-inch intervals from split spoons obtained at depths of 0 to 2, 4 to 6, and 8 to 10 feet below grade. These samples were analyzed for pesticides and PCBs. Groundwater was sampled and analyzed for VOCs, pesticides, and PCBs.

No pesticides or PCBs were detected in either the soil or the groundwater from this location. In addition, no VOCs were detected above detection limits in the groundwater sample.

Since concentrations in soil were not detected above NJDEP's Impact to Groundwater and Residential direct Contact Soil Cleanup Criteria and since VOCs were not detected above their respective practical quantitation limit (PQL) in groundwater, no further action is required at this location.

2.3.6 AOC 6: Industrial Wastewater Pretreatment System

Industrial wastewater from facility process operations was conveyed to a pretreatment system located in the sub-basement of the main building for pretreatment prior to discharge to the municipal sanitary sewer operated by the Passaic County Sewerage Commissioners (PVSC). Pretreatment consisted of chrome reduction (i.e., hexavalent to trivalent), metal hydroxide precipitation and neutralization. The pretreatment system began operation in 1982 and discontinued operation in 1990 because of the termination of process operations generating industrial wastewater. The pretreatment system currently operates as a neutralization system in the event that the pH associated with other industrial wastewater

generated throughout the facility is outside of discharge limits. Figure 2-19 identifies the location of the pretreatment system. This AOC was investigated under ITT's corporate environmental survey program.

The process operations contributing industrial wastewater utilized plating baths consisting of cadmium, chromium, copper, lead, molybdenum, nickel, silver, tin, and zinc. Further, degreasing operations utilized trichloroethene (TCE) and 1,1,1-trichloroethane (1,1,1-TCA).

Pretreated wastewater was ultimately accumulated in a wet-well located in the subbasement area. Sewer discharge monitoring was automatically performed at this location. When a sufficient quantity of pretreated wastewater accumulated in the wetwell, it was pumped through a force main to the sanitary sewer. All floor drains located in this area feed directly to a separate wetwell, to be transferred directly to the pretreatment process.

Because of logistical constraints, the soils underlying the concrete slab were not evaluated. However, monitoring well MW-10 was utilized to evaluate the potential impact to groundwater quality downgradient of the wastewater pretreatment system. MW-10 was sampled and analyzed for VOCs, semi-volatile organic compounds, cyanide, metals, and pH as part of an ITT Corporate site assessment program conducted in 1992.

Volatile organic compounds attributable to AOC-1, the (1,1,1-TCA release) are present in MW-10 above the NJDEP Groundwater Quality Criteria. There were no semi-volatile compounds quantified above their respective PQLs in MW-10. All of the metals were quantified at concentrations below their respective NJDEP Groundwater Quality Criteria.

Based on the absence of metals above NJDEP's Groundwater Quality Criteria, groundwater does not appear to have been impacted by the operation of the pretreatment system. The presence of VOCs in the groundwater is attributable to the 1,1,1-TCA release (AOC-1), which is currently being addressed. Therefore, no further action relating to groundwater is required with respect to AOC 6.

2.3.7 AOC 7: Electrical Substation

The area in the vicinity of the electrical substation located north of the main building (see Figure 2-20) was identified because of the presence of a transformer which historically contained oil that had leaked onto the concrete pad. Three transformers are located on the concrete pad, with each having been sampled and analyzed for PCBs by General Electric on April 17, 1989. Sampling results indicated that PCBs are not present in the transformer oil. This AOC was investigated under ITT's corporate environmental survey program.

To evaluate the oil which had caused a stain on the concrete pad, three (3) shallow soil borings were advanced around the electrical substation as part of an ITT Corporate site assessment program conducted in 1992. Soil samples were collected from each borehole at a depth of 0.5' to 1.0' below grade. These soil samples were composited and analyzed for TPHC and PCBs.

TPHC was detected at a concentration of 120 mg/kg, below the NJDEP action level of 1,000 mg/kg. No PCBs were detected.

Based on the absence of PCBs, no further action is required for this location.

2.3.8 AOC 8: Area without Vegetation

An area without vegetation, approximately twenty feet by twenty feet in size, identified by an NJDEP representative during a recent site visit, is present adjacent to (outside) the fence at the northeast corner of the property, near MW-9. Weathered bedrock can be observed at this location. There are no records or recollection of site operations having been conducted in this area. Since this area has not been analytically evaluated, it remains an AOC to be investigated.

2.3.9 AOC 9: 1,1,1-Trichloroethane Still

1,1,1-Trichloroethane was utilized to clean printed circuit boards and metal parts prior to electroplating and metal finishing. The still is located in the northeast corner of the industrial wastewater pretreatment system subbasement. Spent solvent was transferred in piping from the degreaser units to the still for reclamation with reclaimed solvent pumped back to the degreasers. The still is situated on a raised concrete platform. The platform is currently provided with protective coatings and a secondary containment berm, although the coatings and berms are relatively recent improvements. There is no recollection of the original condition of the flooring system, nor are there any recollections of spills associated with the still at this location. The nearest floor drain discharges directly to the industrial wastewater pretreatment system for pretreatment prior to sewer discharge.

Monitoring well MW-10 is located downgradient of the still. Many rounds of groundwater sampling have taken place at MW-10 which has had concentrations of VOCs in excess of the NJDEP groundwater quality criteria. However, the presence of VOCs in the groundwater is attributable to the 1,1,1-TCA release (AOC-1), which is currently undergoing remediation. Therefore, no further action relating to groundwater is required with respect to AOC 9. Soil quality below the elevated concrete platform and the adjacent concrete floor slab has not been evaluated.

2.3.10 AOC 10: Chemical Storage Room

Raw materials are stored within the chemical storage room located on the north side of the facility between the industrial wastewater pretreatment area and the former metal finishing and electroplating areas. Raw materials have been stored in drums, pails and in bags (for dry materials). Protective floor coatings have existed on the concrete slab since its use was first utilized.

On August 27, 28 and September 10, 1990, York Laboratories (York) performed sampling and analytical services to assess environmental conditions within the chemical storage room and former metal finishing and electroplating area. A description of the investigation and analytical results are presented in section 2.3.11. York's summary report is provided herewith as Appendix C.

An extensive network of monitoring wells are located immediately downgradient of the Chemical Storage Room. These monitoring wells have been sampled numerous times for VOCs and Semi volatile organic compounds. Several VOCs are in excess of the NJDEP groundwater quality criteria. However, the presence of VOCs in the groundwater is attributable to the 1,1,1-TCA release (AOC-1), which is currently undergoing remediation. Therefore, no further action is required with respect to AOC 10.

2.3.11 AOC 11: Former Metal Finishing and Electroplating Process Area

Metal finishing and electroplating operations were performed in an area of the facility directly east of the chemical storage room. These operations included solvent degreasing (i.e., trichloroethene and 1,1,1-trichloroethane), acid etching, pickling, aqueous alkaline cleaning, plating and electroplating (i.e., cadmium, chromium, copper, lead, molybdenum, nickel, silver, tin, and zinc). Process baths were located throughout the area on elevated gratings. Rinsewater was discharged to concrete troughs which drained to the industrial wastewater pretreatment system.

The area has since been closed with all process equipment having been removed. On August 27, 28 and September 10, 1990, York Laboratories (York) performed sampling and analytical services to assess environmental conditions within the former metal finishing and electroplating area. York's summary report is provided herewith as Appendix C.

The sampling program included the collection and analysis of samples to evaluate the quality of the floors, walls, and ceilings within this area. Sampling was conducted to evaluate the area consistent with RCRA characteristics (reactivity, corrosivity, and toxicity). RCRA toxicity metal analyses were performed for arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver. The samples were collected and compared to EP Toxicity Threshold Limits. The results of these samples are included within Tables 2-9, 2-10, and 2-11.

Concrete Floor Samples

According to ITT personnel, areas of the floor where deterioration was evident were subjected to concrete removal, scarification and washing prior to sampling. Sampling locations were biased based upon former operations and floor condition, which includes those areas having had deterioration. Twenty one concrete floor core samples were collected in accordance with ASTM Standards. The thickness of each concrete core varied between 3 to 8 inches. The core samples generally consisted of Terrazzo and paint for the top 1/8 inch, and the balance of the core was a blended coarse and fine aggregate.

The analytical results of concrete core testing indicates that the quality of the concrete was not impacted by process operations. All concrete samples exhibited concentrations less than their respective E.P. Toxicity limits. All samples were found to be non-reactive and non-corrosive. The pH readings ranged from 11.3 to 12.4 standard units.

Wall Wipe Samples

Fifteen wall wipe samples were collected from within the former process area. Sample locations were biased to those areas with a dust/soot accumulation. A 25 cm by 25 cm template was utilized to segregate the sample area which was then sampled by wiping with a 3 inch by 3 inch sterile gauze pad soaked with deionized water. Four adjacent areas were wiped using the template and the same gauze pad to cover the required area for the sample. According to the report, some of the walls sampled consisted of brick and the balance was drywall.

While there are no applicable standards to compare the RCRA toxicity metals results for wipe samples, the results were related to a "clean" background location. Based on this comparison, the walls were found to be unimpacted by the former process operations. All samples were found to be non-reactive and non-corrosive. The pH readings ranged from 4.0 to 6.4 standard units.

Ceiling Tile Samples

Six ceiling tile samples were collected from within the Printed Circuit Board Area. A 4 inch by 4 inch piece of ceiling tile was cut for analysis. The ceiling tiles were described as one-half inch thick textured (white on white) with holes and tan backing. A background sample (CT-7) was collected outside of the process area to compare results.

None of the ceiling samples exceeded E.P. Toxicity limits. Further, the ceiling samples were found to be non-reactive and non-corrosive. The pH readings ranged from 7.1 to 7.9 standard units.

Based on the foregoing, there is no indication that the former process operations have impacted the quality of the underlying soils. Therefore, no further action is required with respect to AOC 11.

2.3.12 AOC 12: Building Transformers

Oil filled electrical transformers and switches are located throughout the facility. Since 1985 ITT has undertaken an extensive assessment of all potential PCB containing electrical equipment. Analytical testing of transformer and switchgear oil was performed on all units. Those units found to contain PCBs were retrofilled and retested until the PCB concentrations were below 50 ppm. Most of the electrical systems were found to contain less than 10 ppm PCBs. This AOC was investigated under ITT's corporate environmental survey program.

A visual inspection of each transformer and switchgear was conducted on May 15, 1996. Each location was inspected to identify any visual indication of leaking or stains. During the inspection, three locations were identified as having stains adjacent to transformers. A description of each is provided as follows:

Area T-2 [ITT Inventory Map # 4, 5, 6 and 7]: One transformer and three switches are located on a concrete pad on the south side of the boiler house. The transformer oil was tested and found to contain 170 ppm PCBs (1985 Eastern High Voltage, Inc. Report). The oil within the switches were tested by General Electric on April 17, 1989 and found to be PCB free. Staining of the concrete pad was identified on the northwest side of the transformer. Records pertaining to the PCB assessment work performed by ITT indicate that minor leaking occurred at the gasket for the oil sight gauge on the transformer. The transformer was retrofilled in December 1989 and was reportedly subsequently replaced. A concrete chip sample will be collected for TPHC and PCB analyses.

Area T-3 [ITT Inventory Map # 8]: One transformer is located on a concrete pad on the north side of the main building immediately opposite the electrical substation. The oil within the transformer was tested by General Electric on April 15, 1989 and found to be PCB free. Staining of the concrete pad was identified during the May 15th inspection. A concrete chip sample will be collected for TPHC and PCB analyses.

Transformer 12-H [ITT Inventory Map # 40]: Six transformers and associated switch gears are located in the subbasement on the east side of the main building (currently utilized for records storage). The unit identified by label as P000168 is situated on a concrete floor. The oil within the transformers were tested by General Electric on April 15, 1989 and found to be PCB free. Staining was observed on the concrete floor adjacent to the electrical systems. Two concrete chip samples will be collected for TPHC and PCB analyses.

2.3.13 AOC 13: Machine Shop

Support for production operations included the operation of a machine shop where specialized tools and equipment were made from metal stock. Operations included machining (utilizing cutting oils) and degreasing (utilizing solvents and ultrasonic aqueous solutions).

The machine shop is located on the north side of the facility on the lower level. The floor is constructed of creosoted wood blocks resting on a concrete floor. Raw materials (cutting oils and solvent) were kept in a caged area for stores. Materials in use were limited to designated locations where equipment was operated and where degreasing operations took place.

Monitoring well MW-12 is located downgradient of the machine shop. Many rounds of groundwater sampling have taken place at MW-12 which has had minor concentrations of VOCs. However, the presence of VOCs in the groundwater is attributable to the 1,1,1-TCA release (AOC 1), which is currently undergoing remediation. Therefore, no further action is required with respect to AOC 13.

2.3.14 AOC 14: Shipping and Receiving Bays

Four shipping and receiving bays are located at the facility identified as AOC 14a through 14d. All raw materials received at the facility and goods shipped from the facility are transferred through one of the loading bays. There are no records of spills having occurred at any of the loading bays. Each loading bay consists of an elevated dock and recessed truck bays. The loading docks were formerly constructed out of wood block flooring sitting on a concrete floor. In the late 1970s, the wood block flooring was removed and replaced with concrete. A visual inspection was conducted in each loading bay on May 14, 1996.

AOC 14a (Lower Level Northwest Loading Bay)

The lower level northwest loading bay is the main receiving location for all materials utilized at the facility. A catch basin is located in the middle of three bays which is approximately upgradient of the chemical/waste storage building. A second catch basin is located in the western bay which reportedly receives condensate from an air conditioning unit. The loading bay is paved throughout with slope toward each catch basin. Water collected within the catch basins is conveyed to the stormwater collection system. While there are no records of any spills having occurred and there was no visual indication of historic releases observed during the inspection, soil sampling will be performed to assess its potential as a source of groundwater contamination downgradient of this location (i.e., AOC 4). If sediment is found to exist within the catch basin, a sample will be collected for analysis. Further, two shallow soil borings will be collected in the vicinity of the catch basin to assess whether the soil has been impacted by leaking collection

piping. In addition, a shallow soil sample will be collected below the concrete floor of each elevated loading dock.

AOC 14b (Upper Level West Loading Bay)

The upper level west loading bay was utilized intermittently for shipping and receiving as well for temporary storage of finished materials. A catch basin appears to be located in the middle of the loading bay, however, it was obscured due to the presence of a tar-like substance on the paved surface. Water that is collected in the catch basin is understood to be conveyed to the stormwater collection system. The loading bay is paved throughout with the slope toward the catch basin. Similar to AOC 14a, soil sampling will be performed to assess its potential as a source of groundwater contamination downgradient of this location (i.e., AOC 4). If sediment is found to exist within the catch basin, a sample will be collected for analysis. Further, two shallow soil borings will be collected in the vicinity of the catch basin to assess whether the soil has been impacted by leaking collection piping. In addition, a shallow soil sample will be collected below the concrete floor of each elevated loading dock.

AOC 14c (Upper Level Southeast Loading Bay)

The upper level southeast loading bay was utilized to ship finished goods following their assembly and testing. Two catch basins are located in the middle of the loading bay with steel gratings. Water that is collected in the catch basins is understood to be conveyed to the stormwater collection system. The loading bay is paved throughout with the slope toward the catch basins. Based on the visual inspection, there were no indications of staining or past releases. Since there were no visual indications of past releases and since this loading was utilized exclusively for the shipping of finished goods, no further action is required for this area.

AOC 14d (Lower Level Northeast Loading Bay)

The lower level northeast loading bay was utilized to receive small items for the ITT A/CD operation and to ship finished goods from the ITT A/CD operation. Half of the loading bay has been converted for use in electronic testing with a raised computer floor. Based on the visual inspection, there were no indications of staining or past releases. Since there were no visual indications of past releases and since this loading was utilized exclusively for the receiving of small items and the shipping of finished goods, no further action is required for this area.

2.3.15 AOC 15: Laboratory/Testing Areas

Five Materials Evaluation Laboratories (MEL) are located on the upper level on the southwest side of the facility. Circuit board components are manufactured and tested in these areas. Limited quantities of chemicals are utilized in these labs. There are no records of any spills having occurred in the labs.

Therefore, no further action is required with respect to AOC 15. A visual inspection of each laboratory was conducted on May 15, 1996.

AOC 15a (Micro-Electronics Circuit Board Components)

Physical testing of manufactured components are tested by subjecting them to heat and various chemicals. All operations are considered small scale with chemicals typically stored in liter and gallon size containers. Any waste chemicals generated by the operation are transferred to the Chemical/Waste Storage Building (AOC 4) for management. Since there were no visual indications of releases having occurred within this laboratory, no further action is required for this area.

AOC 15b (Southwestern Material Evaluation Laboratory)

Physical testing of manufactured components are tested by simulating flight conditions. All operations are considered small scale with chemical use limited to Freon gas. Since there were no visual indications of releases having occurred within this laboratory, no further action is required for this area.

AOC 15c (Southeastern Material Evaluation Laboratory)

Physical testing of manufactured components are tested by subjecting them to various chemicals. All operations are considered small scale with chemicals typically stored in liter and gallon size containers. Any waste chemicals generated by the operation are transferred to the Chemical/Waste Storage Building (AOC 4) for management. Since there were no visual indications of releases having occurred within this laboratory, no further action is required for this area.

AOC 15d (Northwestern Material Evaluation Laboratory)

Physical testing of manufactured components are tested by subjecting equipment to vibration. All operations are considered small scale with chemicals limited to machine oil utilized in the vibration testing unit. Any waste oil generated by the operation are transferred to the Chemical/Waste Storage Building (AOC 4) for management. Since there were no visual indications of releases having occurred within this laboratory, no further action is required for this area.

AOC 15e (Northeastern Failure Analysis Laboratory)

Physical testing of manufactured components are tested in the RAM Testing Chamber. All operations are considered small scale with chemical use limited to Freon gas. Since there were no visual indications of releases having occurred within this laboratory, no further action is required for this area.

2.3.16 AOC 16: Detrex Process Area (Fishbowl)

A circuit board solvent wash process operates within the Clean Room of the printed circuit board assembly area on the southwest side of the lower level. The Detrex process discontinued operation in 1992. This area has housed various processes utilizing solvents. Over time, there had been anecdotal evidence of spills, the most significant of which is addressed as AOC 1. The groundwater remediation program addressed under AOC 1 will address groundwater contamination resultant from any of these spills at this location. This area is within twenty feet of the historic 1,1,1-trichloroethane spill location (AOC 1). The process is contained within a Detrex Model self contained unit. Circuit boards are fed through the unit on a conveyor system wherein the boards are sprayed with solvent and allowed to drain. Circuit boards are sealed elsewhere subsequent to the solvent washing process. The Detrex unit is situated on a raised floor system. The raised floor system is part of the Clean Room design.

Because the Detrex unit is located within a Clean Room, investigation of this area is logistically impossible. However, the area is located approximately twenty feet upgradient of AOC 1. Therefore, it will be managed as part of the investigation and source area remediation associated with AOC 1.

2.3.17 Summary of Soil Quality

Based on the laboratory analytical data for soil samples presented herein and in previous submissions to the Department as referenced herein, no further soil investigation or remedial action is required with respect to those areas of concern which have been characterized (i.e., AOC 1, AOC 2, AOC 3, AOC 5, AOC 7, AOC 10 and AOC 11). None of the parameters at each of these AOCs exceeded NJDEP's Impact to Groundwater Soil Cleanup Criteria nor did they exceed NJDEP's Residential Direct Contact Soil Cleanup Criteria. Additional characterization at AOC 4 is proposed. Further, characterization at AOC 6, AOC-8, AOC 12 and AOC 14 will be proposed. Since there is no indication of a release having occurred in AOC 9, AOC 13, and AOC 15 and since AOC 16 will be managed with AOC 1, no further action is proposed with respect to these two areas. The effects of these AOCs on groundwater have been evaluated. The groundwater investigation is summarized in the next section.

2.4 Groundwater Investigation

2.4.1 AOCs 1 and 2

In August 1986, a 1,1,1-trichloroethane (1,1,1-TCA) release occurred in ITT Building K. The spill was reported to NJDEP and one monitoring well (MW-1) was installed downgradient of the spill in January 1987. Sampling and analysis of groundwater from MW-1 indicated the presence of dissolved 1,1,1-TCA in the groundwater.

Two 4,000 gallon capacity underground storage tanks used to store gasoline were removed from the site in February of 1988 after having failed a petrotite test in 1987. Following the UST removal, additional monitoring wells were installed to monitor the effects of the 1,1,1-TCA release and potential UST release on groundwater. In April 1988, the monitoring wells were sampled and analyzed for volatile organic compounds, alcohols, and ethers. Laboratory results indicated the presence of both 1,1,1-TCA and petroleum related compounds, specifically, benzene, toluene, ethylbenzene, and xylene (BTEX) dissolved in the groundwater. The groundwater sampling events confirmed the presence of 1,1,1-TCA and BTEX as separate groundwater plumes traveling adjacent to each other in the northeast portion of the ITT facility. Light non-aqueous phase liquid (LNAPL) was also discovered in MW-3. Subsequently, in December 1989, one 4,000-gallon gasoline UST and one 1,000-gallon diesel UST were removed after the diesel tank failed a petrotite test.

NJPDES-DGW permit No. NJ0076023 was issued on May 1, 1990. The permit required delineation of the groundwater plumes to a concentration of 1 ppm, the installation of seven additional shallow and deep monitoring wells, and hydraulic control of the plume where concentrations exceeded 5 ppm. The wells were installed in July 1990. A quarterly groundwater monitoring program, inclusive of the existing seventeen wells installed to date, was initiated as required by the permit. These wells included shallow on-site wells (MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-8, MW-9, MW-10, MW-11, MW-12), an on-site deep well (MW-1A), and two shallow and deep off-site well couplets (MW-13/13A, MW-14/14A). A tabulation of the laboratory data is provided as Tables 2-12 and 2-13. As demonstrated by the data, the NJPDES permit conditions with respect to delineation were satisfied. Further, the extent of the LNAPL plume was determined to be limited to the vicinity of monitoring wells MW-3 and MW-15. Monitoring conducted in August 1990, November 1990 and February 1991 (after the installation of one additional shallow well MW-16 and deep well MW-17A requested by the Department) demonstrated that LNAPL was located within a 100 foot radius of MW-3 and MW-15. No other on-site or off-site monitoring wells contained LNAPL. The LNAPL, composed of petroleum products, was determined at that time to be less than 6 inches in thickness in monitoring well MW-15 and less than 0.4 inches in thickness in monitoring well MW-3.

Formal design of a groundwater pump and treat system to address the LNAPL and dissolved halogenated and non-halogenated plumes was initiated in early 1990. Two groundwater extraction wells were installed in the vicinity of MW-1 and MW-10 to a depth of 40 feet below grade. Leaching pools were installed upgradient of MW-2, but within the zone of capture of the recovery wells, for the purpose of recharging treated groundwater. MW-3 and MW-15 were constructed with stainless steel screens when installed in anticipation of including them in the groundwater treatment system to recover LNAPL and dissolved BTEX compounds.

Following submission of H2M's March 1991 Engineering Report for the Groundwater Treatment Facilities, treatment works approval was granted by NJDEP in June 1991 for a groundwater pump and treat system which utilized a counter-current packed bed air stripping tower and vapor-phase granular activated carbon (GAC) for contaminant removal. LNAPL removal was accomplished via depression pumps and skimmer pumps placed in MW-3 and MW-15, which extracted water from the bottom of the monitoring wells to a gravity differential separator prior to the air stripper, and extracted LNAPL directly to a storage tank. Construction of the system was completed in the summer of 1992 with the system becoming fully operational in September of 1992.

NJDEP set a performance based standard for the treatment system with monitoring well MW-2, which is immediately downgradient of the groundwater recharge area, as the compliance point. The performance based standard established that the average total volatile organic compound concentration in MW-2 be less than or equal to 100 ppb for any consecutive four quarters with no one quarter greater than 250 ppb. ITT's NJPDES-Discharge to Groundwater (DGW) permit No. NJ0076023 was modified and re-issued on April 23, 1992 to reflect changes in the monitoring program and to outline the performance-based standards for operation of the treatment system. During 1995, discussions and correspondence with the NJDEP resulted in a major modification to the NJPDES-DGW Permit. The final major modification was issued on August 1, 1995 with an expiration date of August 1, 1998. The major modification transferred all groundwater monitoring requirements to the Memorandum of Agreement (MOA) dated March 30, 1993 and outlined the compliance monitoring requirements presented in NJDEP's correspondence to ITT dated November 29, 1994. The NJPDES-DGW Permit addresses the required quality of treated groundwater discharged to the onsite leaching pools pursuant to NJDEP's Anti-degradation Policy. ITT has been well within the compliance limitations of the original and current NJPDES permit.

Performance monitoring of the treatment system has been conducted on a routine basis, as required by the air permit. Influent and effluent samples have been collected on a quarterly basis from sampling ports on the groundwater treatment system since it became operational in September 1992. Based on these influent samples, the average VOC concentration to the tower has been calculated to be approximately 2.5 ppm. VOC concentrations in all but two rounds of discharged water have been below the laboratory method detection limit of 5 ppb. For two rounds of effluent monitoring, the effluent was quantified with a 1,1,1-TCA concentration of 5 ppb. The calculated removal efficiency for the treatment system has averaged greater than 99.8%. Groundwater monitoring and performance monitoring data have been submitted to the Department on a regular basis in accordance with the schedule defined in the NJPDES permit and the MOA.

Prior to commencement of system operation in September 1992, four monitoring wells (MW-1, MW-4, MW-10, and MW-11) contained average concentrations of total volatile organic compounds (VOCs) in excess of 1,000 ppb. Since system start-up, a dramatic decrease in VOC concentrations has been observed in nearly all monitoring wells, with exception of monitoring well MW-11. A summary of the total volatile organic compound concentrations in all monitoring wells since the groundwater investigation began (April 1988 through November 1995) is presented in Table 2-14. Contour maps of the most recent two years of total VOC concentrations in the shallow and deep aquifers are presented in Figures 2-21 through 2-28. ITT has remained in compliance with all performance monitoring, compliance monitoring, hydraulic control, and contaminant delineation requirements of the MOA and the NJPDES permit.

In an effort to expedite and optimize capture of the 1,1,1-TCA, additional investigation in the immediate vicinity of the 1,1,1-TCA release area was conducted. One groundwater monitoring well (MW-18) was installed in September 1993 inside of the building approximately 55 feet downgradient from the suspected source area, and upgradient of the groundwater extraction wells. This location is within the zone of capture of the extraction wells. Due to restricted access within the building, the well was installed via air rotary drilling methods utilizing a customized mobile rig. MW-18 was sampled for analysis of volatile organic compounds approximately three weeks following installation. Results from this initial round of monitoring indicated that the total concentration of VOCs in MW-18 was 101,152 ppb, higher than at the locations further downgradient of the source area, as expected. The primary compounds detected were 1,1,1-TCA (72,000 ppb), 1,1-dichloroethene (20,000 ppb), and 1,2-dichloroethane (8,100 ppb). Two subsequent rounds of groundwater sampling conducted in November 1993 and March 1994 indicated a significant reduction in concentration at MW-18. Total VOCs were quantified at concentrations of approximately 33,000 ppb in November 1993 (a 67% reduction), and approximately 10,000 ppb in March 1994 (a 70% reduction since November). The drilling and removal of silt within existing fractures via installation and development of this well, coupled with purging associated with the three sampling events, is most likely facilitating the rapid decrease in concentration observed at this location.

The vast majority of the groundwater plume has been reduced to a narrow concentrated area in the vicinity of recovery wells RW-1 & RW-2, MW-11, and MW-18. This remaining area is targeted for more aggressive remediation.

A pilot study for source area remediation was conducted in October 1995 in accordance with the Permit-by-Rule issued by the NJDEP on September 6, 1995. In-situ chemical oxidation was selected for source area remediation based on the well defined location at which the original release occurred, the success of the reaction based on bench scale treatability testing and the logistical constraints imposed by the building and ongoing site operations. The in-situ process involved the injection of process chemistry

into the aquifer through MW-18. A total of 2,825 pounds of process chemistry consisting of potable water, acetic acid, ferrous sulfate heptahydrate and hydrogen peroxide was injected into the well. Baseline groundwater quality was established prior to injection in MW-1, MW-2, MW-4, MW-5, MW-6, MW-10, MW-11, MW-12, MW-18, RW-1 and RW-2. Groundwater was subsequently monitored seven days, fifteen days and twenty two days following completion of the injection. At MW-18, the location of injection, groundwater concentrations were found to decrease from a pre-injection concentration of 93,082 ppb total VOC to 1,744 ppb, 3,193 ppb and 2,171 ppb total VOC. A fourth sample was collected from MW-18 on February 6, 1996 (85 days following completion of injection) with total VOC concentrations quantified at 3,412 ppb. A reduction in concentration was also observed in the downgradient well MW-11 with a pre-injection total VOC concentration of 34,615 ppb and a post-injection total VOC concentration of 4,848 ppb. The results of the pilot study were submitted to NJDEP on February 15, 1996 in a report entitled "Summary Report, Pilot Treatability Study - In-Situ Chemical Oxidation, ITT Avionics Division, Clifton, New Jersey".

2.4.2 AOC 3

To assess the effect that the six former UST systems (AOC-3) may have had on groundwater quality, three monitoring wells (MW-203, MW-204 and MW-205) were installed on the northern side of the boiler house. Figure 2-29 identifies the location of these monitoring wells. Based on water levels measured within these monitoring wells, groundwater in this area flows generally north, as demonstrated in Figure 2-30. Two rounds of monitoring were performed at these wells in May of 1991 with a third round performed in September 1995. Semi-volatile organic compounds were analyzed for but not detected in both initial rounds. Volatile organic compounds not associated with petroleum storage were detected in the groundwater samples at each of the three wells. These results are provided in Table 2-15. Chloroform was found in all three rounds, at concentrations ranging from 4 ppb to 20 ppb, with several results above the NJDEP specific groundwater criteria of 6 ppb. Trichloroethene, not found in MW-204 (the upgradient well), was found in MW-203 and MW-205 at concentrations ranging from 5 ppb to 18 ppb, above the NJDEP specific groundwater criteria of 1 ppb. Based on the September 1995 round of groundwater sampling as compared to the May 1991 rounds of groundwater sampling, a decreasing trend in dissolved contaminant concentrations have been observed. Chloroform concentrations have decreased 50% in MW-203 and 70% in MW-205. Chloroform is below the Specific Groundwater Quality Criteria in MW-205. Trichloroethene concentrations have decreased 58% in MW-203 and 72% in MW-205. If a linear relationship of concentration over time is utilized, chloroform can be projected to naturally reach its Specific Groundwater Quality Criteria of 6 ppb in MW-203 by early 1997. Similarly, trichloroethene can be projected to naturally reach its specific Groundwater Quality Criteria of 1 ppb in MW-203 by mid-1998 and in MW-205 by early 1997.

Since a dissolved concentration of chloroform was quantified at 10 ppb, above its Specific Groundwater Quality Criteria of 6 ppb, in MW-203 and, since dissolved concentrations of trichloroethene were quantified at 6 ppb in MW-203 and at 5 ppb in MW-205, above its Specific Groundwater Quality Criteria of 1 ppb, groundwater in this area remains a concern.

2.4.3 AOC 4

Two (2) soil borings were constructed and completed as monitoring wells (MW-APC1-A and MW-APC1-B) in the vicinity of the chemical/waste storage building (AOC-4). One monitoring well was installed to the north of the waste storage building as a downgradient well (MW-APC1-A). The other monitoring well was installed to the south of the building as the upgradient well (MW-APC1-B). Figure 2-17 identifies the location of these wells. One round of samples were collected on December 4, 1992 and analyzed for VOCs, semi-volatile organic compounds, dissolved priority pollutant metals, and pH. One VOC was quantified above the NJDEP Groundwater Quality Criteria in the downgradient well (1,1,1-TCA, at a concentration of 31 ppb). VOCs were also quantified in the upgradient well above their respective Groundwater Quality Criteria (chloroform at 77 ppb, trichloroethene at 36 ppb, total 1,2-dichloroethene at 11 ppb, and carbon tetrachloride at 78 ppb). There were no semi-volatile organic compounds or dissolved metals present at concentrations above their respective PQL in either well. Two subsequent rounds of groundwater monitoring were conducted in September and December of 1995. This data is summarized in Table 2-16. In both rounds, concentrations in the upgradient well were either not quantified above their respective PQL or were quantified below their respective Specific Groundwater Quality Criteria. An increase in concentration was observed in the downgradient well during the September 1995 round with a significant decrease observed in the December 1995 round for most contaminants. Based on the December 1995 round of monitoring, chloroform, carbon tetrachloride and trichloroethene remain above their respective Specific Groundwater Quality Criteria.

Since dissolved concentration of chloroform, carbon tetrachloride and trichloroethene were quantified at 94 ppb, 27 ppb, and 55 ppb, above their Specific Groundwater Quality Criteria of 6 ppb, 2 ppb and 1 ppb, groundwater in this area remains a concern.

2.5 Remedial Investigation Conclusions

2.5.1 Soil

No further soil investigation is necessary in the areas of concern where previous studies have concluded that soil quality is in compliance with NJDEP's Residential Direct Contact Soil Cleanup Criteria as well as NJDEP's Impact to Groundwater Criteria. The remaining areas to be investigated are AOC 4 (chemical/waste storage building), AOC 6 (industrial wastewater pretreatment system area), AOC 8 (the area without vegetation), AOC 12 (building transformers), and AOC 14 (shipping and receiving bays).

Sampling will be performed where no previous study has been conducted. The sampling will follow the protocols described in N.J.A.C. 7:26E.

2.5.2 Groundwater

Groundwater affected by the former UST and 1,1,1-TCA releases in the northeastern portion of the facility (AOCs 1 and 2) is currently undergoing remediation. Active remediation, which commenced in September 1992, is being conducted in accordance with an MOA and a NJPDES DGW permit. ITT has remained in compliance with all performance monitoring, compliance monitoring, hydraulic control, and delineation requirements of the MOA and NJPDES permit. While the groundwater extraction, treatment and recharge system has been effective in concentrating the plume and removing contaminants from groundwater, and although not required, a more aggressive source area remediation program has been undertaken by ITT. The pilot treatability study for source area remediation utilizing in-situ chemical oxidation yielded the following conclusions:

1. Utilizing the quantity estimated by the remedial contractor to represent the volume of water contacted by the process chemistry (219,875 gallons), the reduction in concentration of 1,1,1-TCA and 1,1-DCE observed is equivalent to the oxidation of approximately 167 pounds of pure solvent. The reduction in MW-11, using an equivalent volume of groundwater is approximately 53 pounds of pure solvent.

2. The pilot treatability study demonstrated that the chemistry is successful in reducing the concentrations of dissolved 1,1,1-TCA and 1,1-DCE. Positive effects were observed in MW-18 and the downgradient well MW-11.

Based on the results of the pilot treatability test conducted at MW-18, a continued longer term treatability study for source area remediation is proposed utilizing newly installed injection wells. This program is described in Section 3.3.2. This approach will focus on reducing dissolved concentrations in the vicinity of RW-1, RW-2, RW-3, MW-11 and MW-18 with the ultimate objective of terminating the operation of the existing groundwater extraction, treatment and recharge system. Natural remediation will be pursued for that portion of the dissolved plume outside of the hydraulic control of the groundwater extraction system.

Groundwater in the vicinity of the boiler house (AOC 3), when sampled twice in 1991, contained chloroform and trichloroethene at concentrations slightly above groundwater quality criteria. When sampled again in 1995, a significant reduction in dissolved concentrations were observed. A linear

relationship of concentration versus time projects compliance with Specific Groundwater Quality Criteria by mid-1998. Natural remediation will be pursued for this area.

Groundwater in the vicinity of the chemical/waste storage area (AOC 4), when sampled once in 1992, contained chloroform, 1,1-dichloroethene, 1,1-dichloroethane, total 1,2-dichloroethene, carbon tetrachloride, and trichloroethene at concentrations above groundwater quality criteria. Subsequent rounds of sampling conducted in September and December of 1995 indicated a significant reduction in concentration within the upgradient monitoring well such that all contaminants were below their Specific Groundwater Quality Criteria. However, the downgradient monitoring well experienced an increase followed by a decrease in concentrations. Chloroform, carbon tetrachloride and trichloroethene remain above their Specific Groundwater Quality Criteria. Soil sampling will be performed at locations adjacent to the building access doors together with an assessment of AOC 14a (Main Building Lower Level Northwest Loading Bay). In addition, two additional rounds of sampling will be conducted at this location for evaluating water quality to assess the necessity of further action in this area.

3.0 Remedial Alternatives Evaluation

3.1 Proposed Additional Sampling

3.1.1 Soil

No soil sampling is warranted at AOC 1 (1,1,1-trichloroethane release), AOC 2 (former gasoline and diesel USTs), AOC 3 (former No. 2 and No. 4 fuel oil USTs), AOC 4 (chemical/waste storage building), AOC 5 (former gardener's shed), and AOC 7 (electrical substation) since concentrations of the parameters for which samples were analyzed were below their respective NJDEP Residential Direct Contact Soil Cleanup Criteria and NJDEP Impact to Groundwater Soil Cleanup Criteria. Additional sampling is, however, proposed for AOC 4 (chemical/waste storage building) to preclude the possibility that a source of groundwater contamination exists.

An assessment of the quality of concrete floors, walls and ceiling tiles was performed in AOC 10 (chemical storage room) and AOC 11 (former metal finishing and electroplating process area). The results of that assessment indicated that the floors, walls and ceiling were not impacted by former process operations. Therefore, no further action is required for these areas.

An evaluation of the quality of concrete floors and/or underlying soils has not been undertaken at AOC 6 (industrial wastewater pretreatment system), AOC 8 (area without vegetation), AOC 9 (1,1,1-trichloroethane still), AOC 12 (building transformers), AOC 13 (machine shop), AOC 14 (shipping and receiving bays), AOC 15 (laboratory/testing areas), and AOC 16 (Detrex process area). However, some of these AOCs do not warrant additional investigation based on a visual inspection of each area and an evaluation of the operations conducted within each area. The remaining AOCs (i.e., AOC 4, AOC 6, AOC 8, AOC 12 and AOC 14) will undergo soil sampling and analysis to evaluate the quality of the soil relative to the NJDEP Residential Direct Contact Soil Cleanup Criteria and NJDEP Impact to Groundwater Soil Cleanup Criteria. A brief summary of the status of each AOC with respect to the need for sampling and analysis is presented as follows:

AOC 1: 1,1,1-Trichloroethane Release

Soils in the vicinity of the historic 1,1,1-TCA release have been investigated to the extent practicable. No further action is warranted for soils in this area, based on the results of the source area investigation performed, which indicated that volatile organic compounds are not present in overburden soils at levels above NJDEP's Residential Direct Contact Soil Cleanup Criteria and NJDEP's Impact to Groundwater Criteria.

AOC 2: Former Gasoline and Diesel USTs

Soils in the vicinity of the former gasoline and diesel USTs have been thoroughly investigated and remediated to the extent practicable. No further action is warranted for soils in this area, based on the results of post-remediation sampling, which indicated that volatile organic compounds are not present in the unsaturated soils at levels above NJDEP's Residential Direct Contact Soil Cleanup Criteria and NJDEP's Impact to Groundwater Criteria.

AOC 3: Former No. 2 and No. 4 Fuel Oil USTs

Soils in the vicinity of the former No. 2 and No. 4 fuel oil USTs have been thoroughly investigated and remediated to the extent practicable. No further action is warranted for soils in this area, based on the results of post-remediation sampling, which indicated that volatile organic compounds are not present in the unsaturated soils at levels above NJDEP's Residential Direct Contact Soil Cleanup Criteria and NJDEP's Impact to Groundwater Criteria.

AOC 4: Chemical/Waste Storage Building

Two (2) soil borings were constructed and completed as monitoring wells with three (3) soil samples collected from each borehole. Samples were analyzed for metals, VOCs, semi-volatile organic compounds, and pH. Concentrations of all parameters throughout the soil column were below the NJDEP's Impact to Groundwater and Residential Direct Contact Soil Cleanup Criteria in all six samples. While this implies that no further action is required for soils in this area, based on the groundwater quality results, two additional samples will be collected to ensure that operations conducted within the building have not impacted soil and groundwater quality. One shallow soil sample will be collected from immediately outside the building adjacent to the loading dock on the south side of the building. The other sample will be collected from outside the access door on the north side of the building. While there are no records of spills having occurred within the building, these samples will provide a greater level of assurance that a spill did not occur and become released through the doors. The shallow soil samples will be analyzed for VOCs. Groundwater quality is addressed in Section 2.4.

AOC 5: Former Gardener's Shed

Since concentrations in soil were not detected above NJDEP's Impact to Groundwater and Residential Direct Contact Soil Cleanup Criteria and since VOCs were not detected above their respective practical quantitation limit (PQL) in groundwater, no further action is required with respect to this area.

AOC 6: Industrial Wastewater Pretreatment System

Surface sampling will be conducted of the asphaltic concrete floor in accordance with the Technical Requirements for Site Remediation (N.J.A.C. 7:26E). Asphaltic concrete core samples will be

collected for laboratory analysis. One sample per nine hundred square feet of floor space will be collected from the sub-basement. The asphaltic concrete core will be analyzed for heavy metals.

AOC 7: Electrical Substation

Three (3) shallow soil borings were advanced around the electrical substation with soil samples collected at a depth of 0.5' to 1.0' below grade. These soil samples were composited and analyzed for TPHC and PCBs. Although TPHC was detected at a concentration of 120 mg/kg, it is below the NJDEP action level of 1,000 mg/kg. PCB concentrations were not detected. Based on the absence of PCBs and the low concentration of TPHC, no further action is required with respect to this area.

AOC 8: Area Without Vegetation

An area without vegetation, approximately 20 feet by 20 feet in size, identified by an NJDEP representative during a recent site visit, is present adjacent to (outside) the fence at the northeast corner of the property, near MW-9. Surface soil sampling was recommended by the NJDEP representative to characterize this area. Two shallow soil samples (0"-6") will be collected and analyzed for TPHC and priority pollutant metals in accordance with N.J.A.C. 7:26E.

AOC 9: 1,1,1-Trichloroethane Still

Since there is no record of any releases having occurred at the still and since the floor is underlain by concrete with protective coatings and a berm, no further action is required with respect to AOC 9.

AOC 10: Chemical Storage Room

Since there is no indication that any chemical release occurred within the chemical storage room and since the quality of the concrete floor has been assessed through extensive sampling and analysis, no further action is required with respect to AOC 10.

AOC 11: Former Metal Finishing and Electroplating Process Area

Following closure of the former metal finishing and electroplating process area, concrete floors exhibiting deterioration were scarified and cleaned. Subsequent sampling indicated that concentrations of metals, cyanide and sulfide were below their respective RCRA standards with most concentrations below their detection limit. The former troughs have since been filled with concrete. Since there is no indication that any chemical penetrated the concrete floors and since the quality of the concrete floor has been assessed through extensive sampling and analysis, no further action is required with respect to AOC 11.

AOC 12: Building Transformers

Oil filled electrical transformers and switches are located throughout the facility. Since 1985, ITT has undertaken an extensive assessment of all potential PCB containing electrical equipment including the sampling and analysis of oil within the units. A visual inspection of each transformer and switchgear was conducted on May 15, 1996. Each location was inspected to identify any visual indication of leaking or stains. During the inspection, three locations were identified as having stains adjacent to transformers, namely: Area T-2 [ITT Inventory Map # 4, 5, 6 and 7]; Area T-3 [ITT Inventory Map # 8]; and, Transformer 12-H [ITT Inventory Map # 40]. One concrete chip sample will be collected from Area T-2 and Area T-3. Two concrete chip samples will be collected from the vicinity of Transformer 12-H. The concrete samples will be analyzed for TPHC and PCBs.

AOC 13: Machine Shop

Since their is no record of any releases having occurred within the machine shop and since the floor is underlain by concrete without floor drains, no further action is required with respect to AOC 13.

AOC 14: Shipping/Receiving Bays

AOC 14a: Lower Level Northwest Loading Bay

The lower level northwest loading bay is the main receiving location for all materials utilized at the facility. Two catch basins are located in the loading bay. While there are no records of any spills having occurred and there was no visual indication of historic releases observed during the inspection, soil sampling will be performed to assess its potential as a source of groundwater contamination downgradient of this location (i.e., AOC 4). If sediment is found to exist within the catch basins, samples will be collected for analysis. Further, two shallow soil borings will be collected in the vicinity of the catch basin to assess whether soil has been impacted by leaking collection piping. Each sample will be analyzed for VOCs.

AOC 14b: Upper Level West Loading Bay

The upper level west loading bay was utilized intermittently for shipping and receiving as well for temporary storage of finished materials. A catch basin appears to be located in the middle of the loading bay, however, it was obscured due to the presence of a tar-like substance on the paved surface. Similar to AOC 14a, soil sampling will be performed to assess its potential as a source of groundwater contamination downgradient of this location (i.e., AOC 4). If sediment is found to exist within the catch basin, a sample will be collected for analysis. Further, two shallow soil borings will be collected in the vicinity of the catch basin to assess whether soil has been impacted by leaking collection piping. Each sample will be analyzed for VOCs.

AOC 14c: Upper Level Southeast Loading Bay

The upper level southeast loading bay was utilized to ship finished goods flowing their assembly and testing. Two catch basins are located in the middle of the loading bay with steel gratings. Based on the visual inspection, there were no indications of staining or past releases. Since there were no visual indications of past releases and since this loading was utilized exclusively for the shipping of finished goods, no further action is required for this area.

AOC 14d: Lower Level Northeast Loading Bay

The lower level northeast loading bay was utilized to receive small items for the ITT A/CD operation and to ship finished goods from the ITT A/CD operation. Half of the loading bay has been converted for use in electronic testing with a raised computer floor. Based on the visual inspection, there were no indications of staining or past releases. Since there were no visual indications of past releases and since this loading was utilized exclusively for the receiving of small items and the shipping of finished goods, no further action is required for this area.

AOC 15: Laboratory/Testing Areas

Five Materials Evaluation Laboratories (MEL) are located on the upper level on the southwest side of the facility. Circuit board components are manufactured and tested in these areas. There are no records of any spills having occurred in the labs, nor was there any evidence of releases having occurred during the May 15, 1996 inspection of each laboratory. All operations are considered small scale with limited chemical usage. Since there were no visual indications of releases having occurred within this laboratory, no further action is required for this area.

AOC 16: Detrex Process Area (Fishbowl)

Because the Detrex Process Area is located within a Clean Room, investigation of this area is logistically impossible. However, the area is located approximately twenty feet upgradient of AOC 1. This area has housed various processes utilizing solvents. Over time, there had been anecdotal evidence of spills, the most significant of which is addressed as AOC 1. Any other spill would be remedied under the management of AOC 1. Therefore, it will be managed as part of the investigation and source area remediation associated with AOC 1.

3.1.2 Groundwater

Groundwater quality relative to the 1,1,1-TCA and UST releases (AOC 1 and AOC 2) has been well defined and characterized in accordance with the MOA and NJPDES permit since the investigation began in 1987. Groundwater quality is currently being monitored on a quarterly basis under the facility's MOA and NJPDES permit. No additional groundwater monitoring is proposed beyond what is currently

being conducted in compliance with the MOA and NJPDES. A successful pilot treatability study was performed in October 1995 which resulted in reduction of VOC concentrations in MW-18 and MW-11.

Groundwater in the vicinity of the boiler house (AOC-3) contained chloroform and trichloroethene at concentrations slightly above groundwater quality criteria. Natural remediation is proposed for the remaining concentrations. Two rounds of groundwater monitoring will be conducted in to support the natural remediation proposal. Analysis will be for volatile organic compounds (USEPA Method 624 additionally calibrated for xylenes) since all other parameters analyzed for in the initial sampling rounds were below NJDEP groundwater quality criteria.

Groundwater in the vicinity of the chemical/waste storage area (AOC 4) contained chloroform, 1,1-dichloroethene, 1,1-dichloroethane, total 1,2-dichloroethene, carbon tetrachloride, and trichloroethene at concentrations slightly above groundwater quality criteria. Reductions in concentration were evident during the 1995 sampling rounds as compared to the 1992 round. Based on these reductions, natural remediation may be proposed for the remaining concentrations. Soil sampling will be performed at the location of the access doors to the building as well as AOC 14a which is upgradient of the chemical/waste storage building. Further, two rounds of groundwater monitoring will be conducted to assess the trend of natural reductions in concentrations. Analysis will be for volatile organic compounds (USEPA Method 624 additionally calibrated for xylenes) since all other parameters analyzed for in the initial sampling rounds were below NJDEP groundwater quality criteria.

3.2 Identification of Applicable Remediation Standards

The NJDEP has statewide groundwater quality standards that are based on the NJDEP's Specific Groundwater Quality Criteria (N.J.A.C. 7:9-6) for volatile organic compounds.

3.3 Classification Exception Area

If classification exemption area (CEA) is required to be established as part of an approved remedy (i.e. active treatment, passive treatment, or no further action), an application will be developed in accordance with N.J.A.C. 7:9 and N.J.A.C. 7:26E.

The CEA essentially serves as a public notification document that groundwater quality standards for a certain aquifer will not be met and certain groundwater uses within this area are restricted or require special installation and construction requirements.

As a prerequisite to applying for a CEA, contaminant delineation and fate of the contaminant plume must be established in accordance with N.J.A.C. 7:26E, Technical Requirements for Site Remediation. This may be accomplished by:

1. collection of sample data indicating contamination is below remediation standards,

2. a demonstration that contaminant levels will not exceed New Jersey Groundwater Quality Criteria beyond the proposed boundaries of the CEA, and

3. a demonstration that contaminant levels will achieve New Jersey Groundwater Quality Criteria within the timeframe proposed by the CEA.

After delineating the contaminant plume and determining the area for which the CEA will apply, notifications will be made to the local municipal authorities, health agencies, and if required, individual property owners, that groundwater standards have been contravened within the CEA. The present and future groundwater use for that area will dictate the level of notification required.

3.4 Remedial Alternative Evaluation

3.4.1 Groundwater Extraction, Treatment and Recharge

The existing treatment facility's function is to process the extracted groundwater, provide for the removal of settleable and suspended solids, remove volatile organic compounds from the contaminated groundwater to specified levels, and recharge the treated water. The design of the groundwater treatment facility is based on data developed and presented within the report entitled, "Engineering Report, Groundwater Treatment Facilities, ITT Avionics Division, Clifton, New Jersey, NJPDES-DGW Permit No. NJ0076023", dated March 1991 and submitted to the NJDEP for Treatment Works Approval. The treatment system began operation on September 24, 1992. Since then, the treatment system has operated continuously at a total groundwater extraction rate of approximately ten (10) gpm. This extraction rate is based on the ability of the system to provide hydraulic control of the delineated plume of dissolved volatile organic compounds. To date, the treatment plant has treated and recharged approximately sixteen million gallons of groundwater. ITT has remained in compliance with all performance monitoring, compliance monitoring, hydraulic control, and delineation requirements of the MOA and NJPDES permit.

3.4.2 Source Area Remediation

A more aggressive remediation of the area of concentrated groundwater impact in the vicinity of RW-1, RW-2, MW-11 and MW-18 is proposed. The source area remedial technology is considered innovative and involves in-situ chemical oxidation.

3.4.2.1 Technology

The innovative technology, referred to in the patent as the CleanOX process, essentially entails the injection of a hydrogen peroxide based solution into one or more monitoring wells. The basic transformation reaction is known as the Fenton reaction which results in the generation of hydroxyl radicals. These radicals are strong oxidizers which react with organic compounds. A simplified representation of the reaction can be described as the addition of hydrogen peroxide (H_2O_2) in a groundwater medium (H_2O) making contact with dissolved hydrocarbons (HC) to produce steam and carbon dioxide (CO_2). The reaction can be simply expressed as:

$$H_2O_2 + 2HC + H_2O \xrightarrow{\text{inhibitor/initiator/enhancer/catalyst}} 3H_2O + CO_2$$

This chemical equation represents the CleanOX process in the simplest of forms. In practice, substituted hydrocarbons will also undergo oxidation, with the halide being released as a free radical. In addition, organic compounds adsorbed onto or occluded in the saturated soils are also subject to oxidation. To facilitate an increased reaction yield, additional chemistry is applied on a case by case basis. The additional chemistry is intended to more fully initiate the reaction, increase the rate of reaction, and bring the reaction closer to completion. The additional chemistry is also used to address conditions where the groundwater chemistry contributes scavenger compounds that compete with the desired reaction.

To increase the rate of reaction, hydrogen peroxide is transformed into hydroxyl radicals utilizing chemical additives (e.g., ferrous sulfate heptahydrate) according to Fenton's Reaction:

$$Fe^{+2} + H_2O_2 \longrightarrow Fe^{+3} + OH^- + \bullet OH$$

The hydroxyl radical (i.e., denoted as $\bullet OH$) reacts typically a million to a billion times faster than other simple oxidants, resulting in greatly reduced treatment costs.

During application, the process undergoes an exothermic reaction within the aquifer resulting in a volume expansion and the generation of energy and carbon dioxide within the aquifer. Across the site where the reaction takes place, the energy that is generated is absorbed by the groundwater resulting in a slight increase in the groundwater temperature. The exothermic nature of the reaction and the high heat capacity of water necessitates that the process solution be injected below the groundwater table. The volume expansion and exothermic nature of the reaction results in a pressure front surrounding the injection points. This induced pressure assists in the migration of the process chemistry to the site(s) of dissolved

contaminants. On contact with the process chemistry, the chlorinated organic contaminants are oxidized, resulting in carbon dioxide, water and free chloride radicals.

3.4.2.2 Remedial Approach

Bench Scale Treatability Testing

Based on the delineation and assessment of the types and nature of dissolved contaminants identified onsite, laboratory bench scale treatability testing was performed. The results of bench scale treatability testing demonstrated that the process is effective in reducing dissolved concentrations of VOCs. Further, the technology vendor has had successful experiences in applying the process chemistry on sites that were contaminated with similar dissolved compounds.

Pilot Scale Treatability Phase

Phase I Pilot Study

A pilot treatability study was performed by CleanOX Environmental Services, Inc.. The pilot study was conducted in accordance with a Permit by Rule Authorization granted by NJDEP on September 6, 1995. The pilot study was conducted at monitoring well MW-18. During the pilot treatability study, the groundwater extraction, treatment and recharge system remained operating to maintain hydraulic control of the dissolved contaminant plume.

The pilot treatability study commenced on October 27, 1995 and was completed on November 13, 1995. The in-situ chemical oxidation process involved the injection of process chemistry into the aquifer through MW-18. Injection into MW-18 was much slower than anticipated during the pilot design phase. The hydraulic conductivity of the screened zone was estimated by the remedial contractor to be 100 times lower than the hydraulic conductivity of the formation estimated by H2M during previous aquifer tests at other monitoring well locations. A total of 2,825 pounds of process chemistry, consisting of potable water, acetic acid, ferrous sulfate heptahydrate, and hydrogen peroxide, was injected into the well. The injected quantity of hydrogen peroxide was 145 pounds less than that of the original pilot treatability design, due to the low injection rate.

At the injection location, MW-18, the concentration of 1,1-DCE decreased from a pre-injection concentration of 14,000 ppb to an average of 710 ppb, a reduction of 95 percent following the in-situ chemical oxidation reaction. The concentration of 1,1,1-TCA in MW-18 decreased from 79,000 ppb to an average of 1,300 ppb, a reduction of 98 percent. Low concentrations of 1,2-dichloroethane, 1,1-dichloroethane, and trichloroethane quantified before injection also exhibited reductions after injection.

The NJPDES-required quarterly monitoring data demonstrated that a reduction in contaminant concentration also occurred in MW-11. When compared to the pre-injection water quality data obtained on October 27, 1995, the concentrations of 1,1,1-TCA and 1,1-DCE were reduced by 85 percent and 98 percent, respectively, to the lowest concentrations quantified at this location since August 1990.

The initial pilot treatability study demonstrated that the chemistry is successful in reducing the concentrations of dissolved 1,1,1-TCA and 1,1-DCE at the ITT facility. Positive effects were observed in MW-18 and nearby MW-11.

Phase II Pilot Study

Based on the results of the initial pilot study, a continued long term treatability study will be performed in accordance with the permit-by-rule agreed to by the NJDEP. The Permit-by-Rule will go into effect on commencement of injection.

The goal of the phase II pilot study is to aggressively affect the source of groundwater contamination so that over time, the concentrations in the plume will decrease naturally. Because the source area is located within fractured bedrock, a definitive evaluation of the radial effects of the in-situ chemical oxidation process within the aquifer is not possible. However, it is appropriate that additional injection points are necessary to distribute the process chemistry within the fracture network where source material may be present. Based on technology vendor's modeling efforts and our evaluation of the source area, eight (8) injection points will be installed to supplement the MW-18 injection point. These additional injection points will be located throughout the general vicinity of the historic release location. The injection process will consist of several cycles of injection over approximately eight weeks to maximize contact between process chemistry and the source of contaminants. This phase has not been designed to fully remediate the plume of groundwater contamination. Rather, it is intended to aggressively reduce the source area.

The groundwater extraction, treatment and recharge system will again remain operating during the pilot study. Pre-injection and post-injection monitoring will be performed for the purpose of evaluating the degree of oxidation. The monitoring program will be similar to the one conducted during the initial pilot work, but will be expanded to reflect the greater area of intended impact and a longer duration of effect. Based on the permit-by-rule authorization, pre-injection and post-injection monitoring will include monitoring wells MW-3, MW-5, MW-6, MW-9, MW-11, MW-18 and the eight (8) new injection points. In addition, Recovery Wells RW-1, RW-2 and RW-3 may also be monitored periodically for field parameters. This will result in a maximum of seventeen (17) monitoring locations.

One week following commencement of injection, the first round of monitoring will be conducted. Seven weeks and sixteen weeks after injection is initiated, the second and third rounds of monitoring will be conducted. This phase of the pilot has been designed to satisfy the requirements of the Permit-by-Rule as well as establish data with which to evaluate the performance of the remedial activities. Each sample will be analyzed for volatile organic compounds by USEPA method 624 plus identification of the fifteen highest non-targeted peaks. Additional parameters will also be monitored in the field (e.g., pH, conductivity, dissolved oxygen, temperature).

4.0 Remedial Action Requirements Summary

The data presented within this report addressed: the local hydrogeologic conditions and characteristics, soil conditions, the extent of groundwater contamination, and the basis for the design of groundwater remediation systems

An application to establish a Classification Exception Area (CEA) will be developed to address those areas where groundwater concentrations of dissolved contaminants exceed NJDEP's groundwater quality criteria. This will form the basis of establishing the natural remediation program for selected groundwater associated with selected AOCs.

Five monitoring wells in the northwestern part of the facility will be resampled for comparison with previous results obtained in 1991 and 1992, where concentrations of halogenated volatile organic compounds above the groundwater quality criteria were previously detected. A Phase II Pilot Treatability Study will be conducted in the vicinity of the past 1,1,1-trichloroethane spill. This will involve the installation of eight injection wells, the performance of a baseline groundwater monitoring event and three post-injection groundwater monitoring events.

The existing groundwater remediation program is effective in providing short term and long term protection to the public and the environment. The groundwater extraction wells are preventing further migration of the contaminant plume from the site, and are capturing contaminated groundwater for treatment. The treatment technology is effective in removing low levels of halogenated and non-halogenated volatile organic compounds from groundwater at this site. A decrease has been observed in average volatile organic compound concentrations since start-up of the treatment system. However, ITT will commence additional source area remediation in order to optimize and expedite the remedial program.

Additional characterization of site soils and floors will be conducted for comparison to NJDEP's Residential Direct Contact Cleanup Criteria and NJDEP's Impact to Groundwater Criteria. A summary of additional sampling associated with each AOC is summarized below:

AOC	Description	Groundwater	Soil
1	1,1,1-Trichloroethane Spill	Active Remediation	NFA
2	Former Gasoline and Diesel USTs	Natural Remediation	NFA
3	Former No. 2 and No. 4 Fuel Oil USTs	Natural Remediation	NFA
4	Chemical/Waste Storage Building	Natural Remediation	2 Samples

AOC	Description	Groundwater	Soil
5	Former Gardener's Shed	NFA	NFA
6	Industrial Wastewater Pretreatment System Area	NFA	1 Concrete Sample/900 sf
7	Electrical Substation	NFA	NFA
8	Area Without Vegetation	NFA	2 Soil Samples
9	1,1,1-Trichloroethane Still	NFA	NFA
10	Chemical Storage Room	NFA	NFA
11	Former Metal Finishing and Electroplating Process Area	NFA	NFA
12	Building Transformers	NFA	3 Concrete Chip Samples
13	Machine Shop	NFA	NFA
14	Shipping/Receiving Bays	NFA	3 Sediment Sample 4 Soil Samples
15	Laboratory/Testing Areas	NFA	NFA
16	Detrex Process Area	NFA	NFA

The Quality Assurance Project Plan provides additional detail relating to the number and types of samples to be collected together with quality assurance/quality control requirements. A report summarizing the sampling results and providing recommendations for further action, as required, will be provided to the NJDEP.

5.0 Permitting and Approvals

All permits and approvals required for the existing groundwater remediation system have been obtained. These permits include a permit to construct/install/alter air quality control apparatus/equipment (No. 01902268), New Jersey Pollution Discharge Elimination System (NJPDES) Discharge to Groundwater (DGW) Permit (No. NJ0076023), Permit-by-rule authorization to conduct the source area remediation pilot test, and well installation permits.

6.0 Quality Assurance Project Plan

The site-specific Quality Assurance Project Plan ("QAPP") is provided in Appendix D.

7.0 Health and Safety Plan

A Health and Safety Plan has been developed by H2M for utilization during site activities. A copy of the Health and Safety Plan is attached as Appendix E.

8.0 Site Restoration

Site restoration, to be performed following full and permanent termination of the active remediation system, will encompass the abandonment of the entire groundwater treatment system. All process equipment (i.e., air stripping tower, filters, above ground piping, pumps, electrical controls, etc.) will be disassembled for salvage or disposal, as appropriate. The carbon adsorption units will be disposed of off-site at a permitted facility. Above ground piping associated with the treatment system will be disconnected and removed. Connections to below grade piping will be cut and capped.

All mechanical equipment will be removed from the extraction wells, and the wells will be sealed. With the concurrence of NJDEP that groundwater monitoring for this site will no longer be required, the on-site monitoring wells will also be sealed. Procedures for well abandonment will be in accordance with NJDEP requirements (N.J.A.C. 7:9-9). In addition, the recharge system associated with the discharge of treated groundwater will be backfilled with clean soil.

9.0 Costs

The cost to sample, analyze, and report results for the groundwater, soil and concrete media is estimated to be approximately $50,500. as outlined below.

AOC	Additional Investigation	Remedial Action and Reporting
3	$0.	$8,900.
4	$0.	$12,300.
6	$9,100.	$10,600.
8	$1,500.	$1,200.
12	$1,400.	1,100.
14	$2,600.	$1,800.
Total	$14,600.	$35,900.

The source area remediation phase II pilot study, currently under way has been estimated to cost $239,935. inclusive of contractor fees, monitoring and reporting. The objective of source area remediation will be to sufficiently reduce concentrations of dissolved volatile organic compounds such that the operation of the groundwater treatment facility can be discontinued. At least two years of continued operation is anticipated with two years of groundwater monitoring. Current annual operating costs for the operation of the groundwater treatment system are approximately $90,000. The annual cost for quarterly compliance monitoring required under the NJPDES permit and the MOA are approximately $80,000.

Based on the foregoing, the implementation of this Remedial Action Workplan is estimated to cost $630,435.

10.0 Project Schedule

Proposed soil sampling and groundwater sampling will be initiated within thirty days of NJDEP approval. A report will be provided to the Department within six weeks of receipt of laboratory results. Groundwater monitoring being conducted in accordance with the MOA and NJPDES Permit will continue to be performed.

The Phase II Pilot Treatability Study was begun in May 1996 in accordance with NJDEP's permit-by-rule authorization.

11.0 References

Dan Raviv Associates, Inc., 1988. *Investigation of the Impact From Past TCA Spillage and Former Underground Storage Tanks on Surface and Hydrogeologic Conditions, ITT Avionics Division.* Millburn, New Jersey.

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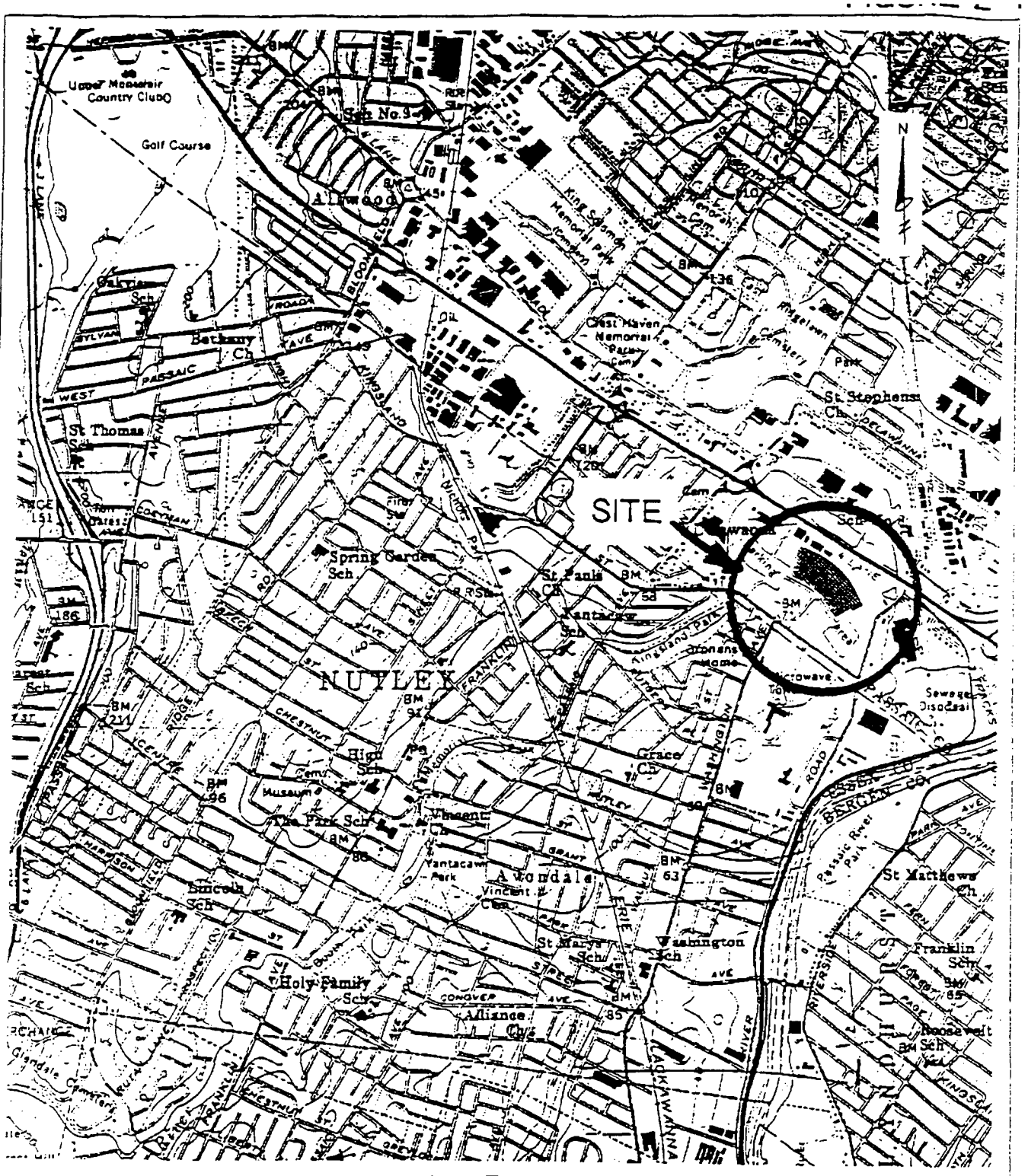
APPENDIX A
FIGURES

H2MGROUP

List of Figures

Figure 2-1	Location Map
Figure 2-2	Site Map
Figure 2-3	Bedrock Elevation Contour Map
Figure 2-4	Shallow Groundwater Elevation - May 1995
Figure 2-5	Shallow Groundwater Elevation - August 1995
Figure 2-6	Shallow Groundwater Elevation - November 29, 1995
Figure 2-7	Shallow Groundwater Elevation - February 8, 1996
Figure 2-8	Deep Groundwater Elevation - May 1995
Figure 2-9	Deep Groundwater Elevation - August 1995
Figure 2-10	Deep Groundwater Elevation - November 1995
Figure 2-11	Deep Groundwater Elevation - February 1996
Figure 2-12	Areas of Potential Concern
Figure 2-13	Electrical Manufacturing Area
Figure 2-14	Post-Excavation Confirmatory Soil Sampling Locations - Former Gasoline UST's
Figure 2-15	Post-Excavation Confirmatory Soil Sampling Locations - Former Gasoline and Diesel Fuel UST's
Figure 2-16	Post-Excavation Confirmatory Soil Sampling Locations - Former No. 2 and 4 Fuel Oil UST's
Figure 2-17	Soil Boring/Monitoring Well Locations - Chemical/Waste Storage Building
Figure 2-18	Soil Boring/Monitoring Well Locations - Former Gardener's Shed
Figure 2-19	Wastewater Treatment Plant Area
Figure 2-20	Soil Boring Locations - Electrical Sub Station
Figure 2-21	Total Targeted Volatile Organic Concentrations in Shallow Aquifer - May 1994
Figure 2-22	Total Targeted Volatile Organic Concentrations in Shallow Aquifer - August 1994
Figure 2-23	Total Targeted Volatile Organic Concentrations in Shallow Aquifer - November 1994
Figure 2-24	Total Targeted Volatile Organic Concentrations in Shallow Aquifer - November 1995
Figure 2-25	Total Targeted Volatile Organic Concentrations in Deep Aquifer - May 1994
Figure 2-26	Total Targeted Volatile Organic Concentrations in Deep Aquifer - August 1994
Figure 2-27	Total Targeted Volatile Organic Concentrations in Deep Aquifer - November 1994
Figure 2-28	Total Targeted Volatile Organic Concentrations in Deep Aquifer - November 1995
Figure 2-29	Monitoring Well - Locations Former No. 2 and 4 Fuel Oil UST's
Figure 2-30	Groundwater Elevation Contour Map - Former No. 2 and 4 Fuel Oil UST's



LOCATION MAP
ITT AVIONICS DIVISION
CLIFTON, NEW JERSEY

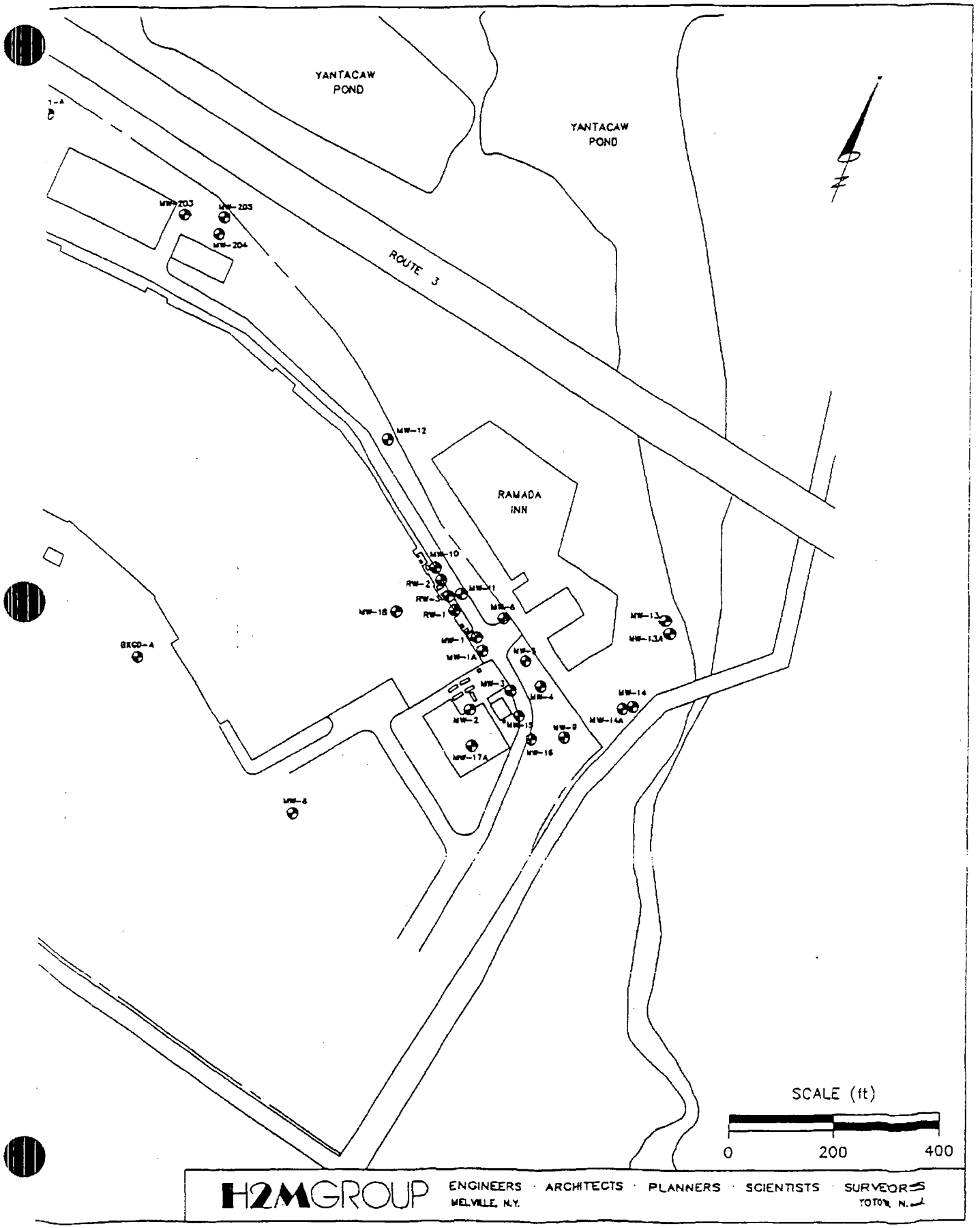
REFERENCE:
USGS QUADRANGLE 7.5 MINUTE
ORANGE, NJ (1955 REV. 1970)
APPROX. SCALE = 1:24000

ZTA9401\RAW\LOCMAP.DWG

H2MGROUP ENGINEERS · ARCHITECTS · PLANNERS · SCIENTISTS · SURVEYORS
MELVILLE, N.Y. TOTOWA, NJ

945750283

FIGURE 2-2



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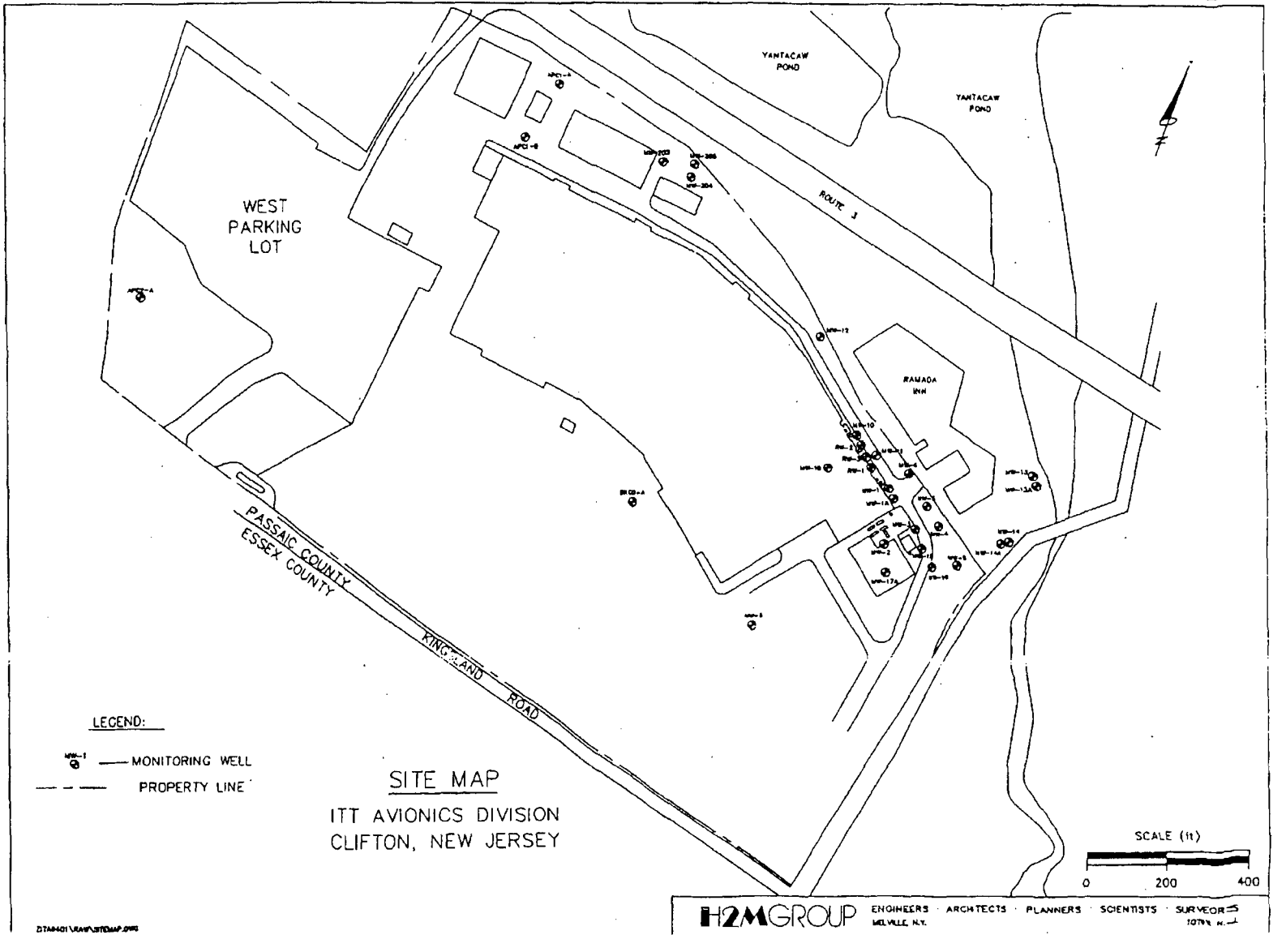

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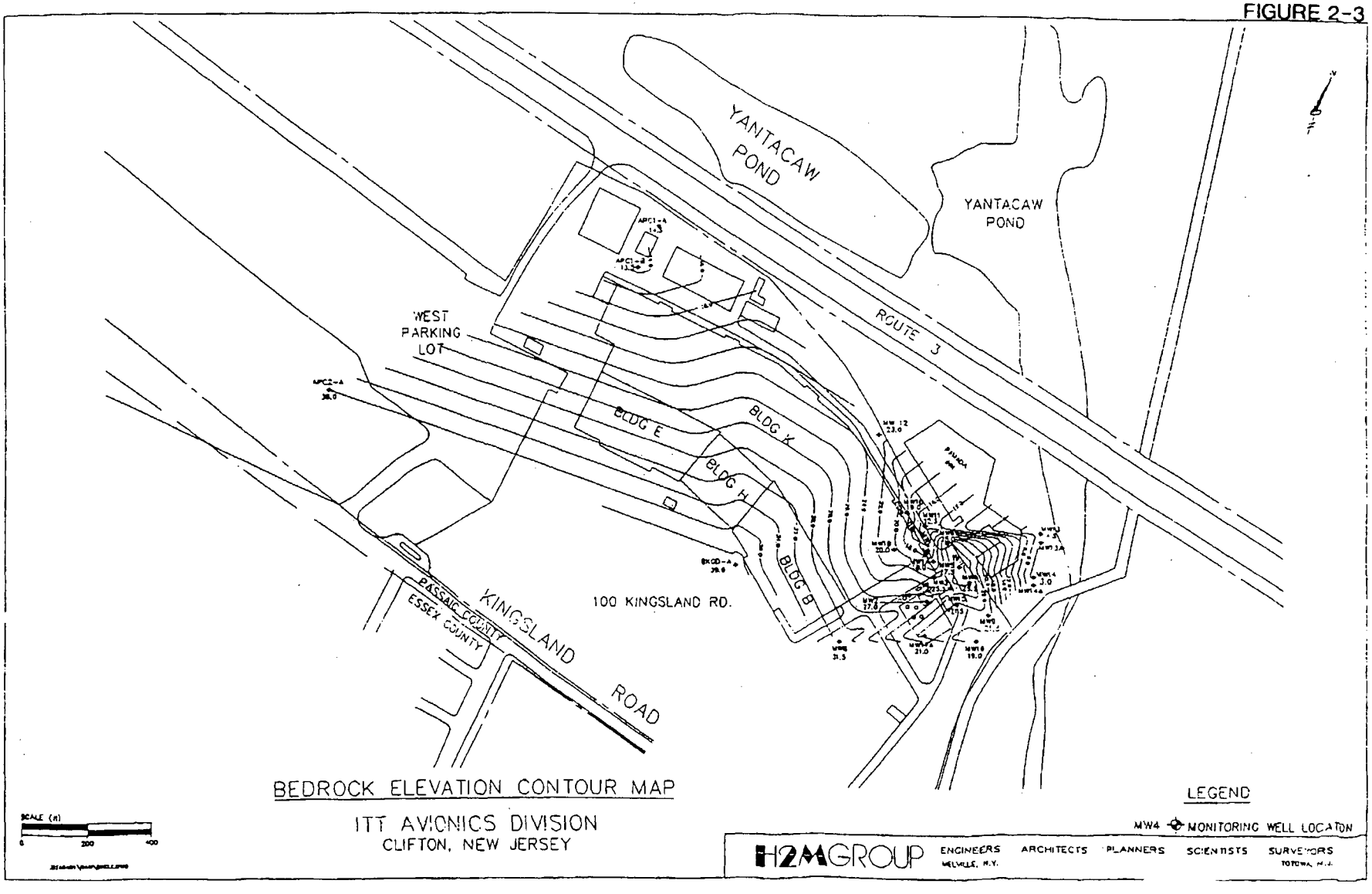

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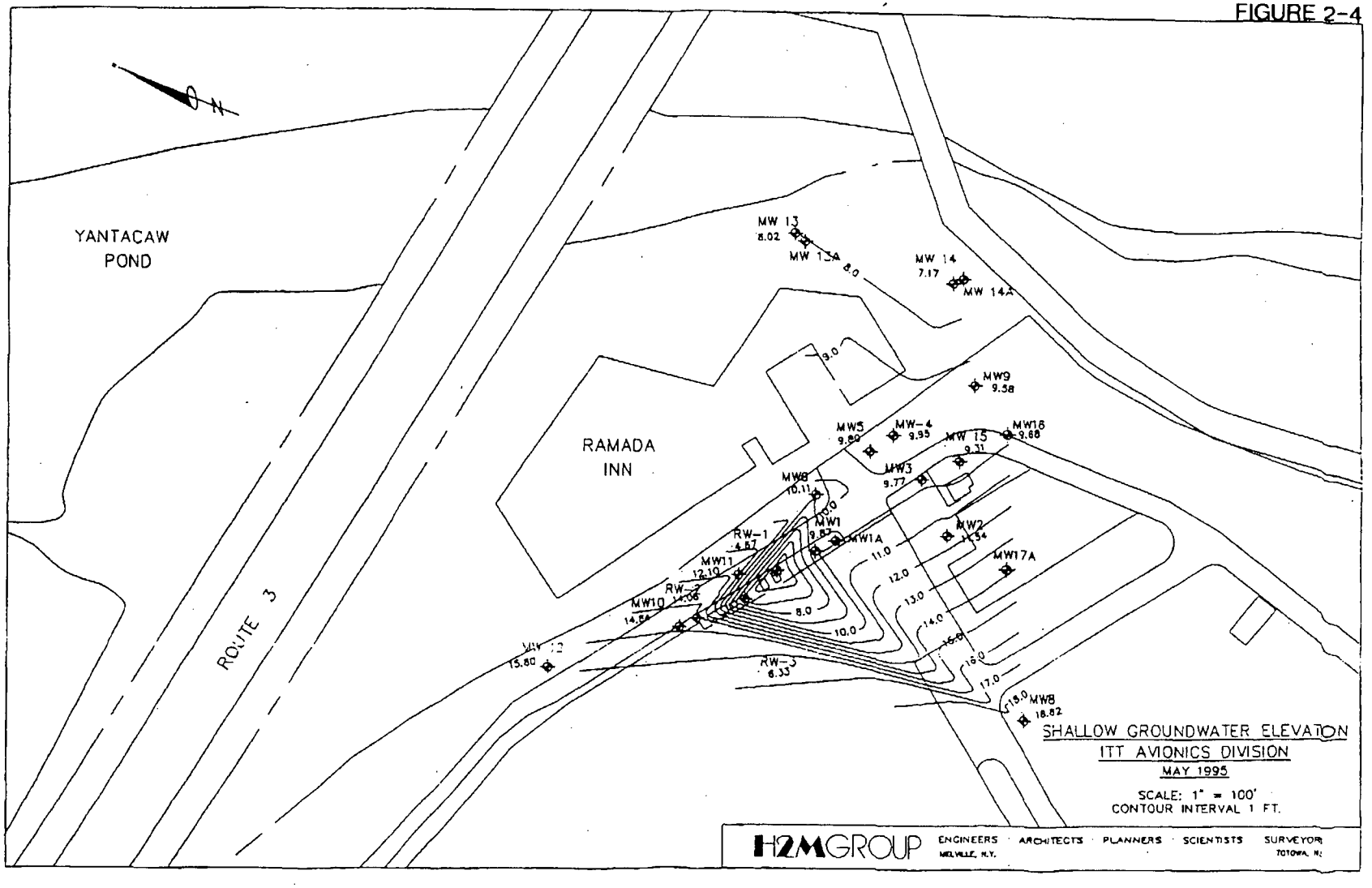

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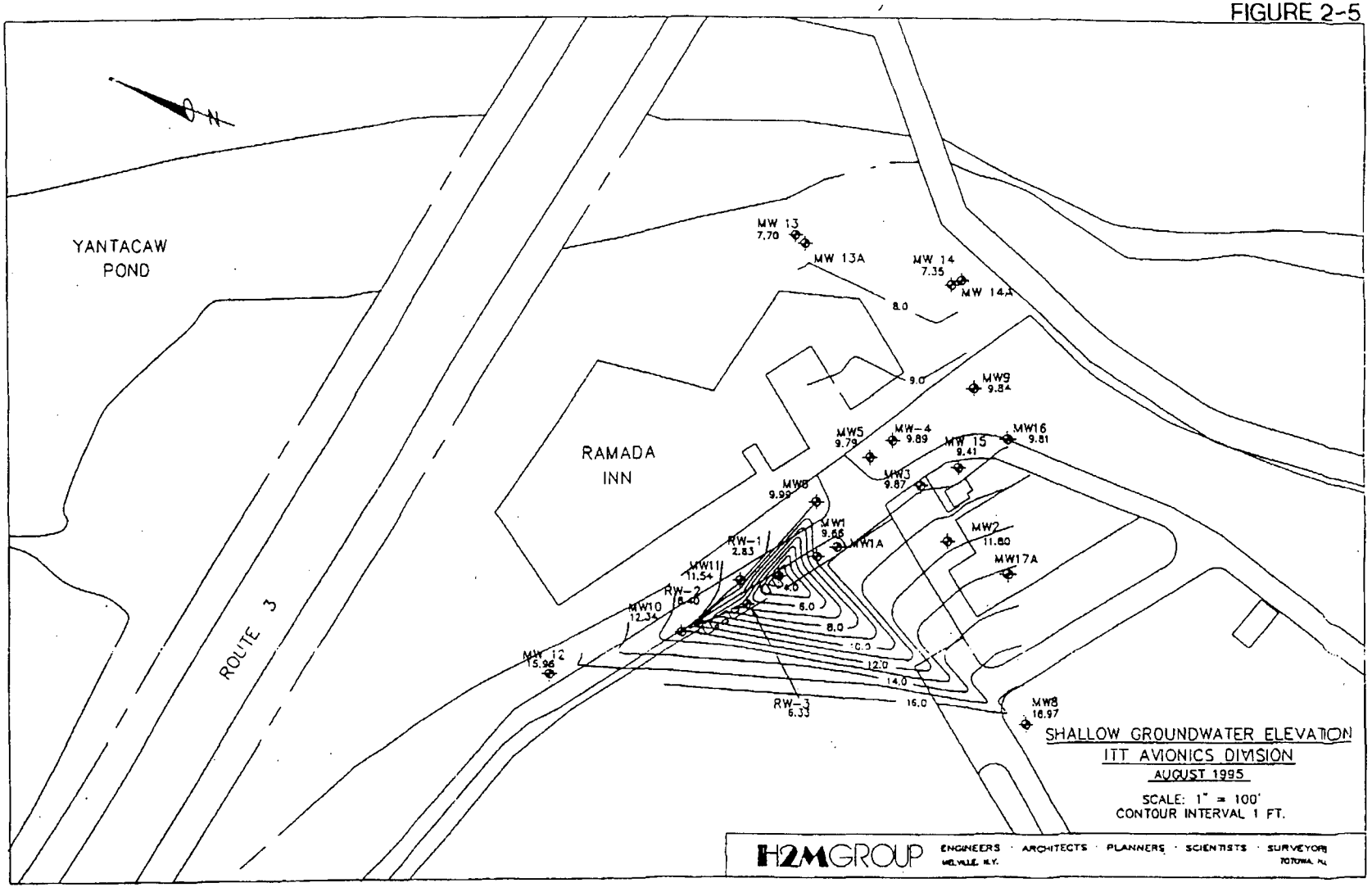

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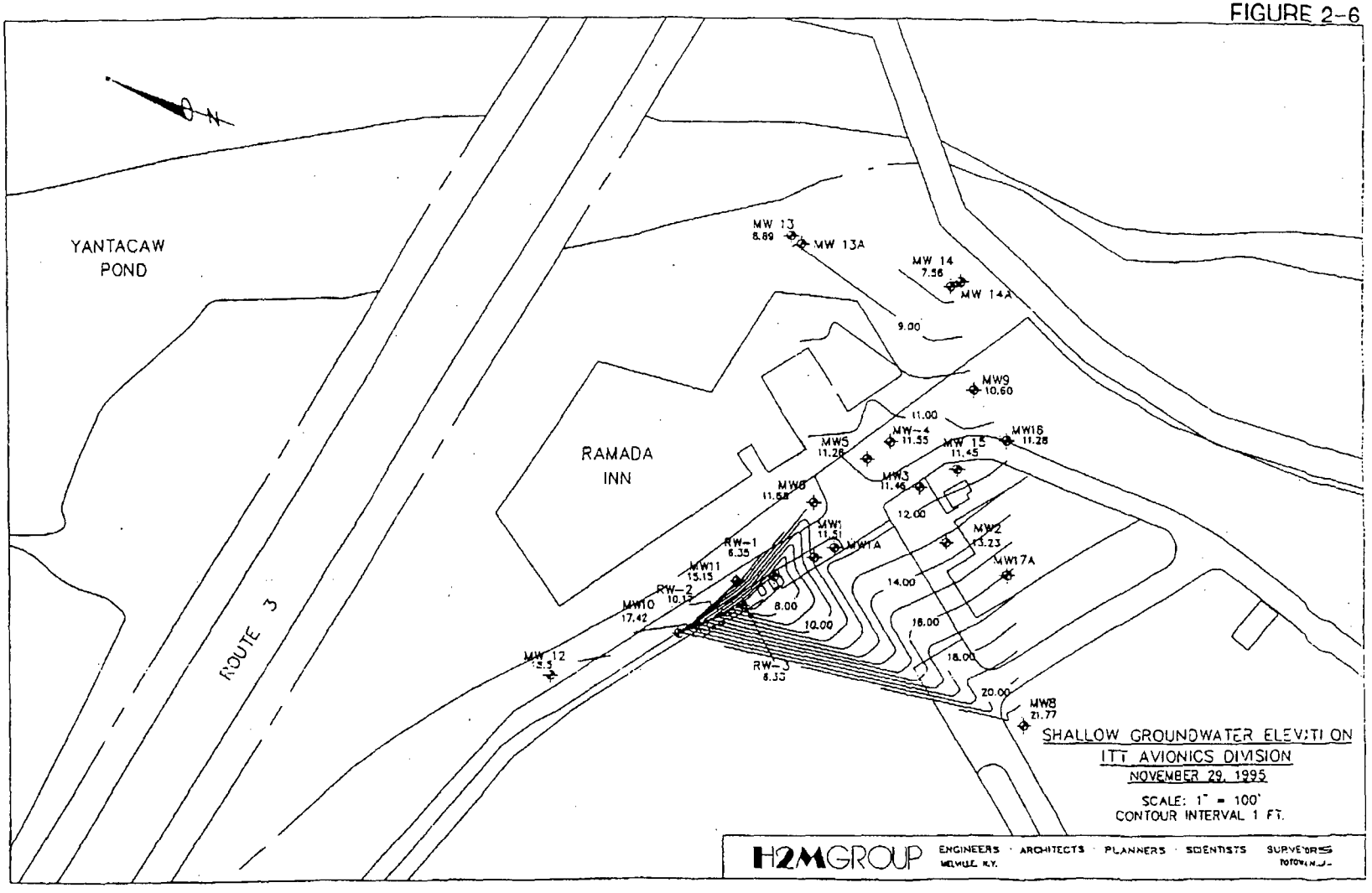

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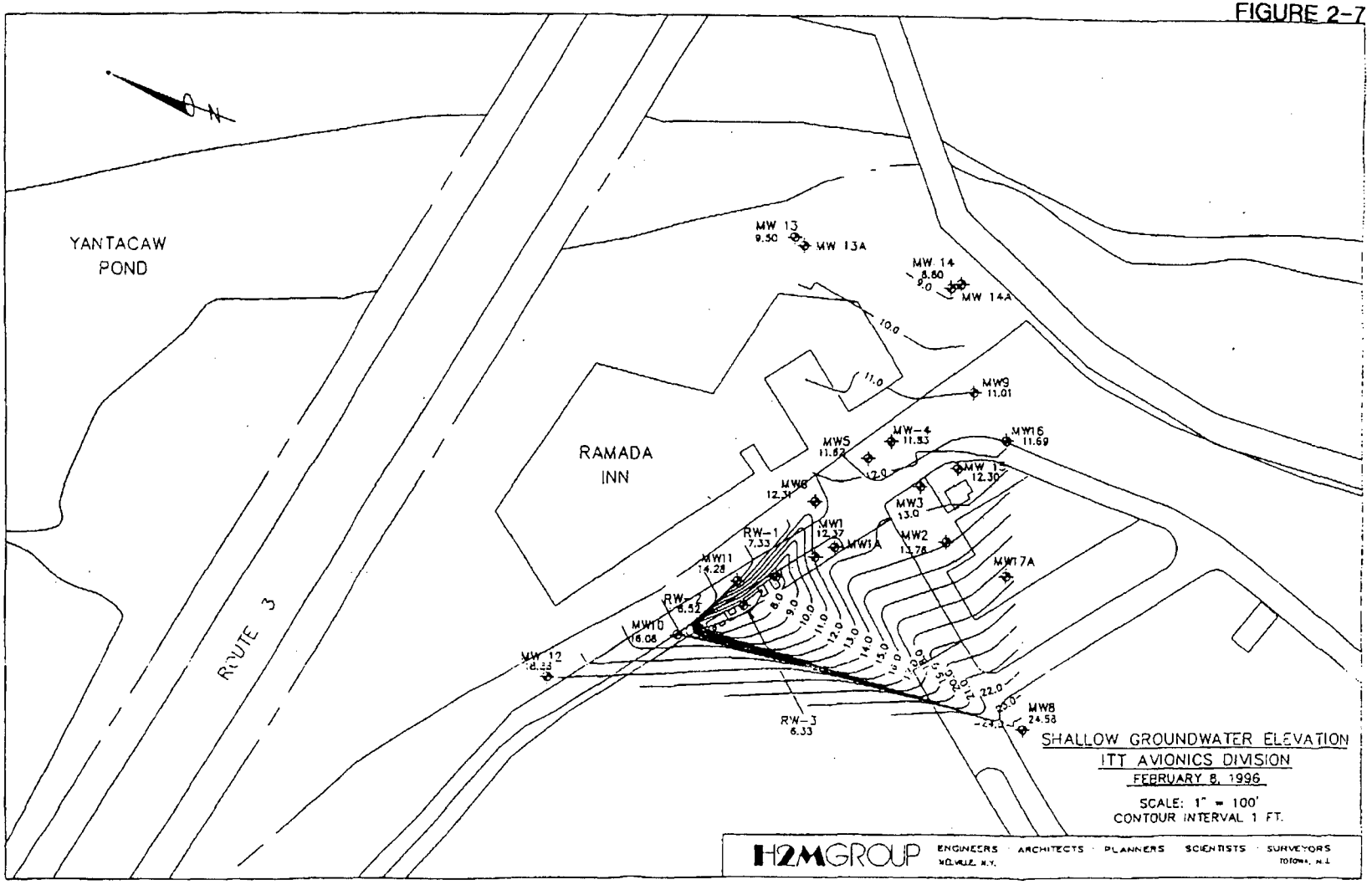

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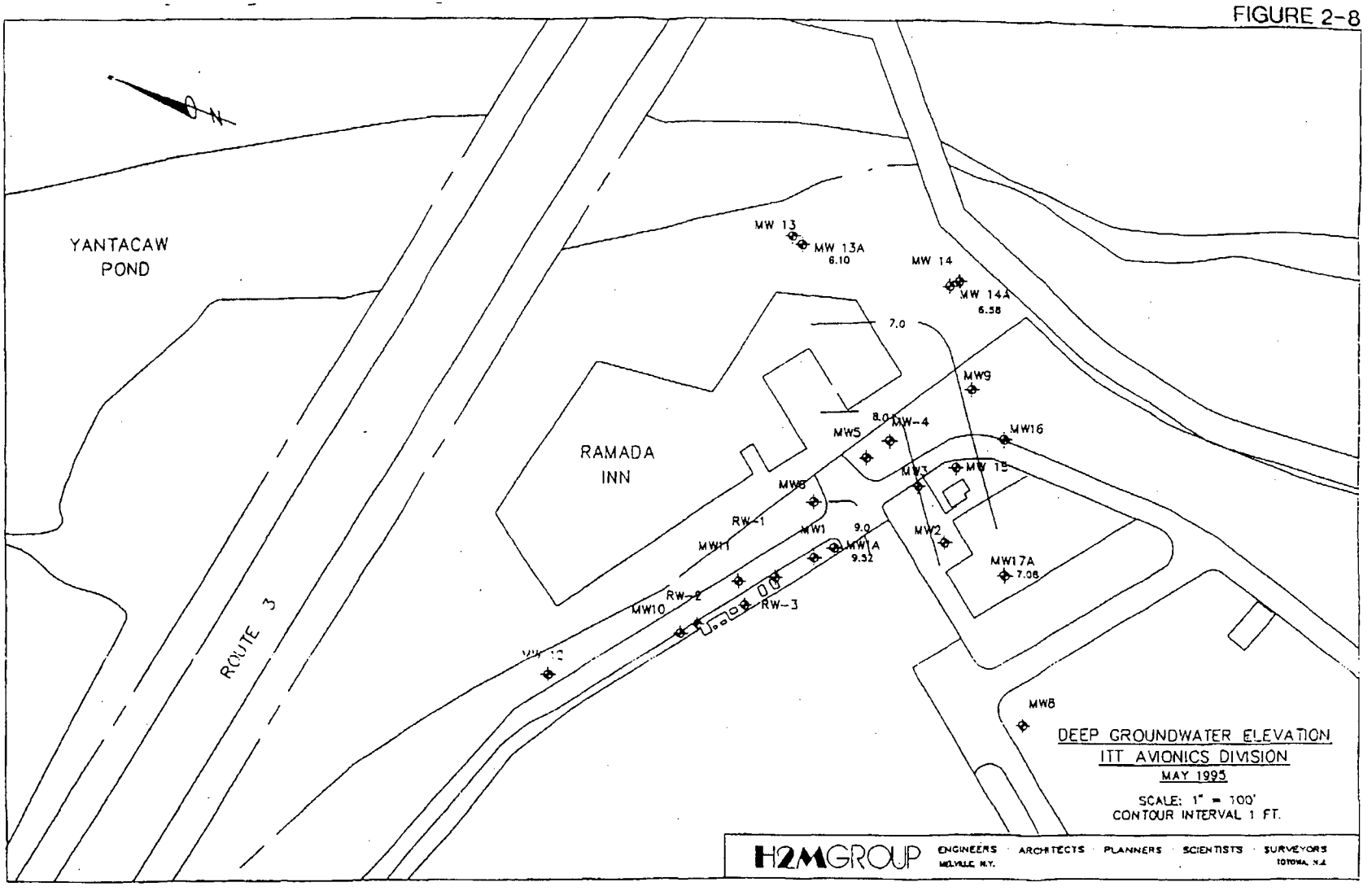

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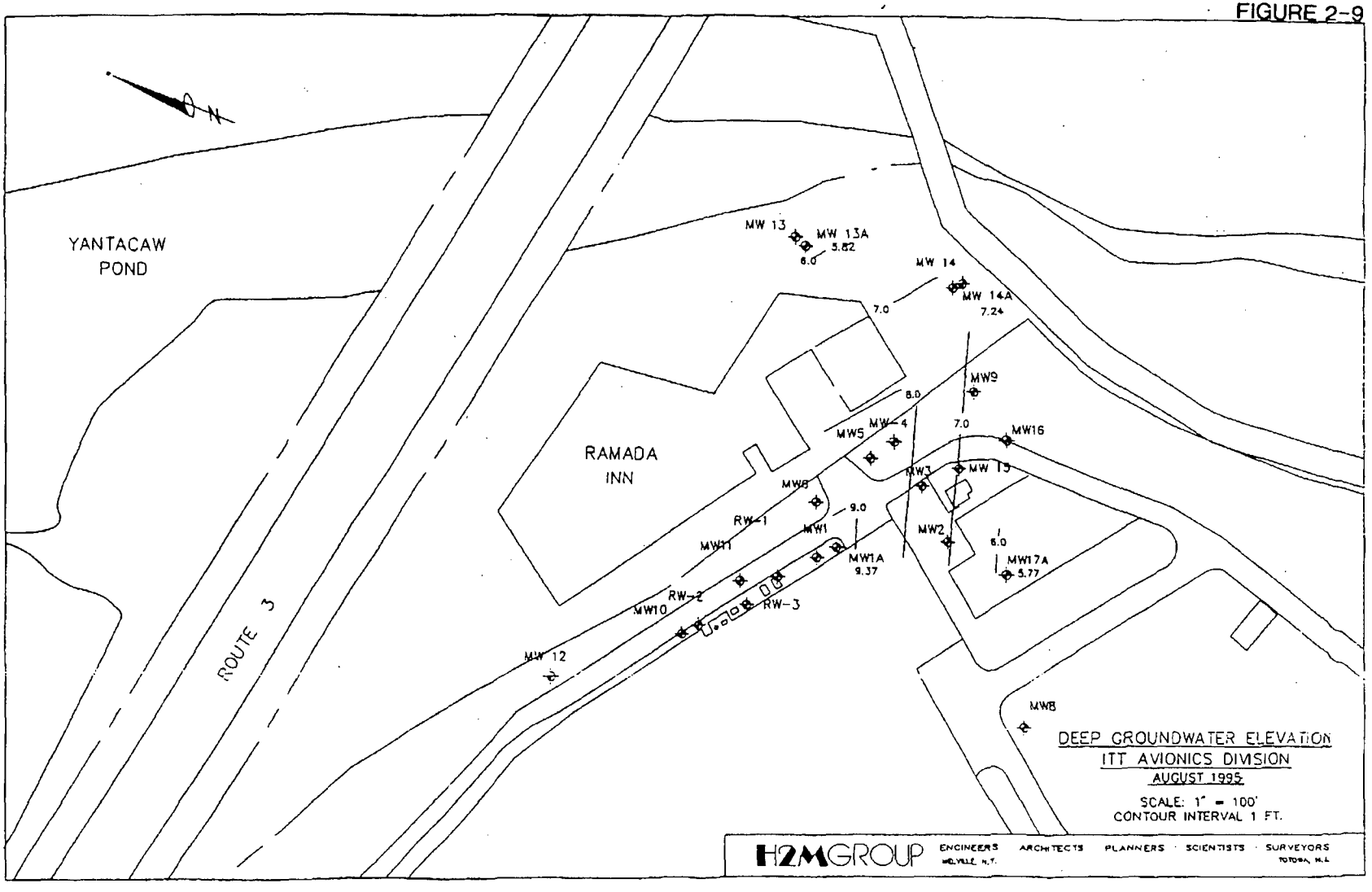

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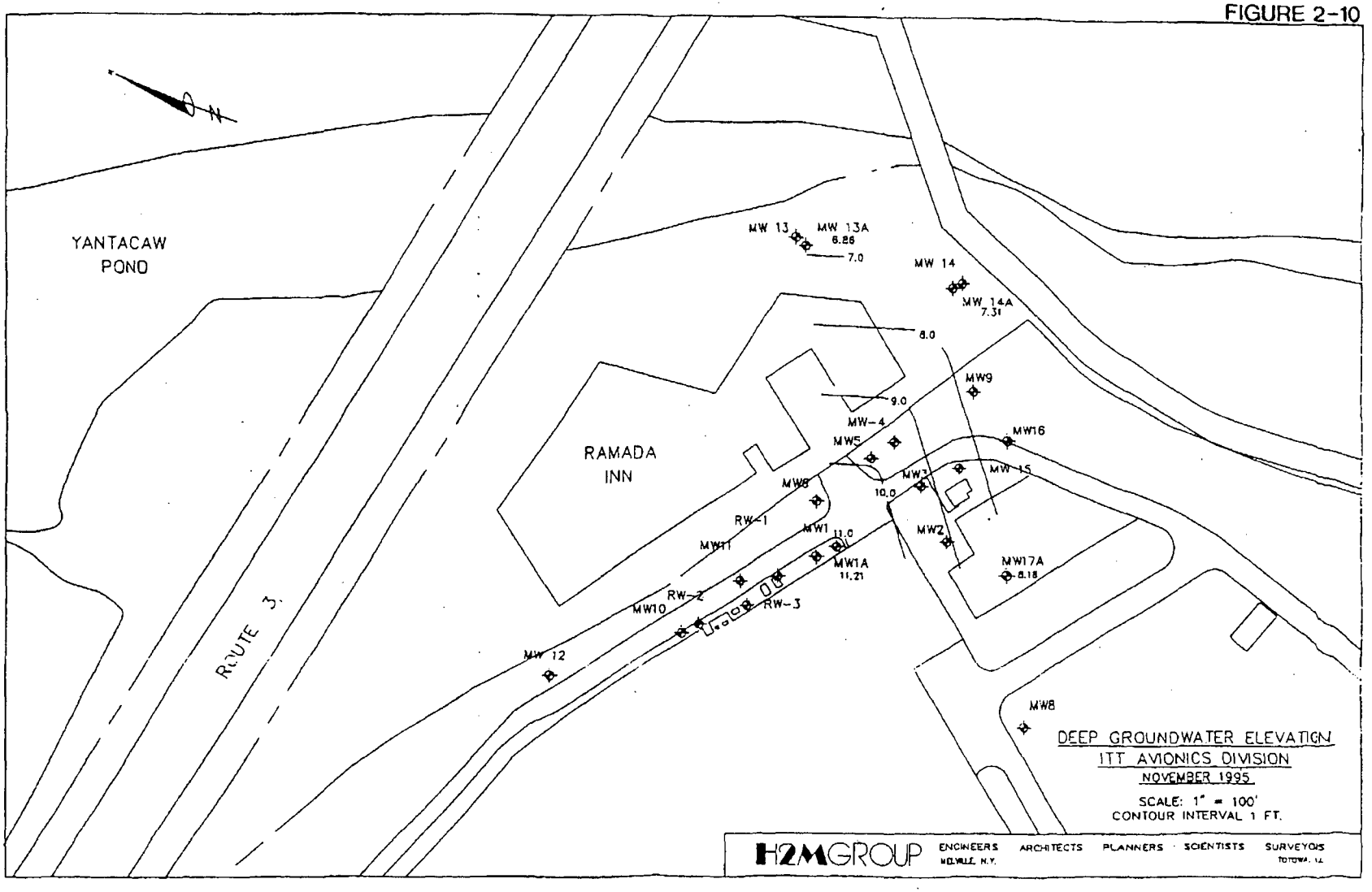

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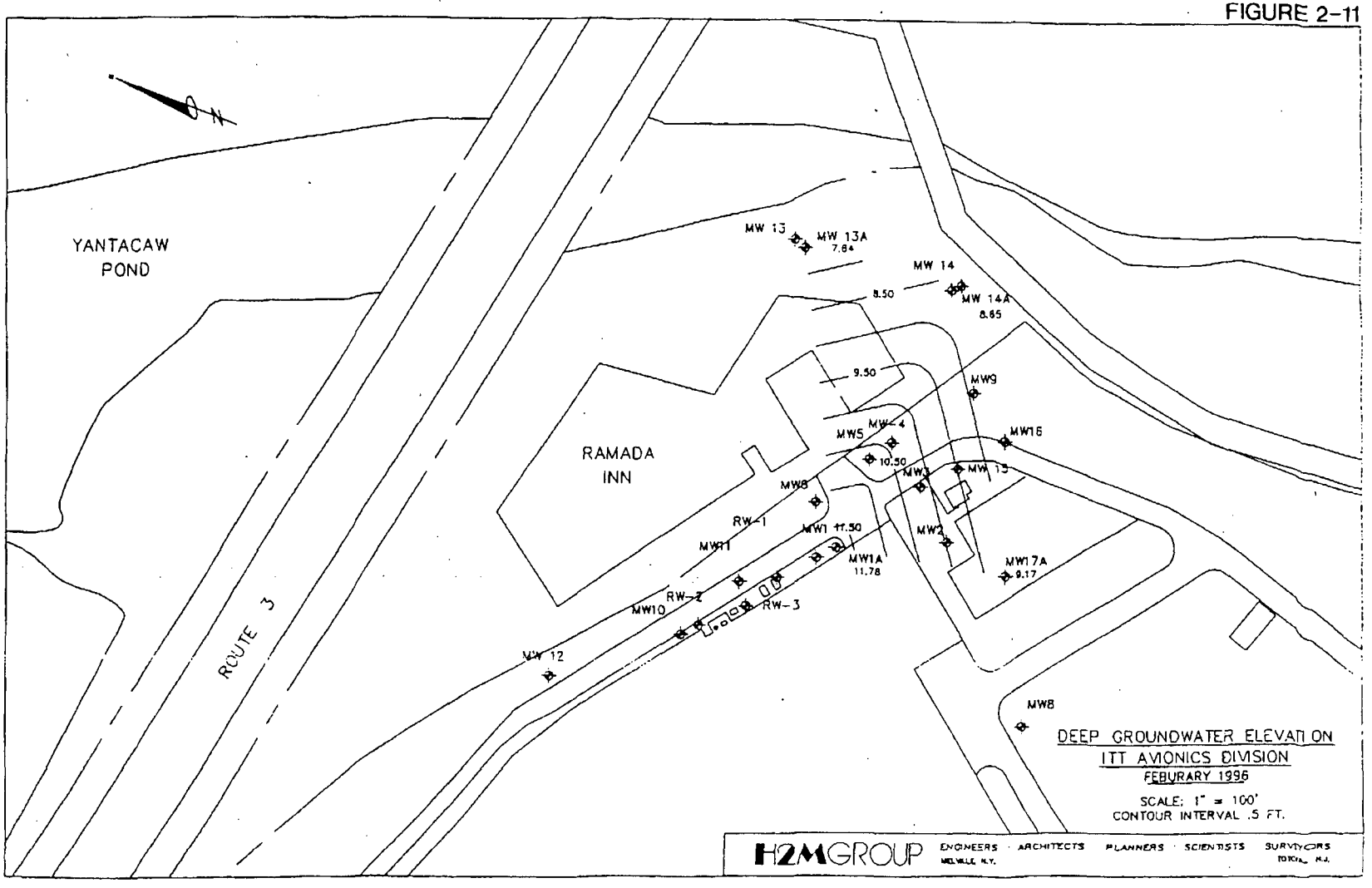

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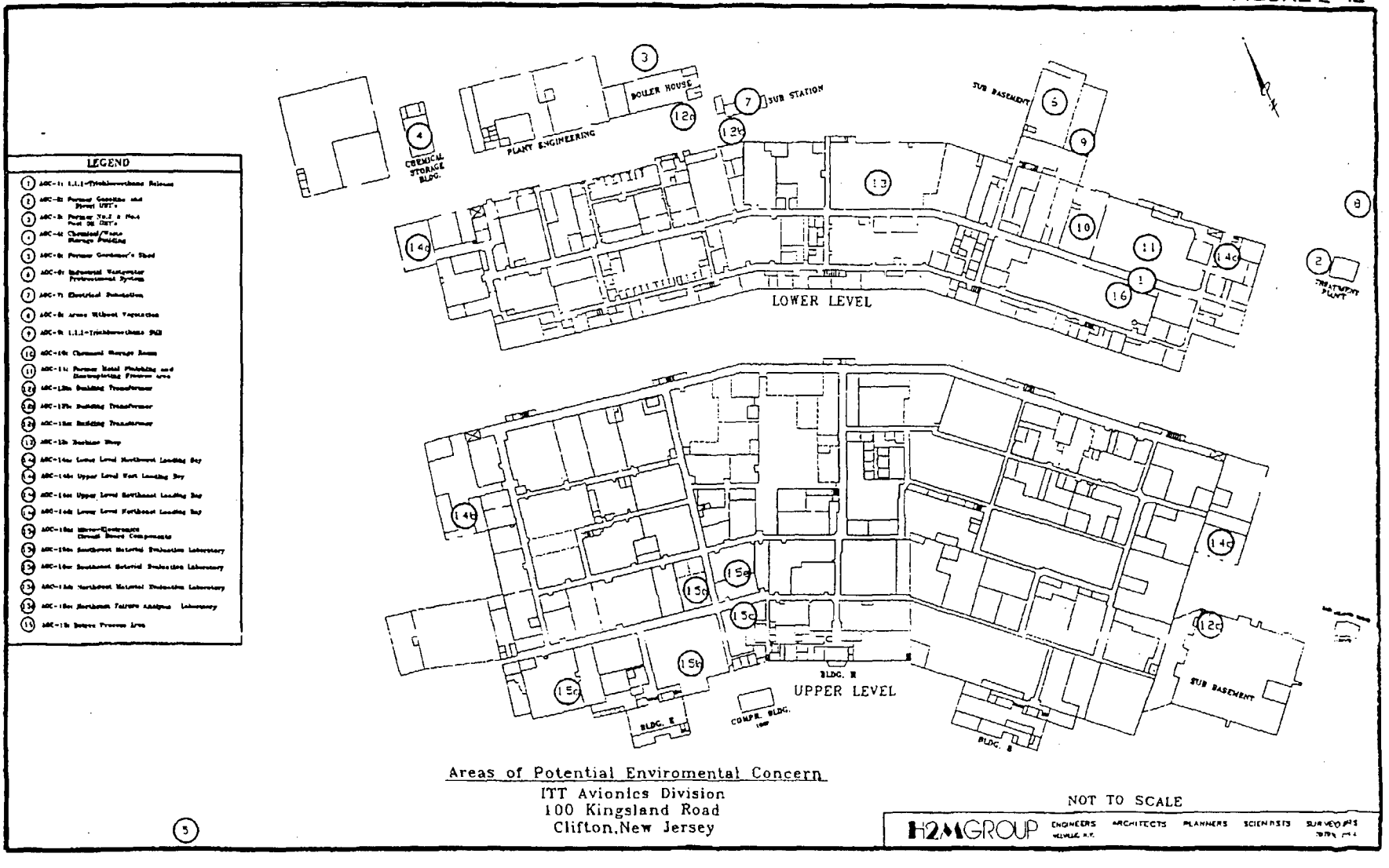
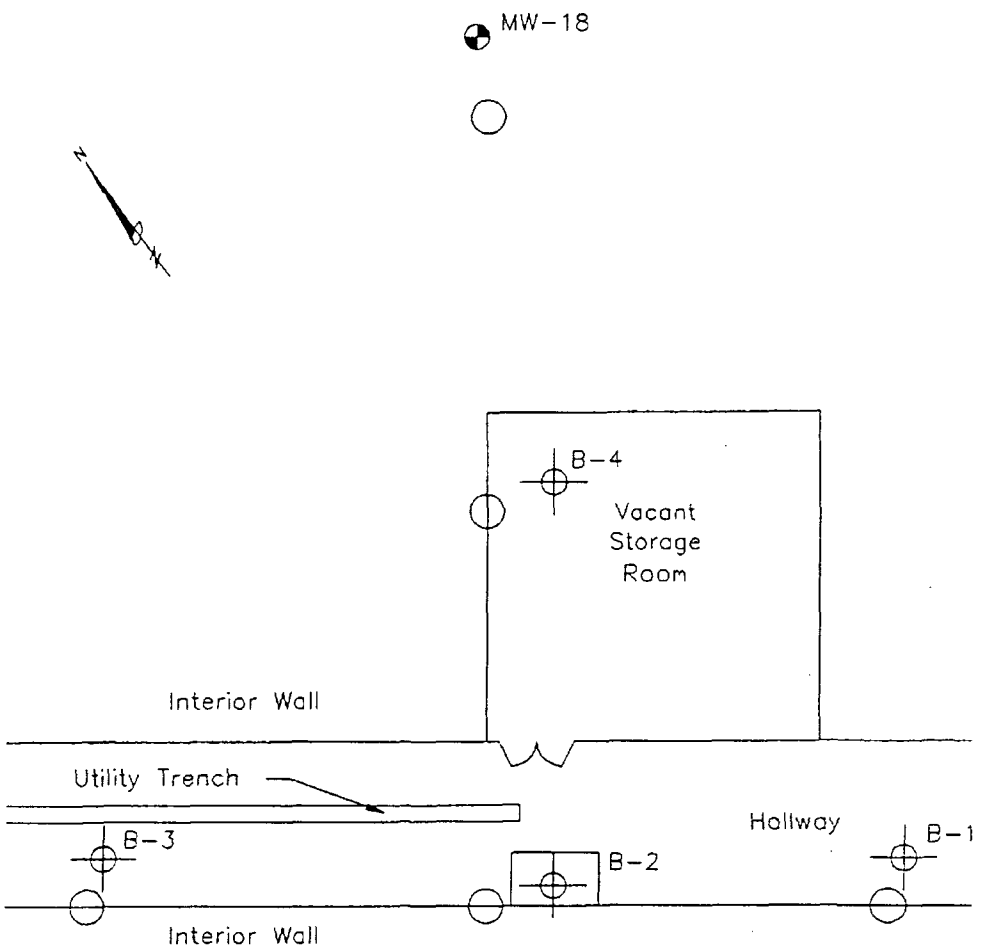


Areas of Potential Enviromental Concern
ITT Avionics Division
100 Kingsland Road
Clifton, New Jersey

ADC000487

945750295

FIGURE 2-13



ELECTRONICS MANUFACTURING AREA

KEY:

- Boring Location
- Building Column
- Monitoring Well Location

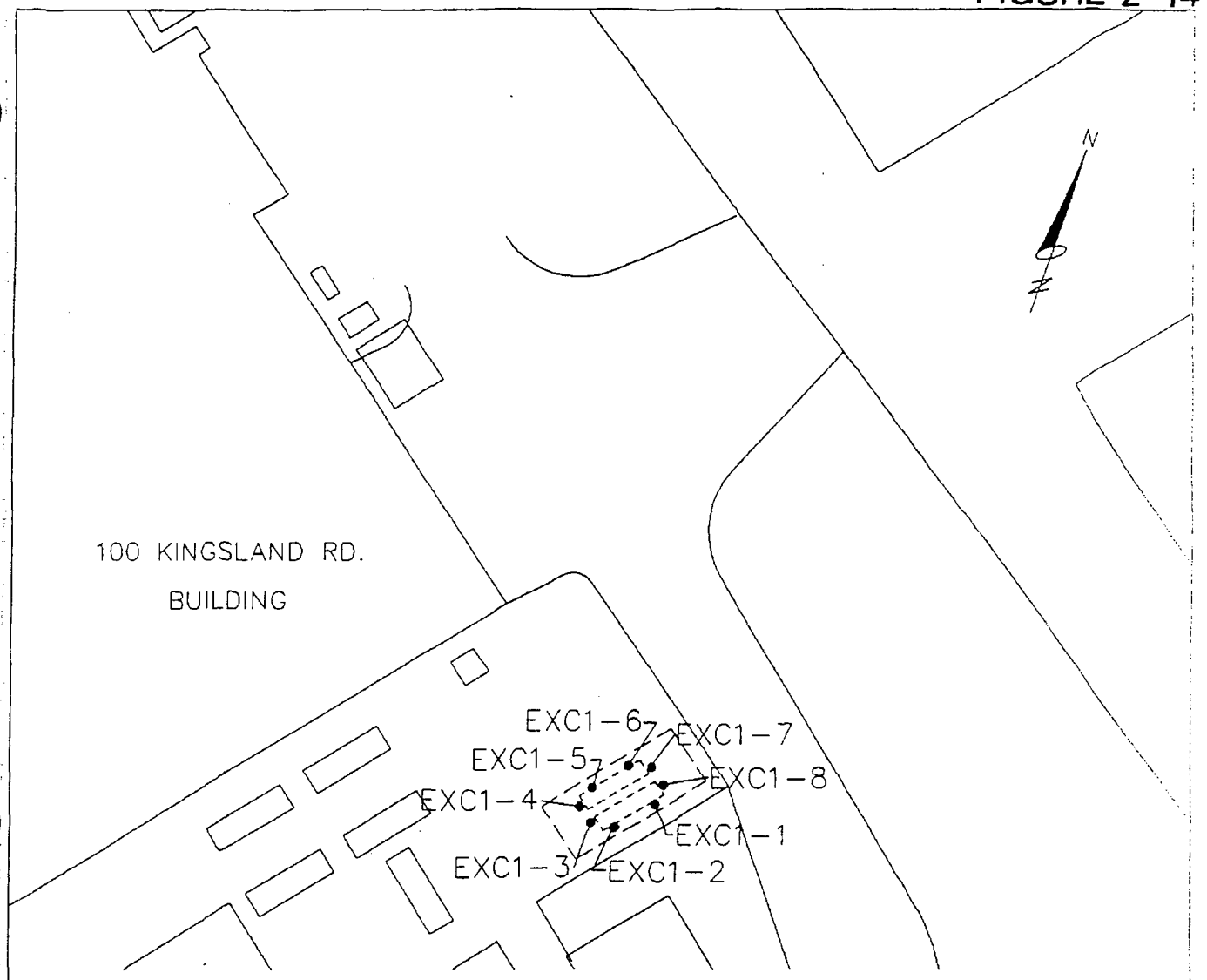
ITT AVIONICS DIVISION
SOURCE AREA INVESTIGATION
CLIFTON, NEW JERSEY

SCALE:

0' 10' 20'

H2MGROUP ENGINEERS MELVILLE, N.Y. ARCHITECTS PLANNERS SCIENTISTS SURVEYORS TOTOWA, N.J.

FIGURE 2-14



POST-EXCAVATION CONFIRMATORY
SOIL SAMPLE LOCATIONS
FORMER GASOLINE UST's

ITT AVIONICS DIVISION
CLIFTON, NEW JERSEY

SCALE (ft)

0 25 50

ZITA9401\RAW\EXCAV.DWG

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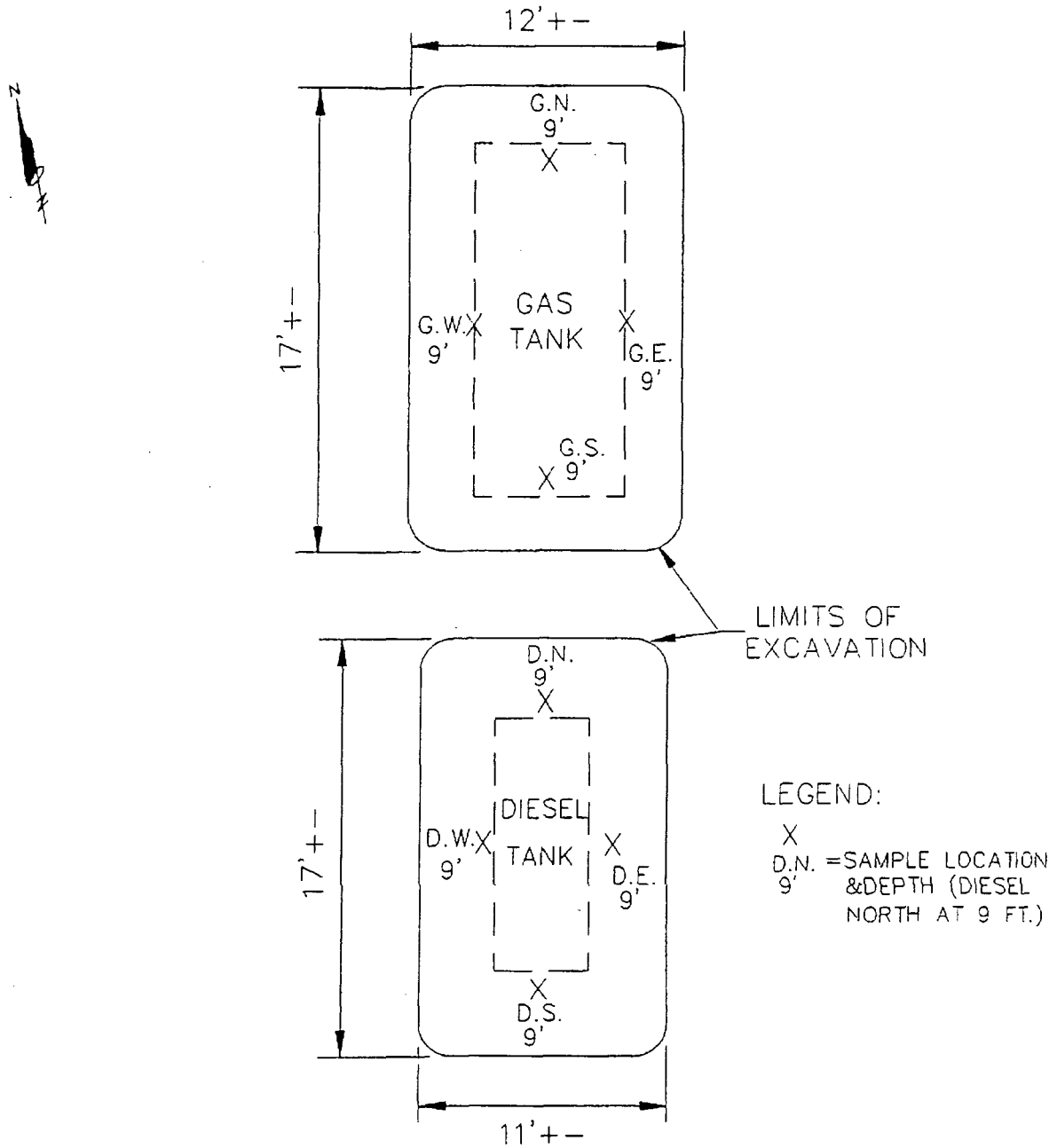
MELVILLE, N.Y. FAIRFIELD, N.J.

FIGURE 2-15



POST-EXCAVATION CONIFMATORY SOIL SAMPLE LOCATIONS
FORMER GASOLINE AND DIESEL FUEL UST's
ITT AVIONICS DIVISION
CLIFTON, NEW JERSEY

ZITA9401\RAW\D&GAS.DWG

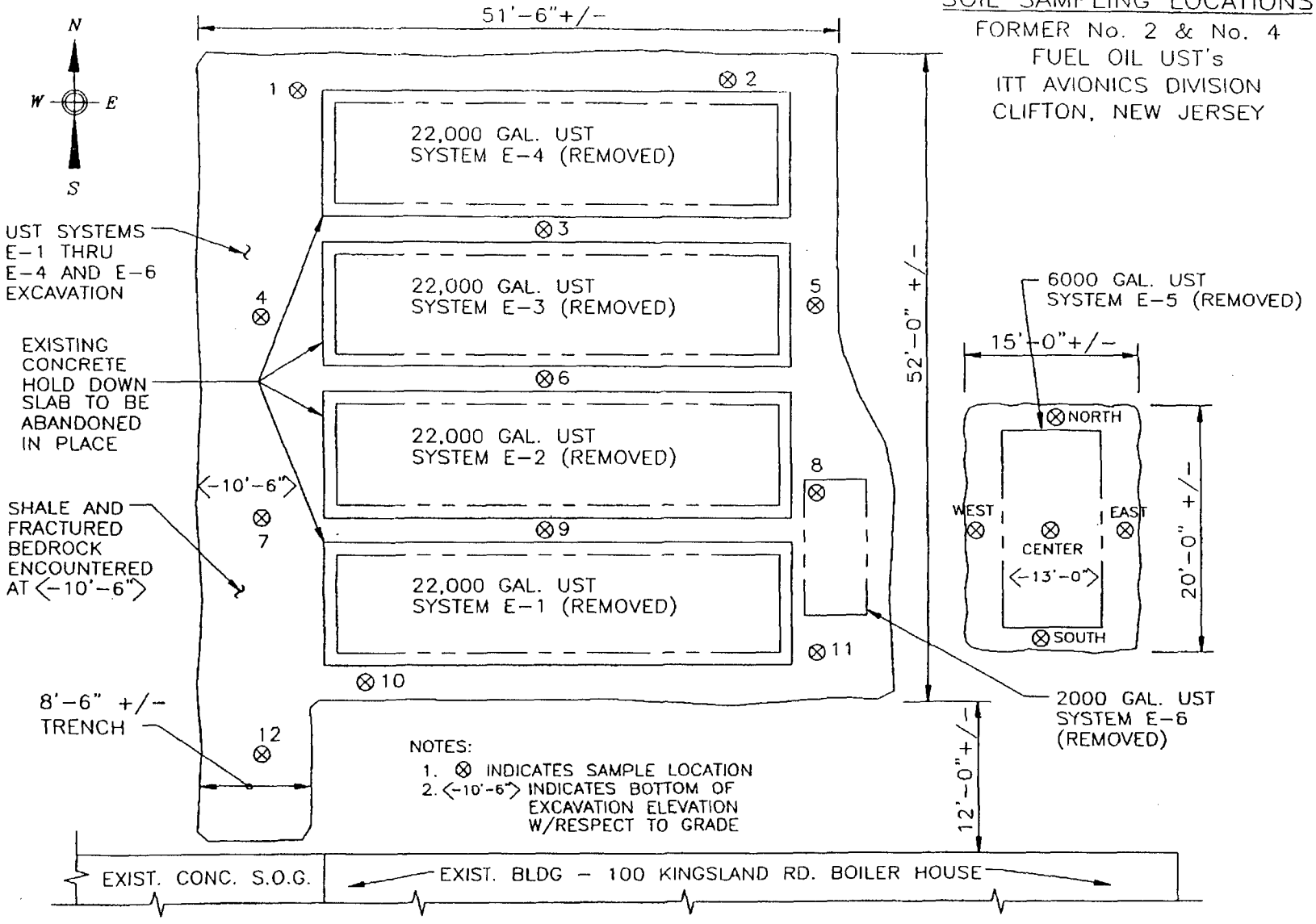
NOT TO SCALE

H2MGROUP ENGINEERS ARCHITECTS PLANNERS SCIENTISTS SURVEYORS
MELVILLE, N.Y. TOTOWA, NJ

945750298

FIGURE 2-16

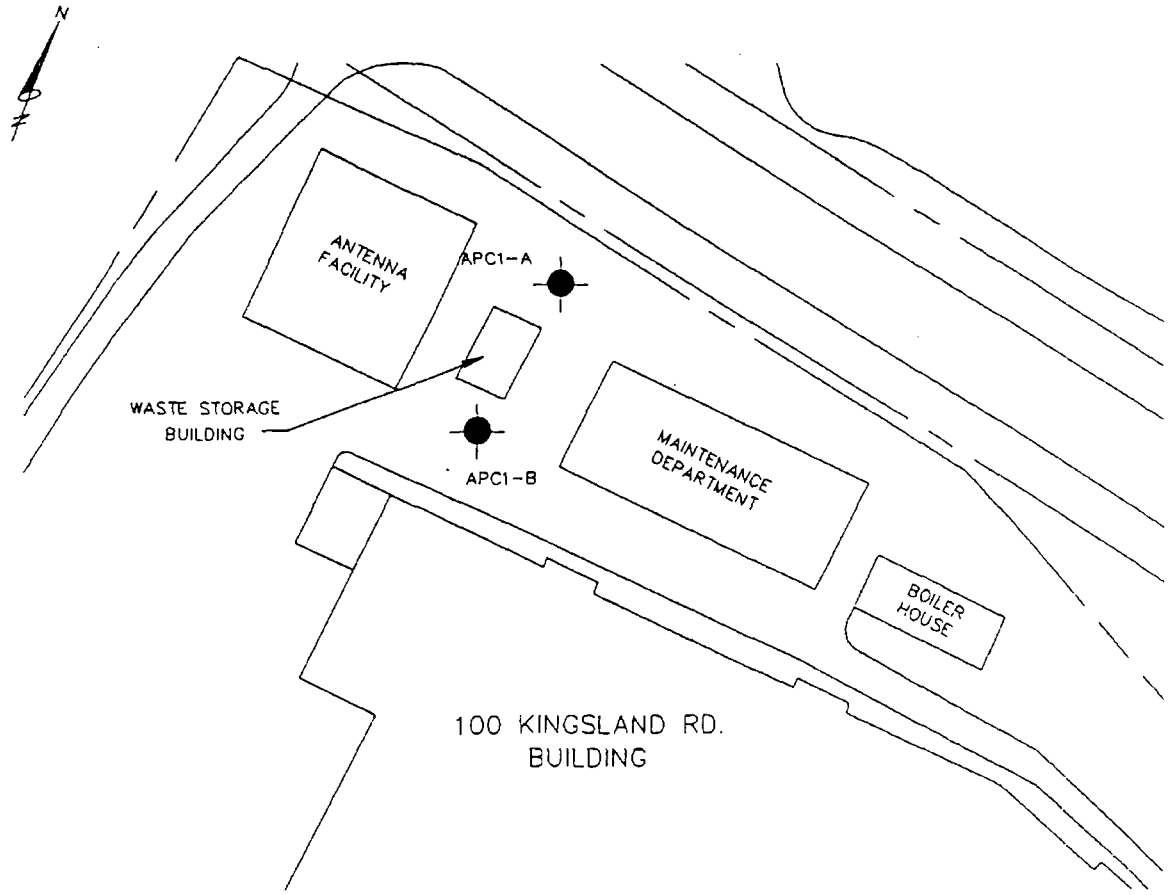
POST-EXCAVATION CONFIRMATORY
SOIL SAMPLING LOCATIONS
FORMER No. 2 & No. 4
FUEL OIL UST's
ITT AVIONICS DIVISION
CLIFTON, NEW JERSEY



H2MGROUP ENGINEERS · ARCHITECTS · PLANNERS · SCIENTISTS · SURVEYORS
MELVILLE, N.Y. TOTOWA, N.J.

9457502299

FIGURE 2-17



SOIL BORING/MONITORING WELL LOCATIONS
CHEMICAL/WASTE STORAGE BUILDING

ITT AVIONICS DIVISION
CLIFTON, NEW JERSEY

SCALE (ft)

0 100 200

LEGEND

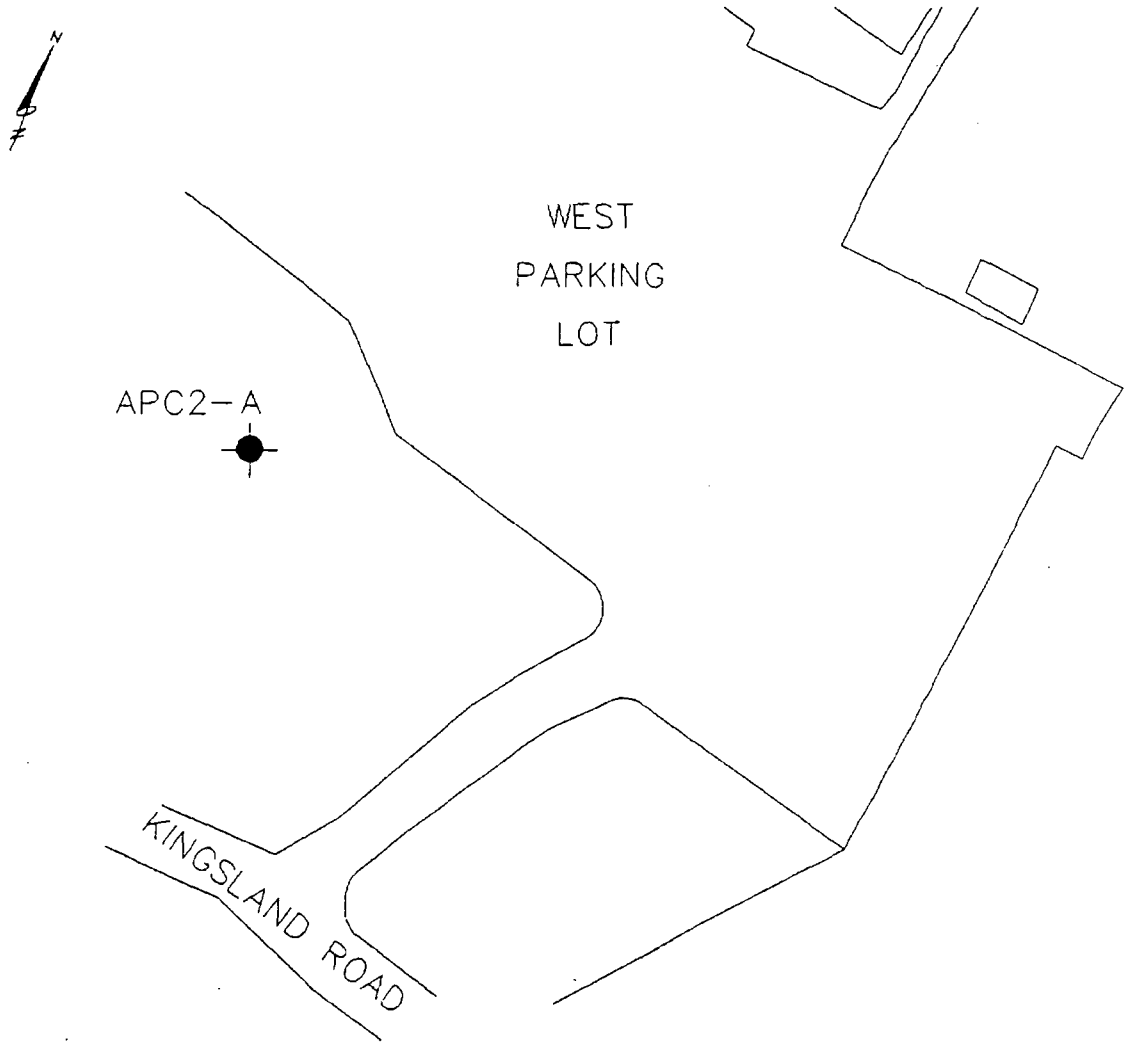
SOIL BORING COMPLETED AS A MONITORING WELL

ZITA9401\RAW\SBMWLOC.DWG

H2MGROUP ENGINEERS ARCHITECTS PLANNERS SCIENTISTS SURVEYORS
MELVILLE, N.Y. FAIRFIELD, N.J.

945750300

FIGURE 2-18



SOIL BORING/MONITORING WELL LOCATION
FORMER GARDENER'S SHED

ITT AVIONICS DIVISION
CLIFTON, NEW JERSEY

SCALE (ft)

0 100 200

LEGEND

SOIL BORING COMPLETED AS A MONITORING WELL

ZITA9401\RAW\GARDSHED.DWG

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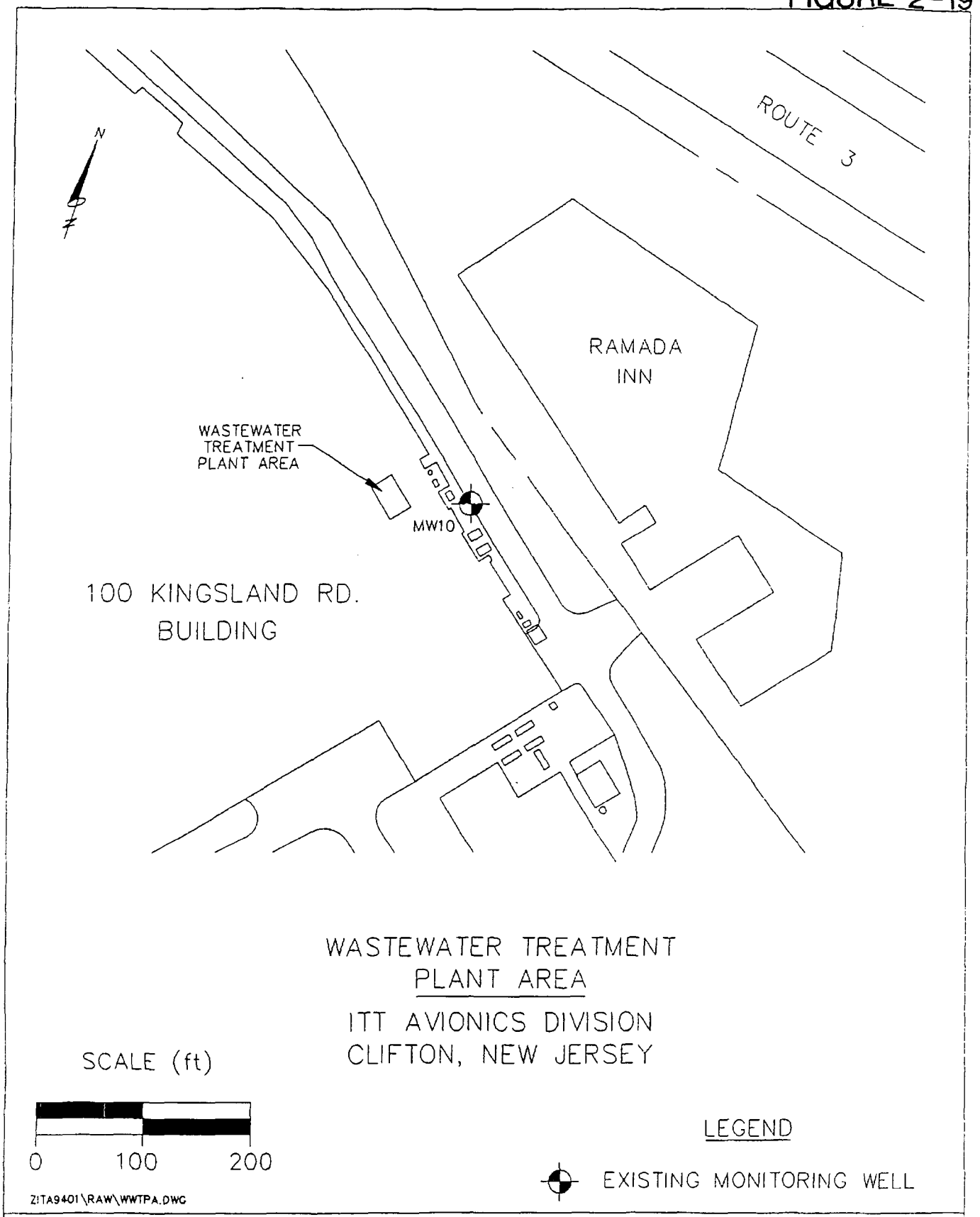
MELVILLE, N.Y. FAIRFIELD, N.J.

FIGURE 2-19



WASTEWATER TREATMENT
PLANT AREA

ITT AVIONICS DIVISION
CLIFTON, NEW JERSEY

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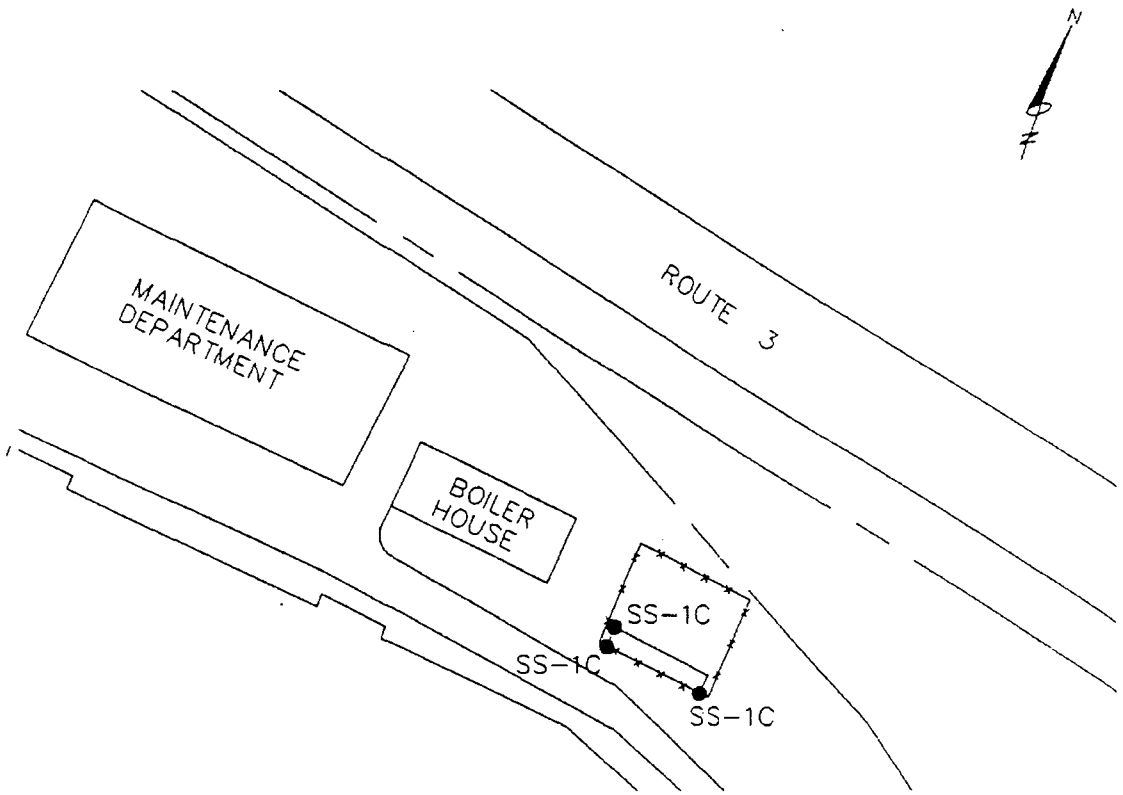
MELVILLE, N.Y. FAIRFIELD, N.J.

FIGURE 2-20



SOIL BORING LOCATIONS
ELECTRICAL SUBSTATION

ITT AVIONICS DIVISION
CLIFTON, NEW JERSEY

SCALE (ft)

0 100 200

LEGEND

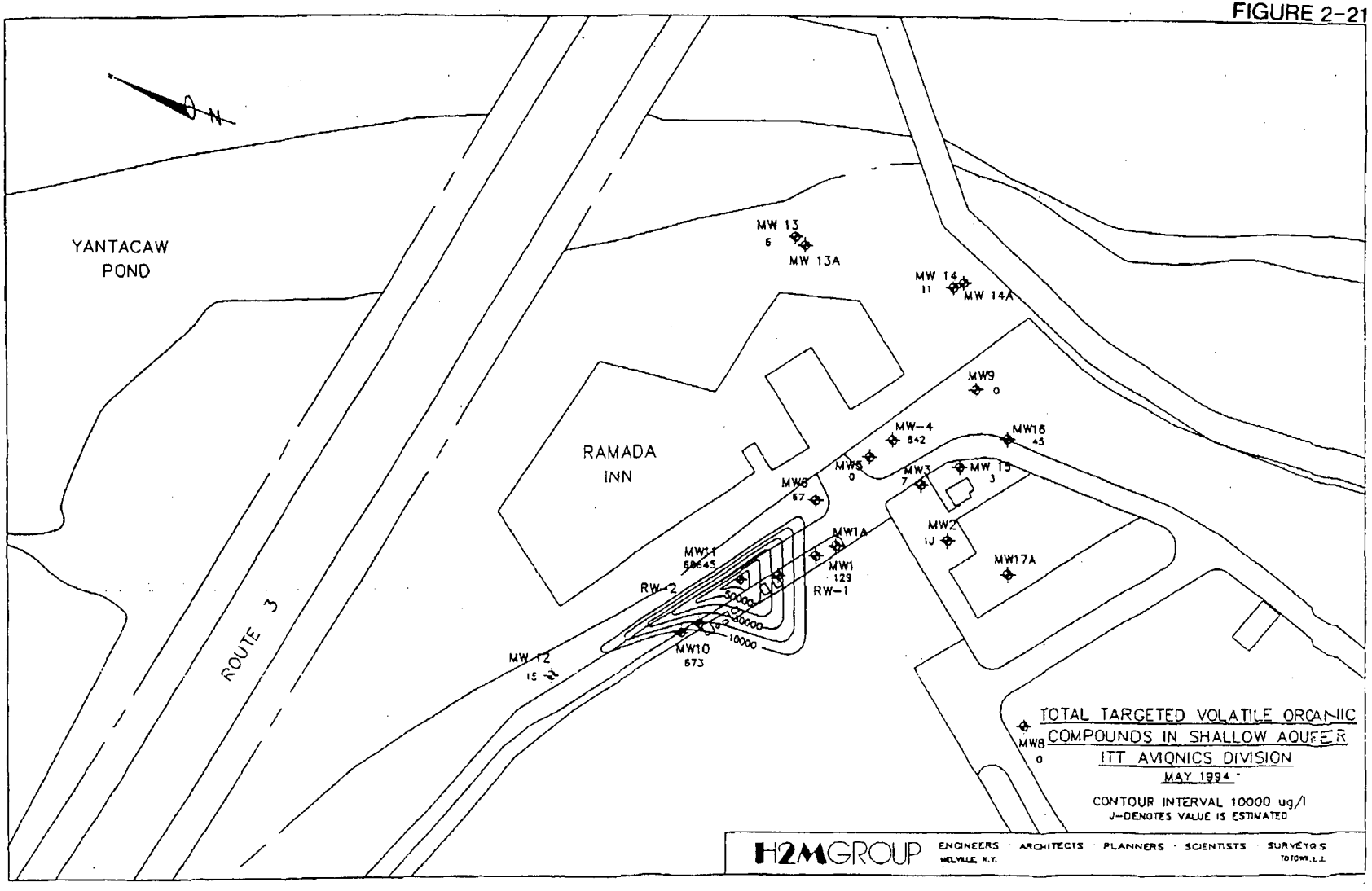
● SOIL BORING

ZITA9401\RAW\SBLOC.DWG

H2MGROUP ENGINEERS ARCHITECTS PLANNERS SCIENTISTS SURVEYORS
MELVILLE, N.Y. FAIRFIELD, N.J.

945750303

FIGURE 2-21



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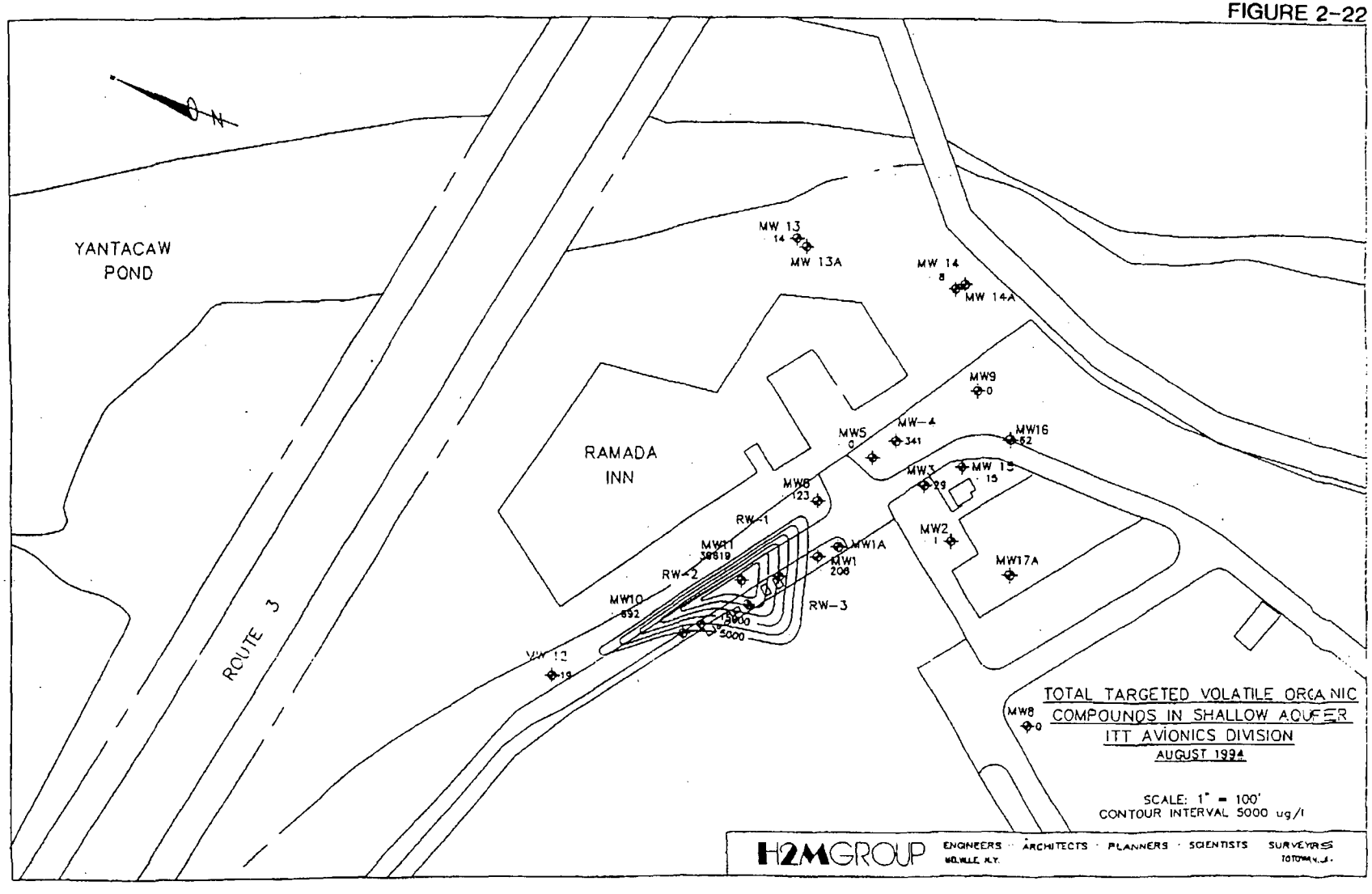

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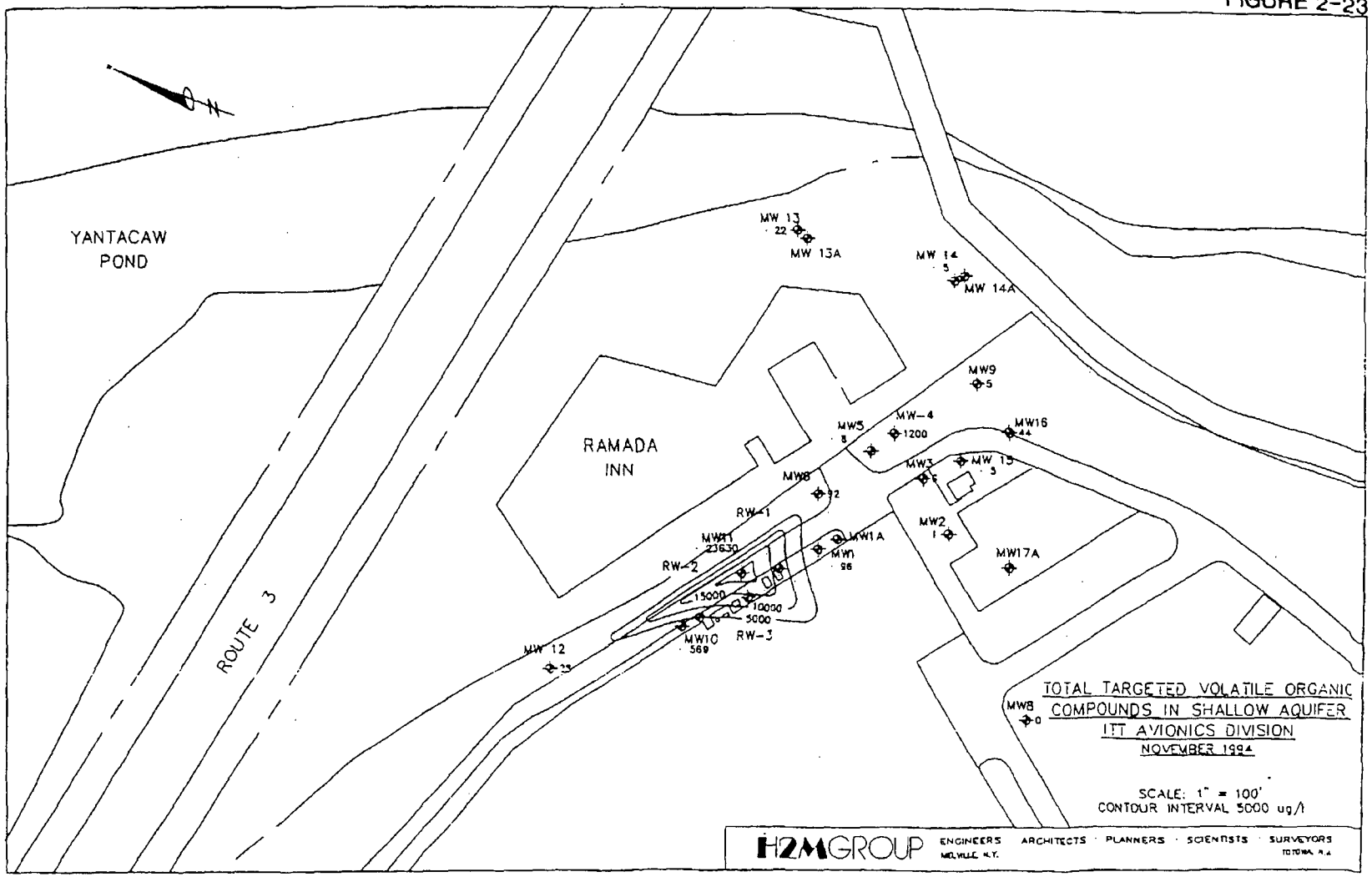

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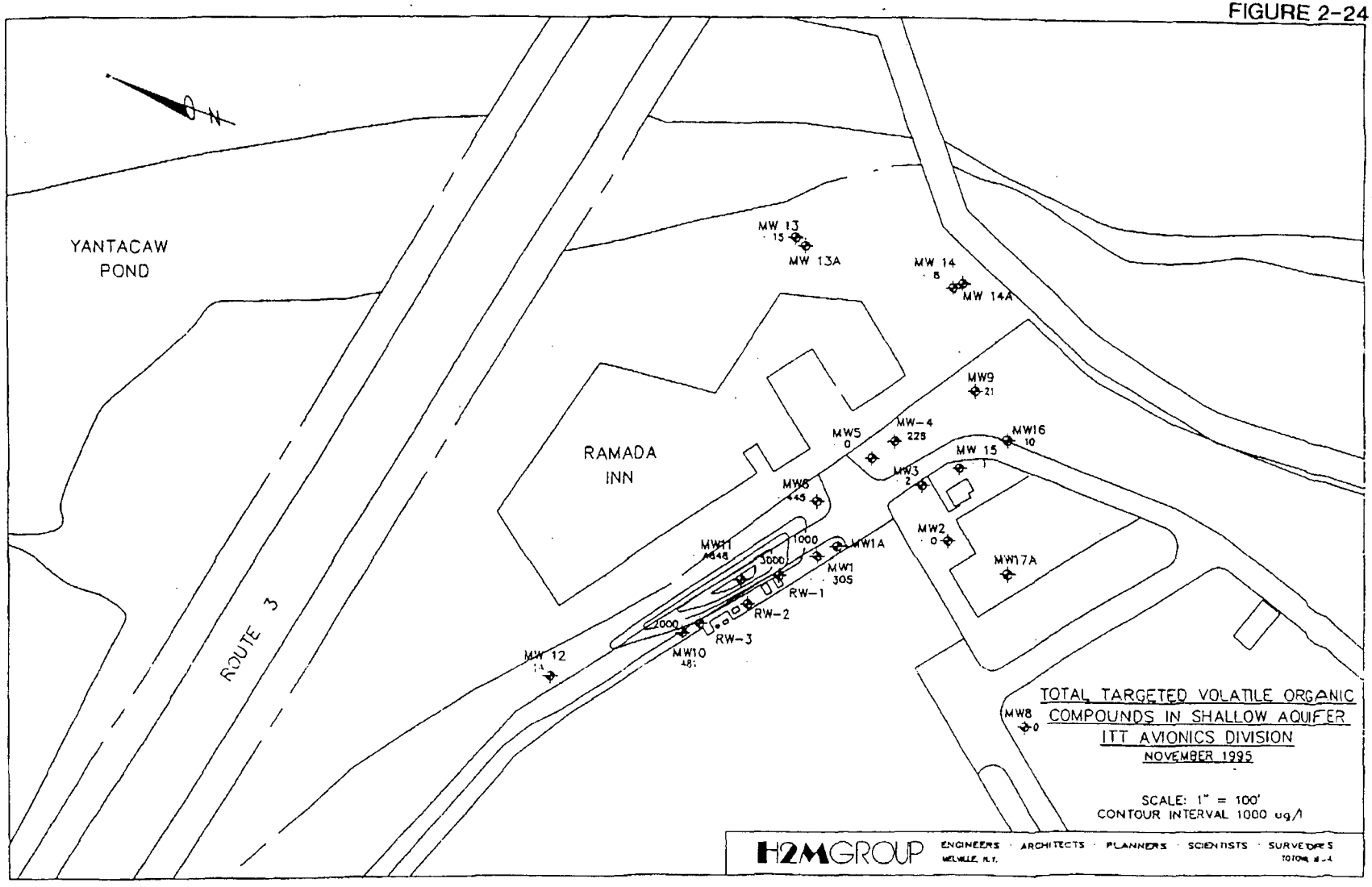

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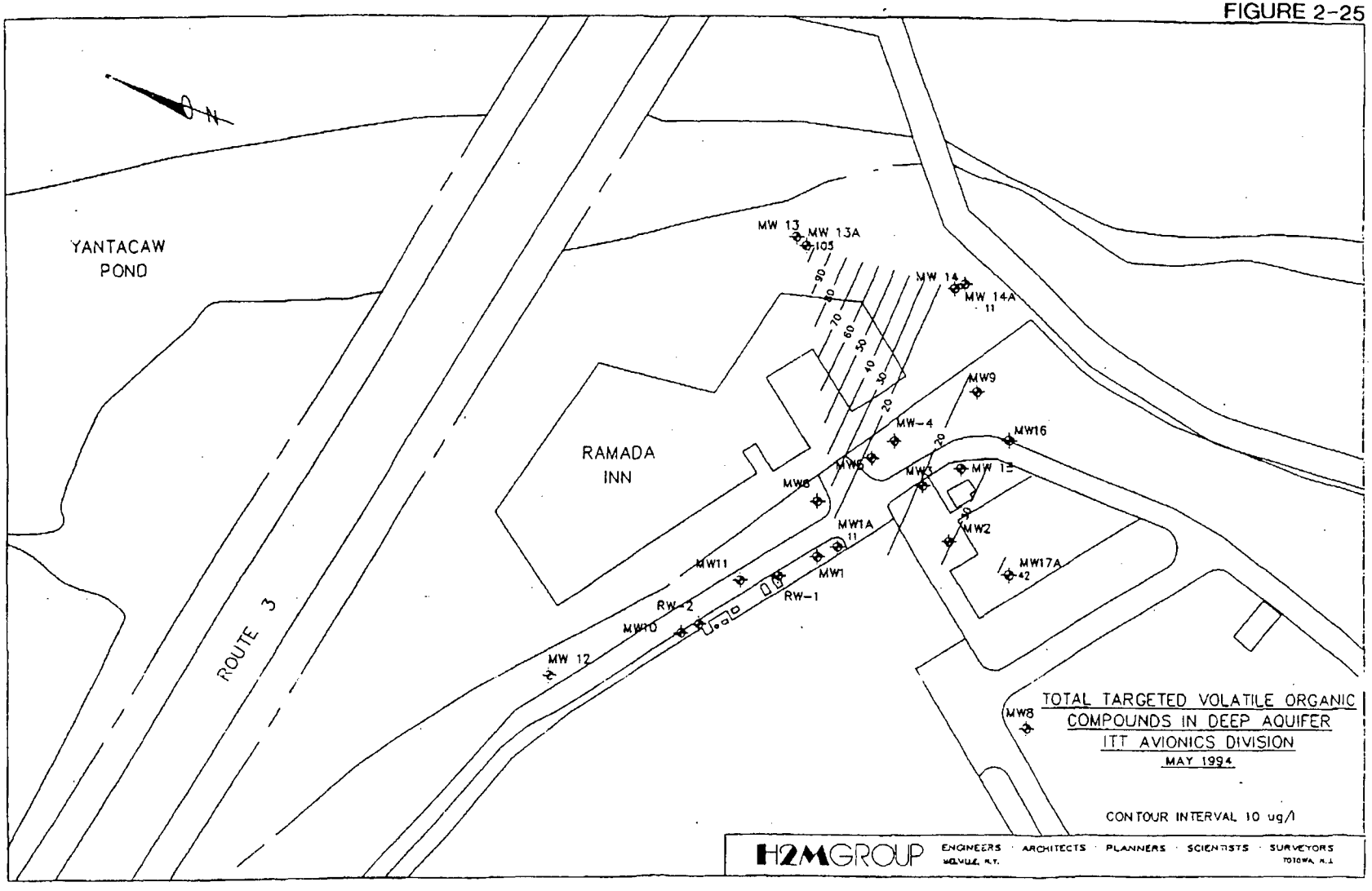

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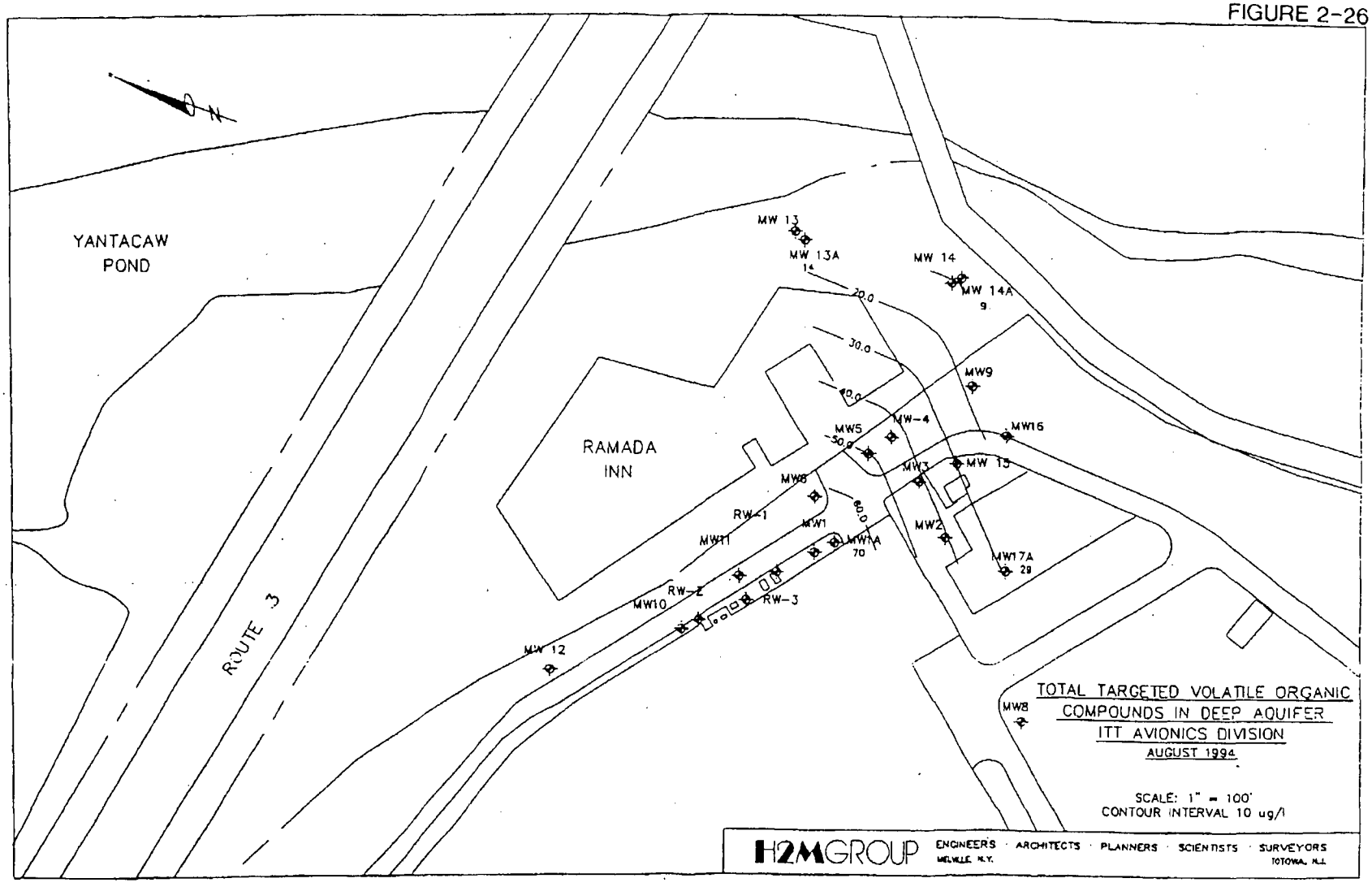

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FIGURE 2-27

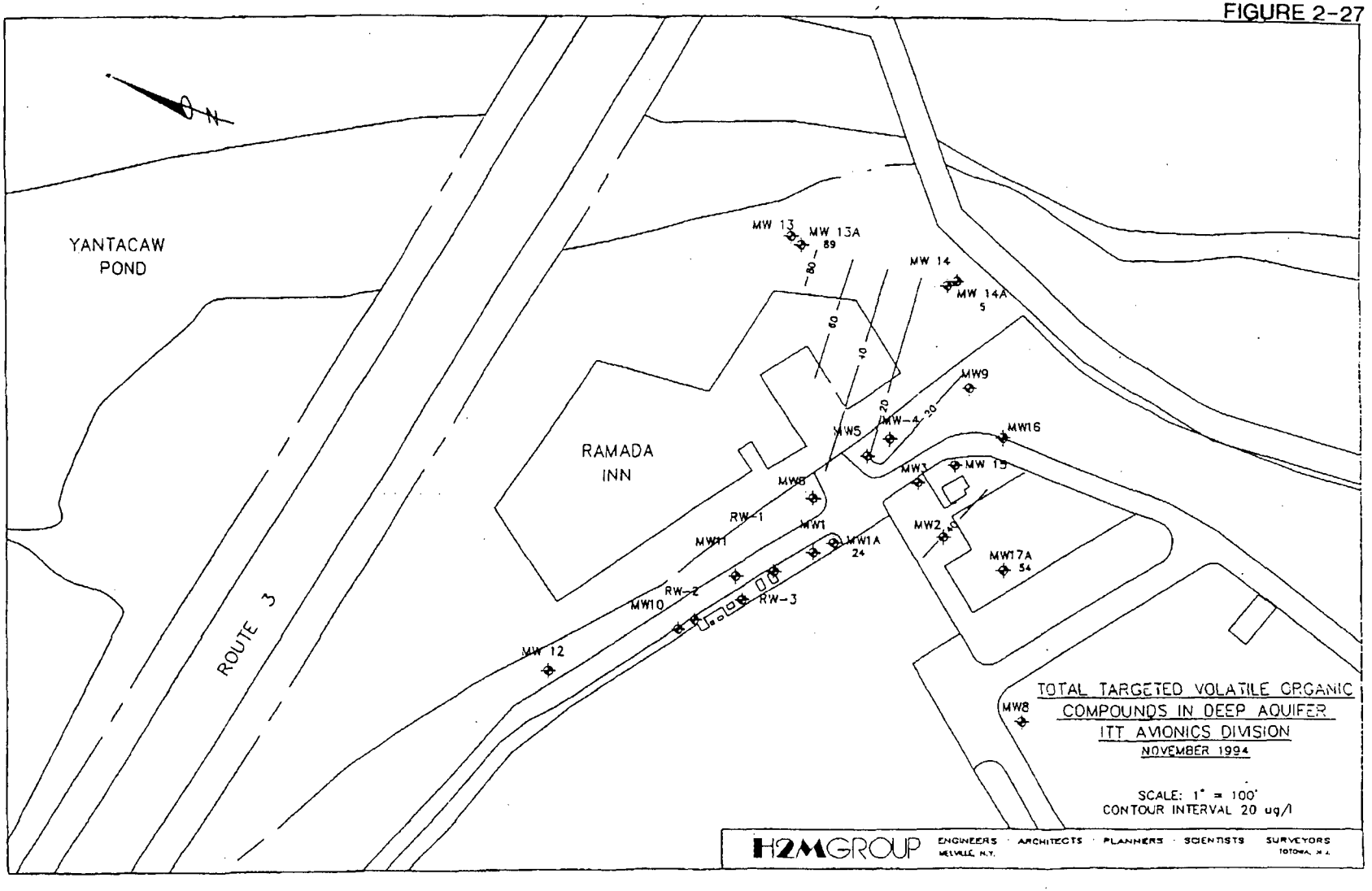

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FIGURE 2-28

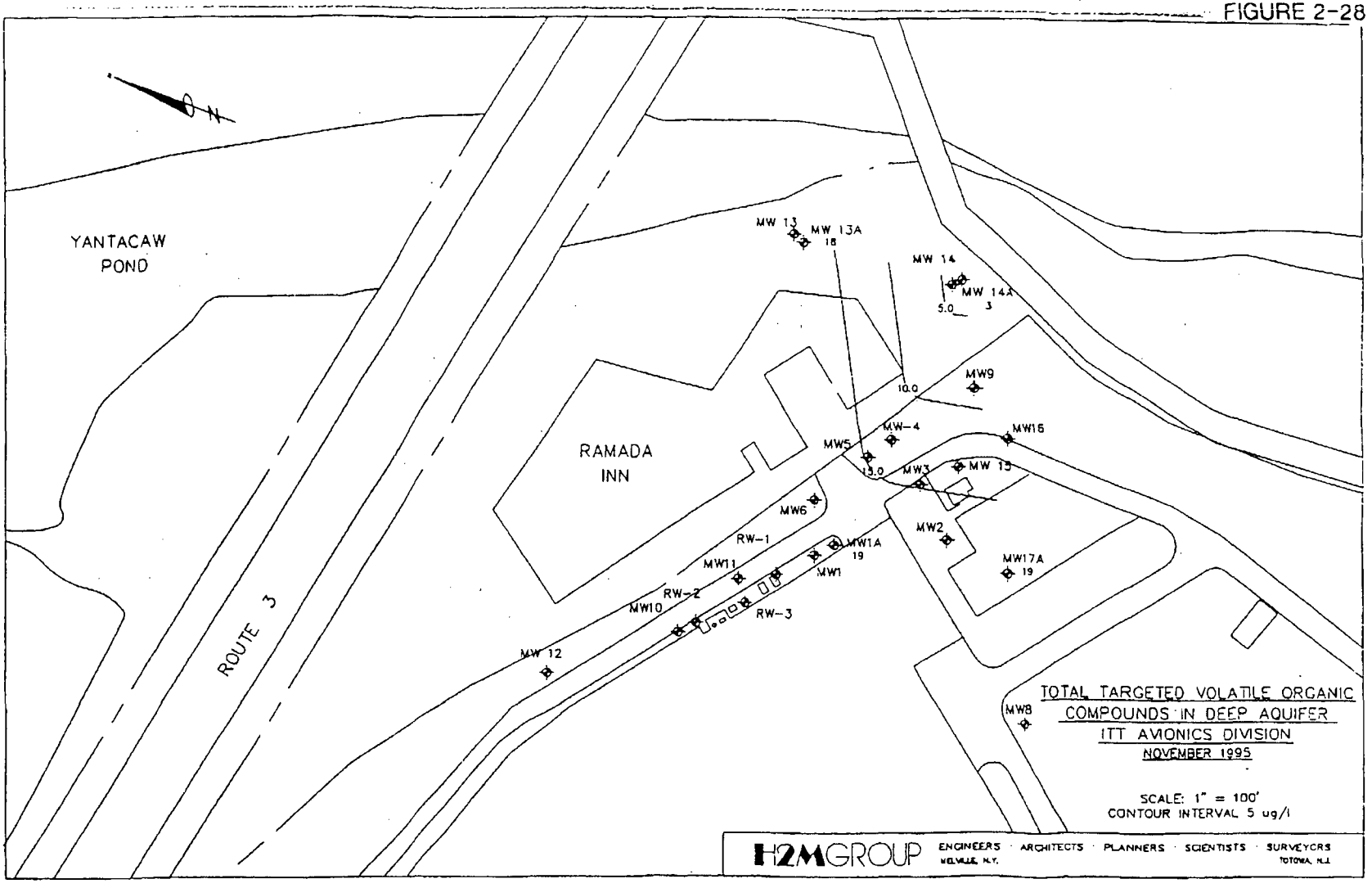

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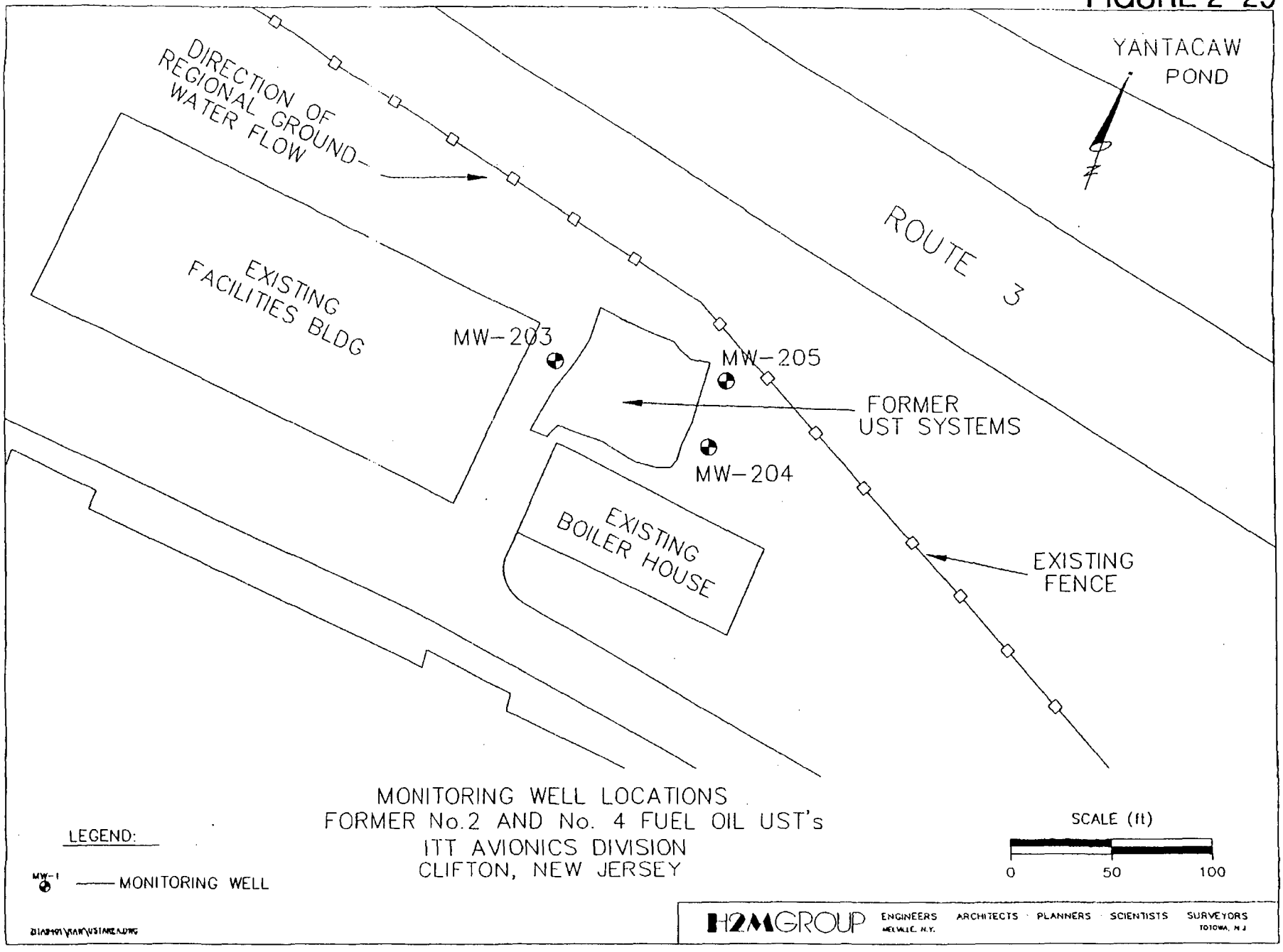
FIGURE 2-29



MONITORING WELL LOCATIONS
FORMER No.2 AND No. 4 FUEL OIL UST's
ITT AVIONICS DIVISION
CLIFTON, NEW JERSEY

ADC000504

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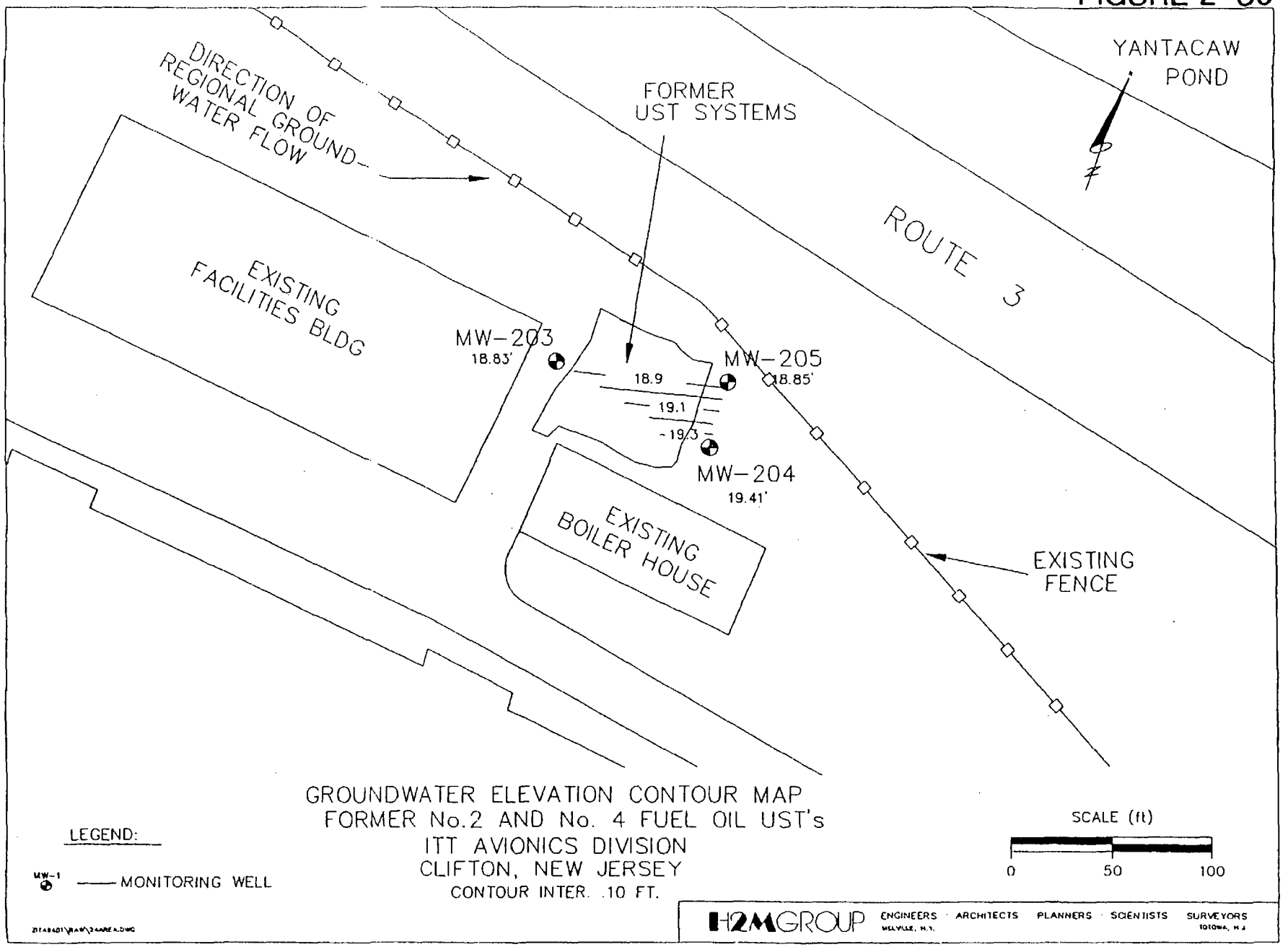
FIGURE 2-30



GROUNDWATER ELEVATION CONTOUR MAP
FORMER No.2 AND No. 4 FUEL OIL UST's
ITT AVIONICS DIVISION
CLIFTON, NEW JERSEY
CONTOUR INTER. .10 FT.

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APPENDIX B

H2MGROUP

List of Tables

Table 2-1	Summary Matrix of Monitoring Well Construction Details
Table 2-2	Elevation of Top of Bedrock Surface
Table 2-3	Groundwater Elevations
Table 2-4	Volatile Organic Compounds Quantified in Borehole Soils
Table 2-5	Volatile Organic Compounds Quantified in Post-Excavation Confirmatory Soil Samples - 2 Former 4,000 Gallon Gasoline UST Systems
Table 2-6	Volatile Organic Compounds and Total petroleum Hydrocarbons Quantified in Post-Excavation Confirmatory Soil Samples - Former 1,000 Gallon Diesel Fuel and 4,000 Gasoline UST Systems
Table 2-7	Post-Excavation Soil Sample Results
Table 2-8	Analytical Soil Sample Results
Table 2-9	Summary of Concrete Floor Sampling - Printed Circuit Board Area
Table 2-10	Summary of Wall Wipe Sampling - Printed Circuit Board Area
Table 2-11	Summary of Ceiling Tile Sampling - Printed Circuit Board Area
Table 2-12	Volatile Organic Compounds Quantified in Groundwater (ug/L)
Table 2-13	Volatile Organic Compounds Quantified in Groundwater (ug/L)
Table 2-14	Volatile Organic Compounds Quantified in Groundwater (ppb)
Table 2-15	Volatile Organic Compounds Quantified in Groundwater (ug/L) - Former No. 2 and 4 Fuel Oil UST's
Table 2-16	Volatile Organic Compounds Quantified in Groundwater (ug/L) - AOC4 - Chemical/Waste Storage Building

Table 2-1
Summary Matrix of Monitoring Well Construction Details
ITT Avionics Division
100 Kingsland Road
Clifton, New Jersey

Owner's Well No.	NJDEPE Permit No.	Total Well Depth (ft.)	Well Diam.(in.)	Riser Length (ft.)	Screen Length (ft.)	Screen Slot Size (in.)	Well Elev. (a)	Top of Screen Elevation (a)	Bottom of Screen Elevation (a)
MW-1	26-10121-1	27.8	4	17.8	10.0	0.02	32.14	14.34	4.34
MW-1A	26-18467-2	79.2	4 / O.H. 3	49.2	30.0	O.H.	29.40	-19.80	-49.80
MW-2	26-11914-5	26.2	4	11.2	15.0	0.02	35.41	24.19	9.19
MW-3	26-17121-0	29.6	4	4.6	25.0	0.03	25.91	21.34	-3.66
MW-4	26-11912-9	31.0	4	16.0	15.0	0.02	30.64	14.64	-0.36
MW-5	26-11911-1	29.2	4	14.2	15.0	0.02	30.67	16.48	1.48
MW-6	26-11910-2	24.4	4	14.4	10.0	0.02	30.62	16.22	6.22
MW-8	26-13205-2	38.8	4	23.8	15.0	0.02	45.98	22.18	7.18
MW-9	26-13204-4	27.8	4	12.8	15.0	0.02	29.36	16.56	1.56
MW-10	26-14799-8	29.0	4	14.0	15.0	0.02	35.22	21.22	6.22
MW-11	26-14800-5	25.7	4	10.7	15.0	0.02	31.02	20.32	5.32
MW-12	26-18468-1	24.9	4	9.9	15.0	0.02	31.09	21.19	6.19
MW-13	26-17118-0	20.1	4	5.1	15.0	0.02	17.81	12.71	-2.29
MW-13A	26-18465-6	68.1	4 / O.H. 3	41.9	26.2	O.H.	18.02	-23.88	-50.08
MW-14	26-17119-8	21.5	4	6.5	15.0	0.02	17.85	11.35	-3.65
MW-14A	26-18466-4	68.6	4 / O.H. 3	39.9	28.7	O.H.	17.89	-22.01	-50.71
MW-15	26-18469-9	31.7	4	6.7	25.0	0.03 / SS	26.39	19.69	-5.31
MW-16	26-23065-8	31.3	4	16.3	15.0	0.02	31.75	15.45	0.45
MW-17A	26-23066-6	81.7	4 / O.H. 3	56.7	25.0	O.H.	35.68	-21.02	-46.02
MW-18	26-34493	29.5	2	14.5	15.0	0.01	32.90	18.40	3.40
MW-203	26-24504-3	23.5	4	8.5	15.0	0.02	31.96	23.46	8.46
MW-204	26-24505-1	27.5	4	12.5	15.0	0.02	34.80	22.30	7.30
MW-205	26-24506-0	28.0	4	13.0	15.0	0.02	34.30	21.30	6.30
MW-APC1-A	26-31648	20.5	4	10.5	10.0	0.02	30.25	19.75	9.75
MW-APC1-B	26-31649	22.5	4	12.5	10.0	0.02	27.94	15.44	5.44
MW-APC2-A	26-31650	24.0	4	14.0	10.0	0.02	48.51	34.51	24.51
MW-BCKGD-A	26-31647	32.0	4	17.0	15.0	0.02	54.95	37.95	22.95

Notes:
a: Reference mark at top of PVC mon. well casing; all elevations in feet above mean sea level, USGS NGVD, 1929.
O.H.: Open Hole in competent bedrock.
All well casings and screen constructed with schedule 40 PVC, except where designated "SS", for stainless steel.

(June 12, 1996)

H2M GROUP

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H2MGROUP

Table 2-2
Elevation of Top of Bedrock Surface*
ITT Avionics Division
100 Kingsland Road
Clifton, New Jersey

Well Location	Grade Elevation	Depth to Bedrock	Bedrock Elevation
MW-1A	29.8	12.0	17.8
MW-2	32.8	5.6	27.2
MW-3	29.3	4.0	25.3
MW-4	28.9	2.5	26.4
MW-5	28.7	1.0	27.7
MW-6	28.8	3.6	25.2
MW-8	43.9	12.3	31.6
MW-9	27.1	5.5	21.6
MW-10	32.2	13.0	19.2
MW-11	31.2	18.5	12.7
MW-12	32.0	9.0	23.0
MW-13	18.3	14.0	4.3
MW-14	18.0	15.0	3.0
MW-15	30.3	9.0	21.3
MW-16	32.1	13.0	19.1
MW-17A	36.0	15.0	21.0
MW-18	33.0	13.0	20.0
MW-203	32.1	14.0	18.1
MW-204	32.6	14.0	18.6
MW-205	32.0	14.0	18.0
MW-APC1-A	30.7	16.0	14.7
MW-APC1-B	28.3	15.0	13.3
MW-APC2-A	46.0	10.0	36.0
MW-BCKGD-A	52.6	13.5	39.1

Notes:
All elevations in feet above mean sea level, USGS NGVD, 1929.
* Top of weathered bedrock surface (Brunswick Formation).

Table 2-3

Groundwater Elevations

ITT Avionics Division

Clifton, New Jersey

August 1990 to February 1996

DATE	MW-1	MW-1A	MW-2	MW-3	MW-4	MW-5	MW-6	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-13A	MW-14	MW-14A	MW-15	MW-16	MW-17A
Aug-90	12.3	9.98	11.78	11.15	11.6	12	12.4	21.7	11.1	17.72	14.35	18.05	9.26	7.57	7.38	7.37	10.03	NI	NI
Nov-90	12.7	10.3	12.21	11.53	12	12.3	12.7	21.8	11.8	17.34	14.89	17.44	9.54	7.34	7.67	7.65	10.39	NI	NI
Feb-91	13.4	10.9	12.66	10.94	12.3	12.6	13	23.4	12.4	18.04	15.84	17.47	9.88	7.32	7.87	7.86	12.19	12.31	8.87
May-91	13.6	12	13.33	11.65	12.9	13.2	13.7	24.1	12.9	17.51	16.43	18.78	10.25	7.62	8.74	8.67	12.87	12.92	8.93
Aug-91	9.23	6.68	NA	7.79	9.03	9.52	10	19	8.85	15.36	13.1	15.28	7.8	3.97	6.25	6.41	8.68	7.62	3.55
Nov-91	11.2	9.57	10.75	10.08	10.4	10.5	11.1	19.2	10.2	16.02	13.71	16.45	9.52	6.8	7.88	8.08	9.99	9.07	7.64
Feb-92	10.8	9.34	10.56	9.67	10.3	10.3	10.8	19.6	10.1	15.96	13.39	16.57	8.84	6.44	7.53	7.51	9.56	9.95	7.38
May-92	11.9	10.15	11.27	NA	11.1	11.3	11.6	20.1	10.4	16.69	14.52	17.11	8.94	6.44	7.45	7.49	NA	10.87	8.03
Aug-93	9.25	9.51	12.69	NA	9.73	9.95	10.2	17.1	9.92	13.32	11.52	15.82	7.8	6.13	6.23	6.18	NA	9.94	7.15
Nov-93	10.7	10.35	12.61	NA	10.6	10.8	11.1	21.3	9.88	14.65	12.65	17.47	8.27	6.54	6.65	6.68	NA	10.24	7.38
Feb-94	11.1	11.06	13.31	NA	11.2	11.3	11.7	21.3	11	14.7	13.48	NA	9.04	6.79	7.67	7.35	NA	11.06	8.07
May-94	12.2	11.69	13.43	NA	11.8	11.8	12.3	22.8	11.4	16.57	14.38	18.86	9.22	7.34	8.2	8.14	NA	11.58	8.65
Aug-94	11	10.92	13.02	NA	12	11.8	11.6	21.7	11.2	15.74	13.01	18.03	7.00	9.07	7.68	7.67	NA	11.72	8.14
Nov-94	8.67	8.83	12.00	NA	9.43	9.06	9.30	16.22	9.32	14.00	11.40	15.73	7.41	5.74	5.66	5.66	NA	9.19	6.52
Feb-95	10.11	9.72	12.33	10.45	10.51	10.40	10.75	20.30	9.81	15.77	12.74	17.20	8.41	6.29	5.87	5.79	10.47	10.28	7.62
May-95	9.87	9.52	11.54	9.77	9.95	9.80	10.11	18.82	9.58	14.84	12.10	15.80	8.02	6.10	7.17	6.58	9.31	9.68	7.08
Aug-95	9.66	9.37	11.8	9.87	9.89	9.79	9.99	17	9.84	12.34	11.54	15.69	7.7	5.82	7.35	7.24	9.41	9.81	5.77
Nov-95	11.5	11.21	13.23	11.46	11.6	11.3	11.7	21.8	10.6	17.42	15.15	18.5	8.89	6.86	7.56	7.31	11.45	11.28	8.18
Feb-96	12.4	11.78	13.76	15.37	11.8	11.6	12.3	24.6	11	16.06	14.28	18.86	9.50	7.64	8.80	8.65	12.30	11.69	9.17

Notes:

NA - Water Level Not Available during Monitoring Event.

NI - Monitoring Well Not Installed.

Table 2-4
Volatile Organic Compounds
Quantified in Borehole Soils (mg/kg)
AOC 1: 1,1,1-Trichloroethane Release
ITT Avionics Division
Clifton, New Jersey
June 1993

Compound	B-1 (0' - 0.5')	B-1 (5' - 5.5')	B-1 (8' - 8.5')	B-2 (0' - 0.5')	B-2 (5' - 5.5')	B-2 (8' - 8.5')	B-3 (0' - 0.5')	B-3 (5' - 5.5')	B-3 (8' - 8.5')	B-4 (0' - 0.5')	B-4 (5' - 5.5')	NJDEP Impact to GW Criteria (a)	NJDEP Residential Criteria(b)
1,1,1-Trichloroethane	<0.011	<0.010	<0.011	0.036	0.120	0.083	<0.011	<0.011	<0.011	<0.010	<0.010	50	210
1,2-Dichloroethane	<0.011	<0.010	<0.011	<0.010	0.035	0.034	<0.011	<0.011	<0.011	<0.010	<0.010	1	6
1,1-Dichloroethene	<0.011	<0.010	<0.011	<0.010	0.030	0.039	<0.011	<0.011	<0.011	<0.010	<0.010	10	8
Acetone	0.037	<0.010	<0.011	0.020	0.022	<0.010	0.023	0.017	<0.011	0.015	<0.010	50	1000

Notes:
<0.011 - Not found at or above the practical quantification limit shown.
(a) - NJDEP impact to Groundwater Criteria
(b) - NJDEP Residential Direct Contact Soil Cleanup Criteria

Table 2-5
Volatile Organic Compounds Quantified in Post-Excavation Confirmatory Soil Samples (mg/kg)
Two Former 4,000 Gallon Gasoline Underground Storage Tank Systems (BUST Case No. 87-08-21-1419)
AOC 2: Former Gasoline and Diesel USTs
ITT Avionics
Clifton, New Jersey
February 1988

Volatile Organic Compound	EXC1-1	EXC1-2	EXC1-3	EXC1-4A	EXC1-4B	EXC1-5	EXC1-6	EXC1-7	EXC1-8	NJDEP Impact to GW Criteria (a)	NJDEP Residential Criteria (b)
Methylene Chloride	0.031B	0.026B	0.007B	0.031B	0.015B	0.013B	0.029B	0.02B	0.018B	10	49
Toluene	0.004B	0.003B	0.002B	0.003B	0.003B	0.002B	0.006B	0.004B	0.003B	500	1000
2-Propanone	0.024B	0.026B	0.02B	<0.0055	<0.0055	0.055B	0.021B	ND	0.013	- -	- -
1,2-Trichloro-1,2,2-Trifluoroethane	0.084	0.07	0.073	0.075	0.07	0.085	0.22	0.039	0.03	- -	- -
TIC's	0.009B	0.006B	0.007B	0.006B	0.007B	0	0.018B	0.01B	0.011B	- -	- -

Notes:
<0.0055 - Not found at or above the practical quantification limit shown.
TIC's - Tentatively Identified Compounds
B - Compound Detected in Quality Assurance/Quality Control Blanks
(- -) - No Standard Available
(a) - NJDEP Impact to to Groundwater Criteria
(b) - NJDEP Residential Direct Contact Soil Cleanup Criteria

Table 2-6
Volatile Organic Compounds and Total Petroleum Hydrocarbons
Quantified in Post-Excavation Confirmatory Soil Samples (mg/kg)
Former 1,000 Gallon Diesel Fuel and 4,000 Gasoline Underground Storage
Tank Systems (BUST Case No. 89-09-15-1420)
AOC 2: Former Diesel and Gasoline USTs
ITT Avionics
Clifton, New Jersey
December 1989

Parameter	Diesel North	Diesel South	Diesel West	Diesel East	Gasoline North	Gasoline South	Gasoline West	Gasoline East	NJDEP Impact to GW Criteria (a)	NJDEP Residential Criteria (b)
Volatile Organic Compound:										
1,2-Dichloropropane	<0.005	0.01	<0.006	0.008	<0.005	<0.006	<0.006	<0.006	1	10
Benzene	0.008	0.37	<0.006	0.40	<0.005	<0.006	<0.006	<0.006	1	3
Toluene	0.20	4.2	0.026	4.0	<0.005	<0.006	<0.006	<0.006	500	1000
Ethylbenzene	0.11	1.4	<0.006	1.5	<0.005	<0.006	<0.006	<0.006	100	1000
TIC's	0.588	0.85	0.091	0.719	0.009	0.132	0	0.464	- -	- -
Total Petroleum Hydrocarbons	240.0	10,000.0	<16	12,000.0	<16	<16	<16	<16	10,000.0*	10,000.0*

Notes:
TIC's - Tentatively Identified Compounds
<0.005 - Not found at or above the practical quantification limit shown.
(- -) - No Standard Available
* - Action Level Based on Total Organic Contaminants
NJDEP Cleanup Standards for Contaminated Sites Proposed New Rule: N.J.A.C. 7:26D, New Jersey Register, Monday, February 3, 1992.
(a) - NJDEP Impact to Groundwater Criteria.
(b) - NJDEP Residential Direct Contact Soil Cleanup Criteria.

Table 2-7
Post-Excavation Confirmatory Soil Sample Results (mg/kg)
AOC 3: Former No. 2 and No. 4 Fuel Oil USTs
ITT Avionics Division
Clifton, New Jersey

Parameter	Sample No. 1	Sample No. 2	Sample No. 3	Sample No. 4	Sample No. 5	Sample No. 6	Sample No. 7	Sample No. 8	Sample No. 9	Sample No. 10	Sample No. 11	Sample No. 12	Center	East	North	West	South	NJDEP Impact to GW Criteria (a)	NJDEP Residential Criteria (b)
Volatile Organic Compounds:																			
Trichloroethene	<0.006	<0.006	<0.007	0.008	<0.007	<0.007	0.008	<0.005	<0.006	<0.005	<0.006	<0.005	<0.005	<0.006	<0.006	<0.007	<0.006	1	23
Methylene Chloride	<0.006	<0.006	<0.007	<0.006	<0.007	<0.007	<0.006	<0.005	<0.006	<0.005	0.044B	<0.005	<0.005	<0.006	<0.006	<0.007	<0.006	10	49
Trichlorofluoromethane	<0.006	<0.006	<0.007	<0.006	<0.007	<0.007	<0.006	<0.005	<0.006	<0.005	<0.006	0.008	<0.005	<0.006	<0.006	<0.007	<0.006	--	--
Semi-Volatile Organic Compounds:																			
Fluoranthene	<0.71	NA	NA	0.29	NA	<0.78	0.35	NA	NA	NA	NA	0.11	NA	NA	NA	NA	NA	500	2300
Pyrene	<0.71	NA	NA	0.76	NA	<0.78	0.72	NA	NA	NA	NA	0.24	NA	NA	NA	NA	NA	500	1700
Bis (2-Ethylhexyl) phthalate	<0.71	NA	NA	0.39	NA	<0.78	5.60	NA	NA	NA	NA	1.40	NA	NA	NA	NA	NA	100	49
Chrysene	<0.71	NA	NA	3.90	NA	<0.78	0.40	NA	NA	NA	NA	0.12	NA	NA	NA	NA	NA	500	9
Benzo (A) anthracene	<0.71	NA	NA	0.37	NA	<0.78	0.38	NA	NA	NA	NA	0.11	NA	NA	NA	NA	NA	500	0.9
Benzo (B) fluoranthene	<0.71	NA	NA	0.31	NA	<0.78	0.36	NA	NA	NA	NA	<0.72	NA	NA	NA	NA	NA	500	0.9
Benzo (K) fluoranthene	<0.71	NA	NA	0.11	NA	<0.78	0.087	NA	NA	NA	NA	<0.72	NA	NA	NA	NA	NA	500	0.9
Benzo (A) pyrene	<0.71	NA	NA	0.20	NA	<0.78	0.25	NA	NA	NA	NA	0.13	NA	NA	NA	NA	NA	100	0.66
Indeno (1,2,3-C,D) pyrene	<0.71	NA	NA	0.14	NA	<0.78	0.15	NA	NA	NA	NA	<0.72	NA	NA	NA	NA	NA	500	0.9
Benzo (G,H,I) perylene	<0.71	NA	NA	0.11	NA	<0.78	0.18	NA	NA	NA	NA	0.20	NA	NA	NA	NA	NA	--	--
Phenanthrene	<0.71	NA	NA	<0.74	NA	<0.78	0.25	NA	NA	NA	NA	1.50	NA	NA	NA	NA	NA	--	--
Acenaphthene	<0.71	NA	NA	<0.74	NA	<0.78	<0.74	NA	NA	NA	NA	0.37	NA	NA	NA	NA	NA	100	3400
Fluorene	<0.71	NA	NA	<0.74	NA	<0.78	<0.74	NA	NA	NA	NA	0.66	NA	NA	NA	NA	NA	100	2300
Total Petroleum Hydrocarbons	76	<47	<50	188	<48	100	1580	<50	273	<60	<55	5800	31.1	19.1	14.4	202	24.2	10,000.0	10,000.0

Notes:
Other compounds not shown in table were analyzed but not detected.
<0.006 - Not found at or above the practical quantification limit shown.
B - Found in blank as well as sample; sample contamination may be attributable to blank contamination.
(- -) - No standard available.
* - Action Level Based on Total Organic Contaminants, NJDEP Cleanup Standards for Contaminated Sites Proposed New Rule: N.J.A.C. 7:26D, New Jersey Register, February 3, 1992.
NA - Not Analyzed.
(a) - NJDEP Impact to Groundwater Criteria.
(b) - NJDEP Residential Direct Contact Soil Cleanup Criteria.

ADC000514

[June 12, 1996]

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H2MGROUP

Table 2-8
Analytical Soil Sample Results (mg/kg)
AOC 4: Chemical/Waste Storage Building
ITT Avionics
Clifton, New Jersey

Parameter	A-SS1 (0.5' - 2.5')	A-SS2 (6' - 8')	A-SS3 (13' - 15')	B-SS1 (0.5' - 2.5')	B-SS2 (6' - 8')	B-SS3 (10' - 12')	NJDEP Impact to GW Criteria (a)	NJDEP Residential Criteria (b)
Volatile Organic Compounds:								
Methylene Chloride	0.320BJ	<0.0054	0.004J	0.001J	<0.0056	<0.0055	10	49
Chloroform	<0.750	<0.0054	0.016J	0.002J	<0.0056	<0.0055	1	19
1,2-Dichloroethane	0.680J	<0.0054	<0.0056	<0.0054	<0.0056	<0.0055	1	6
Chlorobenzene	<0.750	0.001J	<0.0056	<0.0054	<0.0056	<0.0055	1	37
2-Hexanone	<0.750	<0.0054	0.004J	<0.0054	0.007J	<0.0055	--	--
1,1,1-Trichloroethane	<0.750	<0.0054	<0.0056	0.004J	<0.0056	<0.0055	50	210
Carbon Tetrachloride	<0.750	<0.0054	<0.0056	<0.0054	0.002J	<0.0055	1	2
2-Butanone (MEK)	<0.750	0.015J	0.009J	0.002J	0.005J	0.005J	50	1000
Dibromochloromethane	<0.750	<0.0054	<0.0056	<0.0054	<0.0056	0.002J	1	110
Acetone	<0.750	0.042J	0.024J	0.024J	0.040J	0.026J	50	1000
Toluene	1.1	0.003J	0.003J	0.036	0.009	0.001J	500	1000
Ethylbenzene	1.0	<0.0054	<0.0056	0.002J	<0.0056	<0.0055	100	1000
Xylenes	7.4	<0.0054	<0.0056	0.008	<0.0056	<0.0055	10	410
Semi-Volatile Organic Compounds:								
Phenanthrene	0.460J	<0.360	<0.370	<0.360	<0.370	<0.370	--	--
Fluoranthene	<4.0	0.007J	<0.370	0.0048J	<0.370	<0.370	500	2300
Bis (2-Ethylhexyl) phthalate	<4.0	0.450	0.970	0.120J	0.340J	0.930	100	49
1,4-Dichlorobenzene	0.740J	<0.360	<0.370	<0.360	<0.370	<0.370	100	570
1,2-Dichlorobenzene	9.4	0.012J	<0.370	<0.360	<0.370	<0.370	50	5100
Naphthalene	<4.0	0.0069J	<0.370	<0.360	<0.370	<0.370	100	230
2-Methylnapthalene	0.190J	<0.360	<0.370	<0.360	<0.370	<0.370	--	--
Inorganics:								
Arsenic	3.8	1.1	<1.1	2.0	<1.1	<1.1	--	2
Beryllium	0.65	<0.54	<0.56	<0.54	<0.55	<0.55	--	1
Chromium	15.0	9.0	5.2	8.7	7.1	11.0	--	--
Copper	20.0	4.0	3.6	11.0	4.6	4.5	--	600
Lead	13.0	3.4	2.5	6.7	4.9	3.6	--	100
Mercury	0.2	<0.010	<0.011	<0.011	<0.010	<0.010	--	14
Nickel	21.0	7.3	6.0	8.4	7.2	7.3	--	250
Zinc	120.0	24.0	12.0	16.0	14.0	16.0	--	1500

Notes:
Other compounds not shown in table were analyzed but not detected.
<0.750 - Not found at or above the practical quantification limit shown.
(- -) - No Standard Available.
J - Parameter found below the practical quantification limit; concentration not quantifiable.
B - Found in blank as well as sample; sample contamination may be attributable to blank contamination.
(a) - NJDEP Impact to Groundwater Criteria.
(b) - NJDEP Residential Direct Contact Soil Cleanup Criteria.

[June 12, 1996]

H2MGROUP

Table 2-9
Summary of Concrete Floor Sampling - Printed Circuit Board Area
ITT Avionics Division
Clifton, New Jersey
August 27 - 28, 1990

Parameter	C-1	C-2	C-3	C-4	C-5	C-6	C-7	C-8	C-9	C-10	C-11
Corrosivity	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
pH	11.8	11.9	11.3	11.8	12.3	12.3	12.4	12.3	11.8	12.1	11.8
Reacivity	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Cyanide (mg/kg)	<0.10	0.33	0.33	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Sulfide (mg/kg)	<10.0	40.6	40.2	20.0	10.0	<10.0	40.0	<10.0	<10.0	38.3	<10.0
Arsenic (mg/l)	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
Barium (mg/l)	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Cadmium (mg/l)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chromium (mg/l)	<0.100	<0.100	<0.100	<0.100	<0.100	0.102	0.370	0.478	<0.100	<0.100	<0.100
Lead (mg/l)	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
Mercury (mg/l)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Selenium (mg/l)	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
Silver (mg/l)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Parameter	C-12	C-13	C-14	C-15	C-16	C-17	C-18	C-18 D	C-19*	C-20	C-21
Corrosivity	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
pH	11.8	11.7	12.2	12.2	12.1	12.2	11.7	11.9	11.7	12.1	11.6
Reactivity	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Cyanide (mg/kg)	<10.0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Sulfide (mg/kg)	21.2	12.4	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Arsenic (mg/l)	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
Barium (mg/l)	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Cadmium (mg/l)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.059	0.032	<0.025	<0.025
Chromium (mg/l)	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	0.45	<0.100
Lead (mg/l)	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
Mercury (mg/l)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Selenium (mg/l)	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
Silver (mg/l)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Notes:
NC - Non Corrosive
NR - Non Reactive
< 0.025 - Parameter not detected above detection limit.
C-18D - Duplicate Sample
* - Control Sample

[June 12, 1996]

H2MGROUP

Table 2-10
Summary of Wall Wipe Sampling - Printed Circuit Board Area
ITT Avionics Division
Clifton, New Jersey
August 28, 1996

Parameter	WW-1	WW-2	WW-3	WW-4	WW-5	WW-6	WW-7	WW-8	WW-9
Corrosivity	NC	NC	NC	NC	NC	NC	NC	NC	NC
pH	5.2	5.6	5.5	5.4	5.5	6.1	5.5	5.6	5.7
Reactivity	NR	NR	NR	NR	NR	NR	NR	NR	NR
Cyanide (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Sulfide (mg/kg)	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	57.6
Arsenic (ug/m^2)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Barium (ug/m^2)	55.6	52.8	15.28	39.72	16.4	2.86	11.52	2.048	2.868
Cadmium (ug/m^2)	4.88	9.92	2.788	1.488	<0.50	<0.50	1.26	<0.50	<0.50
Chromium (ug/m^2)	159.2	119.6	33.68	76.8	35.44	6.84	23.48	3.512	15.04
Lead (ug/m^2)	448.0	768.0	82.0	279.2	44.0	5.08	28.8	112.4	25.6
Mercury (ug/m^2)	2.504	1.968	1.920	0.72	0.412	<0.40	1.756	2.808	1.852
Selenium (ug/m^2)	<0.50	<0.50	<0.50	0.920	<0.50	<0.50	<0.50	<0.50	<0.50
Silver (ug/m^2)	<1.0	3.168	2.308	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Parameter	WW-10	WW-11	WW-12	WW-13	WW-14	WW-15	WW-16*	FB-1
Corrosivity	NC	NC	NC	NC	NC	NC	NC	NC
pH	5.4	4.0	6.4	6.4	4.8	6.3	6.3	6.3
Reactivity	NR	NR	NR	NR	NR	NR	NR	NR
Cyanide (mg/kg)	<0.20	<0.10	<0.10	<0.20	<0.20	<0.20	<0.20	<0.20
Sulfide (mg/kg)	<20.0	158.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0
Arsenic (ug/m^2)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Barium (ug/m^2)	11.4	2.688	<1.0	2.848	11.64	1.36	1.592	<1.0
Cadmium (ug/m^2)	<0.50	<0.50	<0.50	<0.50	102.4	<0.50	<0.50	<0.50
Chromium (ug/m^2)	49.2	6.48	1.28	6.64	12.96	1.2	<1.0	<1.0
Lead (ug/m^2)	616.0	96.0	4.24	23.6	86.4	2.768	0.9	<0.50
Mercury (ug/m^2)	1.396	1.30	<0.40	1.836	1.92	0.792	0.876	<0.40
Selenium (ug/m^2)	<0.50	<0.50	<0.50	<0.50	0.840	<0.50	<0.50	<0.50
Silver (ug/m^2)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Notes:
NC - Non Corrosive
NR - Non Reactive
< 0.025 - Parameter not detected above detection limit.
* - Control Sample

[June 12, 1996]

H2M GROUP

Table 2-11
Summary of Ceiling Tile Sampling - Printed Circuit Board Area
ITT Avionics Division
Clifton, New Jersey
August 28 & September 10, 1996

Parameter	CT-1	CT-2	CT-3	CT-4	CT-5	CT-6	CT-6D	CT-7
Corrosivity	NC	NC	NC	NC	NC	NC	NC	NC
pH	7.7	7.1	7.9	7.9	7.2	7.6	7.7	7.7
Reactivity	NR	NR	NR	NR	NR	NR	NR	NR
Cyanide (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Sulfide (mg/kg)	196.0	148.0	310.0	323.0	147.0	142.0	135.0	256.0
Arsenic (mg/l)	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
Barium (mg/l)	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Cadmium (mg/l)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chromium (mg/l)	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Lead (mg/l)	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
Mercury (mg/l)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.000250	0.000500	0.00275
Selenium (mg/l)	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
Silver (mg/l)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Notes:
NC - Non Corrosive
NR - Non Reactive
< 0.025 - Parameter not detected above detection limit.
CT-6D - Duplicate Sample

Table 2-12
Volatile Organic Compounds Quantified in Groundwater (ug/l)
ITT Avionics Division
Clifton, New Jersey
August 1990

Compound	MW-1	MW-1A	MW-2	MW-3	MW-4	MW-5	MW-6	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-13A	MW-14	MW-14A	MW-15	NJDEP Specific GW Quality Criteria
1,1-Dichloroethene	1500	55	<5	<5	5	<5	10	<5	<5	1900	190	<5	<5	<5	<5	<5	<5	2
1,1-Dichloroethane	<5	5	5	18	<5	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	70
Chloroform	<5	7	<5	<5	<5	6	7	<5	16	<5	<5	33	32	5	12	14	<5	6
1,1,1-Trichloroethane	13700	200	<5	14	9	8	34	<5	<5	5600	590	24	<5	14	<5	<5	100	30
Carbon Tetrachloride	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5	<5	<5	<5	<5	<5	2
Tetrachloroethene	<5	<5	<5	<5	9	<5	<5	<5	<5	130	<5	<5	<5	<5	<5	<5	<5	1
Trichloroethene	<5	44	<5	5	17	26	38	<5	7	180	<5	<5	6	6	<5	<5	<5	1
Benzene	<5	<5	18	230	100	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	250	1
Toluene	<5	<5	<5	170	160	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	390	1000
Ethylbenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	760	700
Methylene Chloride	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5	<5	2

Notes:
< 5 - Analyte not detected at or above the given quantification limit.
180 - Denotes concentration above NJDEP Specific Groundwater Quality Criteria
<5 - Denotes detection limit is above the NJDEP Specific Groundwater Quality Criteria.

[June 12, 1996]

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Table 2-13
Volatile Organic Compounds Quantified in Groundwater (ug/L)
ITT Avionics Division
Clifton, New Jersey
November 1990

Compound	MW-1	MW-1A	MW-2	MW-3	MW-4	MW-5	MW-6	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-13A	MW-14	MW-14A	MW-15	NJDEPE Specific GW Quality Criteria
Benzene	<5	<5	<5	110	140	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	240	1
Carbon Tetrachloride	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	22	<5	<5	<5	<5	<5	2
Chlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	6	<5	<5	<5	<5	<5	<5	4
Chloroform	3J	9	<5	<5	<5	5	<5	<5	5	<5	14	10	39	<5	7	10	<5	6
1,1-Dichloroethane	10	11	<5	<5	7	6	2J	<5	<5	<5	160	23	3J	8	<5	<5	7	70
1,2-Dichloroethane	24	<5	<5	<5	<5	<5	<5	<5	<5	7	65	<5	<5	<5	<5	<5	<5	2
1,1-Dichloroethene	1,000	140	<5	<5	<5	<5	19	<5	<5	1,000	2,700	55	55	12	<5	<5	<5	2
Ethylbenzene	<5	8	<5	270	380	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	600	700
Tetrachloroethene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	15	<5	<5	<5	<5	<5	<5	1
Toluene	1J	6	<5	120	830	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	390	1000
1,1,1-Trichloroethane	4,400	400	<5	<5	<5	13	87	<5	8	4,400	7,400	191	<5	45	5	<5	<5	30
Trichloroethene	23	61	<5	<5	<5	32	32	<5	23	130	130J	130	6	13	12	<5	<5	1
Vinyl Chloride	<10	<10	<10	<10	<10	1J	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	5
1,2-trans-Dichloroethene	<5	5	<5	<5	28	10	2J	<5	<5	<5	8	<5	<5	<5	<5	<5	8	100

Notes:

180 - Denotes concentration above NJDEPE Specific Groundwater Quality Criteria.

<5 - Denotes detection limit is above the NJDEPE Specific Groundwater Quality Criteria.

[June 12, 1996]

Table 2-14
Total Volatile Organic Compounds
Quantified in Groundwater (ppb)
ITT Avionics Division
Clifton, New Jersey

Monitoring Period	MW 1	MW 2	MW 3	MW 4	MW 5	MW 6	MW 7	MW 8	MW 9	MW 10	MW 11	MW 12	MW 13	MW 14	MW 15	MW 16	MW 1A	MW 13A	MW 14A	MW 17A
April 88	11,068	75	14,400	21,280	9,300	595	30,099	100	35	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
January 89	32,300	168	84,000	43,000	81,000	758	-	12	98	20,678	1,571	NI	NI	NI	NI	NI	NI	NI	NI	NI
August 90	5,245	23	437	300	45	89	-	0	23	8,210	805	62	43	12	1,500	NI	311	30	19	NI
November 90	5,457	0	500	1,385	72	142	-	0	36	5,537	10,368	381	53	24	1,245	NI	640	78	10	NI
February 91	3,836	0	340	45	39	226	-	14	43	104	13,600	413	29	32	40	NI	81	47	60	NI
May 91	3,615	13	3,061	3,166	61	349	-	0	48	6,042	14,345	330	41	19	1,286	204	1,269	54	39	184
August 91	948	-	2,090	639	127	128	-	4	35	5,829	16,450	89	94	32	887	389	515	49	46	303
November 91	610	12	1,129	2,780	536	172	-	0	25	2,306	5,309	47	66	18	1,062	140	603	24	24	137
February 92	1,080	6	710	2,774	27	231	-	0	15	6,610	11,780	47	38	37	1,100	206	598	30	25	248
May 92	481	0	239	2,860	20	186	-	0	12	3,990	9,800	26	29	17	130	110	293	29	24	237
August 92	480	0	62	1,979	29	46	-	0	16	2,880	10,300	25	44	25	366	45	353	0	28	105
September 92	Treatment system operation begins *																			
November 92	207	0	47	1,869	10	71	-	0	13	3,181	6,414	18	34	22	1,905	7	136	154	21	150
February 93	140	7	14	1,767	25	42	-	0	0	1,708	14,909	11	18	7	460	165	120	18	9	86
May 93	92	0	0	6	6	1,693	-	0	31	1,708	22,835	12	0	0	0	46	6	63	45	92
August 93	79	0	0	646	9	45	-	0	9	1,219	15,173	12	23	7	0	135	8	7	0	45
November 93	123	0	6	1,156	23	70	-	0	0	862	16,208	16	28	0	7	74	38	73	0	118
February 94	47	0	0	1,164	0	22	-	0	0	746	31,681	0	0	0	0	85	0	42	5	74
May 94	129	1	7	842	0	67	-	0	0	673	68,645	15	6	11	3	45	11	44	11	42
	Extraction Well RW-3 Installed and Operational *																			
August 94	206	1	29	341	0	123	-	0	0	692	39,619	19	14	8	15	62	70	14	9	29
November 94	96	1	6	1200	8	92	-	0	5	569	23,630	28	22	5	5	44	24	89	5	54
May 95	313	-	-	1096	-	127	-	-	-	809	34,519	-	-	-	-	-	-	-	-	-
Nov-95	305	0	2	228	0	445	-	0	21	481	4848	14	15	8	1	10	19	18	3	19

Note:
NI - Not yet installed.

[June 12, 1996]

Table 2-15
Volatile Organic Compounds Quantified in Groundwater (ug/L)
Former No. 2 and No. 4 Fuel Oil USTs
ITT Avionics Division
Clifton, New Jersey

Compound	MW-203 May 8, 1991	MW-203 May 22, 1991	MW-203 Sept 27, 1995	MW-204 May 8, 1991	MW-204 May 22, 1991	MW-204 Sept 27, 1995	MW-205 May 8, 1991	MW-205 May 22, 1991	MW-205 Sept 27, 1995	NJDEPE Specific GW Quality Criteria
Chloroform	18	20	10	14	14	6	15	13	4	6
1,1,1-Trichloroethane	11	9	<1	9	7	<1	9	6	<1	30
Trichloroethene	11	14	6	<5	<5	<1	7	18	5	1
1,4-Dichlorobenzene	<5	<5	<1	<5	<5	22	<5	19	6	75
c/t-1,2-Dichloroethene	<5	<5	<1	<5	<5	<1	5	10	<1	10/100*
1,3-Dichlorobenzene	<5	<5	<1	<5	<5	4	<5	<5	2	600
Chlorobenzene	<5	<5	<1	<5	<5	15	<5	<5	1	4

Notes:
1 - Denotes concentration above NJDEP Specific Groundwater Quality Criteria.
< 5 - Denotes detection limit is above the NJDEPE Specific Groundwater Quality Criteria.
<5 - Not found at or above the practical quantification limit shown.
* - Specific Groundwater Quality Criteria for cis-1,2-dichloroethene and trans-1,2-dichloroethene, respectively.

[June 12, 1996]

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Table 2-16
Volatile Organic Compounds Quantified in Groundwater (ug/L)
AOC 4 - Chemical / Waste Storage Building
ITT Avionics Division
Clifton, New Jersey

	Upgradient MW-APC1-B			Downgradient MW-APC1-A			NJDEP Specific GW Quality
Compound	Dec. 4, 1992	Sept 27, 1995	Dec 13, 1995	Dec. 4, 1992	Sept 27, 1995	Dec 13, 1995	Criteria
Methylene Chloride	3BJ	<1	< 5	2BJ	<1	<5	2
Chloroform	77	<1	< 5	<5	430D	94	6
1,1-Dichloroethene	3J	2	< 5	5J	<1	<5	2
1,1-Dichloroethane	4J	<1	< 5	<5	2	<5	70
1,2-Dichloroethene	11	<1	<5	<5	<1	<5	10/100*
1,1,1-Trichloroethane	18	2	14	31	9	22	30
Carbon Tetrachloride	7.8	<1	< 5	<5	58	27	2
Trichloroethene	3.6	<1	< 5	<5	20	55	1
Tetrachloroethene	<5	<1	< 5	<5	1	<5	1

Notes:

- Denotes concentration above NJDEP Specific Groundwater Quality Criteria.

<5 - Denotes detection limit is above the NJDEP Specific Groundwater Quality Criteria.

<5 - Not found at or above the practical quantification limit shown.

D - Diluted sample; initial run above calibration range of laboratory analytical instrument.

* - Specific Groundwater Quality Criteria for cis-1,2-dichloroethene and trans-1,2-dichloroethene, respectively.

J - Parameter found below the practical quantification limit; concentration not quantifiable.

B - Found in blank as well as sample; sample contamination may be attributable to blank contamination.

[June 12, 1996]

APPENDIX C

APPENDIX D

YORK LABORATORIES
A DIVISION OF YWC

RECEIVED
OCT 26 1990
ENVIRONMENTAL PROTECTION

SAMPLING PLAN RESULTS
OF
CONCRETE BORINGS, WALL WIPES, AND CEILING TILE
AT THE
ITT CORPORATION
CLIFTON, NEW JERSEY

PREPARED BY:
YORK LABORATORIES OF NEW JERSEY
628 ROUTE 10
WHIPPANY, NEW JERSEY 07981

OCTOBER, 1990

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200 MONROE TURNPIKE • MONROE, CONNECTICUT 06468 • (203) 452 8200
125 WEST CENTER COURT • SCHAUMBURG, ILLINOIS 60195 • (708) 705 0740

TABLE OF CONTENTS

INTRODUCTION.....1

SITE LOCATION & DESCRIPTION.....1

SAMPLING PLAN.....1

TASK I: CONCRETE CORE SAMPLES.....1-2

TASK II: WALL WIPES SAMPLES.....2-3

TASK III: CEILING TILE SAMPLES.....3

FIELD QUALITY CONTROL SAMPLES.....3

FIELD LOGS..... 3-4

SAMPLE SHUTTLE AND CHAIN OF CUSTODY FORMS.....4

SAMPLE PREPARATION AND LABORATORY ANALYSIS.....4

HEALTH AND SAFETY.....5

FINDINGS.....5

PHYSICAL CHARACTERISTICS TASK I.....5

PHYSICAL CHARACTERISTICS TASK II.....5

PHYSICAL CHARACTERISTICS TASK III.....5-6

CHEMICAL CHARACTERISTICS.....6

DISCUSSION OF TEST RESULTS.....6-8

DIAGRAMS.....10

TASK I SAMPLE LOCATION DIAGRAM.....10A

TASK II SAMPLE LOCATION DIAGRAM.....10B

TASK III SAMPLE LOCATION DIAGRAM.....10C

TASK I FIELD SAMPLING REPORT FORM.....11-18

TASK II FIELD SAMPLING REPORT FORM.....19-20

TASK III FIELD SAMPLING REPORT FORM.....21-22

DATA SUMMARY TABLES.....23-43

ANALYTICAL REPORTS # 20900-1743, 1753, 1757, 1858....ATTACHMENT I

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YORK LABORATORIES
A DIVISION OF YWC

October 10, 1990

Advanced Environmental Technology Corporation
1 Eden Lane
Flanders, New Jersey 07836

Attention: Kevin Anderson

Re: Sampling Plan Results
ITT Printed Circuit Board Area
Project # 02279004

Dear Mr. Anderson:

As requested, we have completed the environmental sampling and testing of the Printed Circuit Board area, at the ITT Corporation, of Clifton, New Jersey. In this report, we present the sampling procedures, field quality control, and sampling plan results.

SITE LOCATION AND DESCRIPTION

The ITT Corporation is located at 100 Kingsland Road, Clifton, Passaic County, New Jersey. The Printed Circuit Board Area consists of ten rooms and is located on the east side of the facility.

SAMPLING PLAN

In order to conduct an environmental assessment of the Printed Circuit Board Area, ITT and York Laboratories designed a sampling plan which included the collection and laboratory analysis of concrete floor samples, ceiling tile samples, and wall wipe samples. The sampling plan was executed on August 27, 28 and September 10, when a total of twenty one (21) concrete boring samples, six (6) ceiling tile samples, and fifteen (15) wall wipe samples were collected in the Printed Circuit Board Area. The sample locations are shown on the Sample Location Diagrams on pages 9-11. The following sections of this report describe the work performed in each task. All sampling procedures were performed in accordance with the Sampling and Analysis Plan prepared by Gail Mazzarell Quotation No.: 080790-E29-GM/TM.

TASK I CONCRETE CORE SAMPLES

Twenty (20) concrete core samples were collected within ten (10) rooms of the Printed Circuit Board area and one (1) control sample (Sample I.D. C-19) was collected at the location outside the Printed Circuit Board Area. The sample locations were marked by Mr. Donald Polzo, the ITT Corporation's Supervisor of Environmental Protection.

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The core drilling procedures were conducted in accordance with ASTM C42-87. All core specimens were drilled with a portable Black and Decker drill equipped with a two (2) inch diameter core barrel. At each sample location, the floor surface area was first cleaned with a wire brush and distilled water to remove loose particles and dirt. The sample location was then cored to the specified depth between five (5) and seven (7) inches below the surface. The diamond bit was cooled with a constant flow of distilled water to prevent over heating and destruction of the core barrel. Distilled water was used to prevent the possibility of contamination from tap water. The waste water was disposed of at the floor drain sites within the PCB Area.

Upon retrieval of each core sample, the sample was placed on plastic sheeting where the sample was measured and the physical characteristics were described in the field sampling log book. The sample was placed into a clean sample container and labeled with the sample I.D., client, date and time collected, and parameters to be tested for. A field quality control sample was taken at sample location C-18 DUP . It was performed by drilling a core sample adjacent to the location specified by the representative for ITT Corporation. The duplicate was handled and analyzed the same as the other samples.

The drilling equipment was decontaminated between sample locations using the following procedure:

1. Wash with tap water and non phosphate soap.
2. Rinse with tap water.
3. Rinse with deionized water.
4. Rinse with a 10% Nitric Acid solution.
5. Rinse with deionized water.
6. Air dried.

TASK II WALL WIPE SAMPLES

Fifteen (15) wall wipe samples were collected within five rooms of the printed circuit board area and one (1) sample was collected in the environmental conference room for background data (Sample I.D. WW-15). The sample locations were marked by Mr. Donald Polzo.

The wipe samples were collected by taping a template measuring 25 cm x 25 cm square on the wall to be sampled. The template was used to measure out the sample area to minimize error and markings on the wall. A 3 inch X 3 inch sterile gauze pad was then used to wipe four 25 cm X 25 cm square areas. The gauze pad was removed from the sterile wrapping and was soaked with 15-20 mls of deionized water prior to the sampling. The sample area was then stroked with the saturated gauze pad once in the horizontal direction and once in the vertical direction. The gauze pad was then placed into a clean sample container and labeled to show sample I.D., client, date and

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time collected, and parameters to be tested for. This information along with a sample description was recorded in the field log book. Field quality control samples included one (1) field blank. The field blank was performed by saturating a sterile gauze pad with deionized water and placing it into a clean sample container. The blank samples were tested for the same parameters as the other wipe samples collected in Task II.

TASK III CEILING TILE SAMPLES

Six (6) ceiling tile samples were collected within four rooms of the printed circuit board area and one (1) sample (Sample I.D. CT-6) was collected in the store room of the Environmental office for background data. The sample locations were identified by Mr. Donald Polzo.

The ceiling tile samples were collected by measuring four (4) inches X four (4) inches and marking the tile with a decontaminated utility knife. The ceiling tile was then cut with the same decontaminated utility knife. The sample was then placed into a clean sample container and labeled to show sample I.D., client, date and time collected and parameters to be tested for this information was also recorded in the field log book. After each sample was taken a new decontaminated blade was placed into the utility knife. A second sampling episode was required due to the insufficient amount of sample collected during the first sampling episode. During the second sampling episode three (3) more pieces of ceiling tile measuring four (4) inches X four (4) inches were collected from the same areas as the first sampling episode. The quality control sample for Task III was a field duplicate and was collected from a location specified by ITT Corporation.

FIELD QUALITY CONTROL SAMPLES

Field QA/QC samples were collected during this project to provide data necessary information for subsequent review, interpretation, and validation of generated analytical data.

The Field QA/QC samples collected during the sampling programs included one (1) field duplicate for the TASK I (C-18DUP) and TASK III (CT-6DUP) sampling events and one (1) field blank for the wall wipe sampling (FB-1). All QA/QC samples were handled in an identical manner as the other samples and tested for EP Toxicity Metals or Total RCRA Metals, Reactivity and Corrosivity.

FIELD LOGS

All field sampling information was recorded in a bound field log book and transcribed onto the Field Sampling Report Forms enclosed in this report.

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Field logs were completed after each sample was collected to record the following information:

- date and time sample was collected
- sampler
- sample point I.D.
- sample description
- sampling equipment used
- field measures (where appropriate)
- general comments (e.g. odor, staining, etc.)
- parameters to be tested for

SAMPLE SHUTTLE AND CHAIN OF CUSTODY

All samples were placed into a cooler chilled with blue ice for transportation to York Laboratories. All samples were accompanied by a chain of custody and test request form.

The Chain of Custody Form was signed with the date and time for the following activities:

- whenever the shuttle was opened (the seal was broken) the form was signed.
- each time the shuttle was transferred to the responsibility of another person.

In addition, the following was included on the Chain of Custody Form for every sample:

a. Sample identification number
b. Analyses requested
c. Sample matrix
d. Date and time
e. Signature of sampler
f. Signature of those involved in the Chain of Custody progression

The samples were delivered to York Laboratories located at 628 Route 10, Whippany, New Jersey (NJ Certification No. 14530) where the samples were relinquished to the sample custodian and logged in.

SAMPLE PREPARATION AND LABORATORY ANALYSIS

The concrete samples from Task I were pulverized prior to testing and the ceiling tile samples were cut into smaller pieces prior to analysis. The concrete samples and the ceiling tile samples were tested for EP TOX Metals, Reactivity, and Corrosivity. The wall wipe samples were tested for RCRA Metals, Reactivity, and Corrosivity.

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FINDINGS

PHYSICAL CHARACTERISTICS

TASK I-CONCRETE CORE SAMPLE

The most detailed description of the core samples can be found on the "TASK I Concrete Core Sampling-Field Sampling Report Forms" found on pages 11 to 18. The report forms illustrate the total length of the core obtained which is then divided into sections based on color differences, staining or descriptions. For convenience purposes, the sample descriptions are summarized below.

In general, all core samples consisted of a 1/8" top layer of Tarazzo and Paint. The remainder of the core was typically coarse aggregate (round gravel) embedded in a mixture of fine aggregate (sand) and cement. Below the top layer, the common color of the concrete cores was found to be a dark gray/black or tan which distinctly changed to a white or light gray with depth. Staining was observed samples C-19 and C-21 at a point where the core was found fractured upon retrieval. Wire mesh was detected in cores C-5, C-6, and C-7.

It is important to note that the sampling plan specified a core thickness of five (5) inches or seven (7) inches depending on the sample location point. The drilling crew attempted to achieve these depths, however, due to the thickness of the concrete slab in some areas and the fracturing of the concrete core during drilling at shallower depths, the specified length of some samples was not obtainable.

TASK II-WALL WIPE SAMPLES

The most detailed description of the wall wipe samples can be found on the "TASK II Wall Wipe Sampling-Field Sampling Report Forms" found on pages 19 to 20. The report forms give a detailed description of the surface of the area sampled and of the gauze pad after sampling.

In general, all wipe samples consisted of light brown/black in color with dust or soot accumulation. The surface sampled included painted brick and painted drywall.

TASK III-CEILING TILE SAMPLES

The "TASK III Ceiling Tile Sampling-Field Sampling Report Form" found on page 21 give descriptions of the ceiling tiles sampled. The samples were consistently textured (white on white) with holes and tan backing.

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CHEMICAL CHARACTERISTICS

The results of the laboratory analysis and Tier II Quality Control/Quality Assurance data package is presented in Attachment I, report numbers 20900-1743, 1753, 1757, and 1858.

For the review of the detailed analytical data package in Tier II Deliverables format, refer to the table below for the list of samples and their corresponding report packages.

*	Report Number 20900-1743	Concrete Core Samples C-1 through C-10 and C-12 through C-14.
*	Report Number 20900-1753	Wall Wipe Samples WW-1 through WW-16, Ceiling Tile Samples CT-1 through CT-7
*	Report Number 20900-1757	Concrete Core Samples C-11, C-15 through C-21.
*	Report Number 20900-1858	Ceiling Tile Samples CT-1 through CT-7.

For interpretation purposes, data summary tables have been prepared for the sampling events to evaluate the analytical data which characterizes each sampling location. Tables I through X on pages 24-44 summarize the test results.

DISCUSSION OF TEST RESULTS

TASK I-E.P. TOXICITY METALS, REACTIVITY, CORROSIVITY

The E.P. Toxicity Metals analysis included testing for arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver on the sample leachate. The test results of the twenty one (21) concrete core samples, and one (1) duplicate sample showed that all concentrations were below the RCRA guidelines (See Table III).

The Reactivity test results shown on Table II indicated that the samples were non reactive.

The Corrosivity test results shown on Table I indicated that the samples were non corrosive. The pH readings ranged from 11.3 to 12.4 standard units.

The results of these analyses are shown in the data summary tables one through three on pages 24-30.

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TASK II-RCRA METALS, REACTIVITY, CORROSIVITY

The RCRA Metals analysis included testing for arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver. The test results of the sixteen (15) wall wipe samples and one (1) field blank are shown on Tables VI and VII. The results were compared to the control sample WW-16 which was collected in the environmental office conference room to provide data necessary for subsequent review and interpretation.

Separate tables have been compiled, showing the test results in both ug/wipe, as they are represented in the analytical data package 20900-1753 and ug/square meter (M^2) after conversion. Because each sample wipe area was less than a square meter, the analytical data was converted to ug/M^2 using a multiple conversion factor of 4. This factor was arrived by using the following formula:

A X 4 =B

then: 1 SQUARE METER/B = 4

where:

A = Area of each wipe = 0.0625 square meter
4 = Number of wipes per composite
B = Total area of composite wipe = 0.25 square meter

In comparison to the control sample utilizing the results presented in Table VII, the following parameters were elevated above background levels:

Barium was detected at sample locations WW-1 through WW-11, WW-13 and WW-14. The concentrations of these samples ranged from 1.36 to 55.6 ug/M^2. The highest levels were found at sample locations WW-1 and WW-2. The test results of the control sample indicated that Barium was detected at 1.592 ug/M^2.

Cadmium was detected at sample locations WW-1 through WW-4, WW-7 and WW-14. The concentration of these samples ranged from 1.26 to 102.4 ug/M^2. The highest level was found at sample location WW-14. The test results of the control sample indicated that Cadmium was not detected at <0.50 ug/M^2.

Chromium was found at concentrations which ranged from 1.2 to 159.2 ug/M^2 in all samples tested. The highest levels were detected at sample locations WW-1 and WW-2. Chromium was not detected in the control sample at <1.0 ug/M_2.

Lead was detected in all samples tested. The concentrations ranged from 2.768 to 768.0 ug/M^2.The highest levels were found in samples

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W-1, WW-2, WW-4 and WW-10. Lead was detected in the control sample at a concentration of 0.90 ug/M^2.

Mercury was found at sample locations WW-1, WW-2, WW-3, WW-7 through WW-11, WW-13, and WW-14. The concentrations of these samples ranged from 0.72 to 2.808 ug/M^2. The highest levels were detected in samples WW-1 and WW-8. Mercury was detected in the control sample at a concentration of 0.876 ug/M^2.

Selenium was detected in samples WW-4 and WW-14. Their concentrations were 0.920 and 0.840 ug/M^2, respectively. Selenium was not detected in the control sample at <0.50 ug/M^2.

Silver was detected in samples WW-2 and WW-3. The concentrations were 3.168 and 2.308 ug/M^2, respectively. Silver was not detected in the control sample at <1.0 ug/M^2.

Arsenic was not detected in any of the samples tested above <1.0 ug/M^2.

In general, the highest metal concentrations were detected in the samples collected from the hazardous waste storage area and the adjacent room.

The Reactivity test results shown on Table V indicated that the samples were non reactive.

The Corrosivity test results shown on Table IV indicated that the samples were non corrosive. The pH ranged from 4.0 to 6.4 standard units.

The results of these analyses are shown in the data summary tables four through seven on pages 31-39.

TASK III-E.P. TOXICITY METALS, REACTIVITY, CORROSIVITY

The E.P. Toxicity Metals analysis included testing for arsenic, barium, chromium, lead, mercury, selenium, and silver on the sample leachate. The test results of the seven (7) ceiling tile samples and, one (1) duplicate sample shown on Table X indicated that all concentrations were below the RCRA guidelines.

The Reactivity test results shown on Table IX indicated that the samples were non reactive.

The Corrosivity test results shown on Table VIII indicated that the samples were non corrosive. The pH readings ranged from 7.1 to 7.9 standard units.

The results of these analyses are shown in the data summary tables eight through ten on pages 40-44.

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The remaining portions of this report include the site diagrams, the field sampling report forms, the analytical data summary tables and the data packages.

If you have any questions regarding this report, please do not hesitate to contact me at (201) 428-8181.

Sincerely,

York Laboratories of New Jersey

Gail Mazzarell
Project Manager

CC: Donald Polzo, ITT
Kyle Dolbow, York

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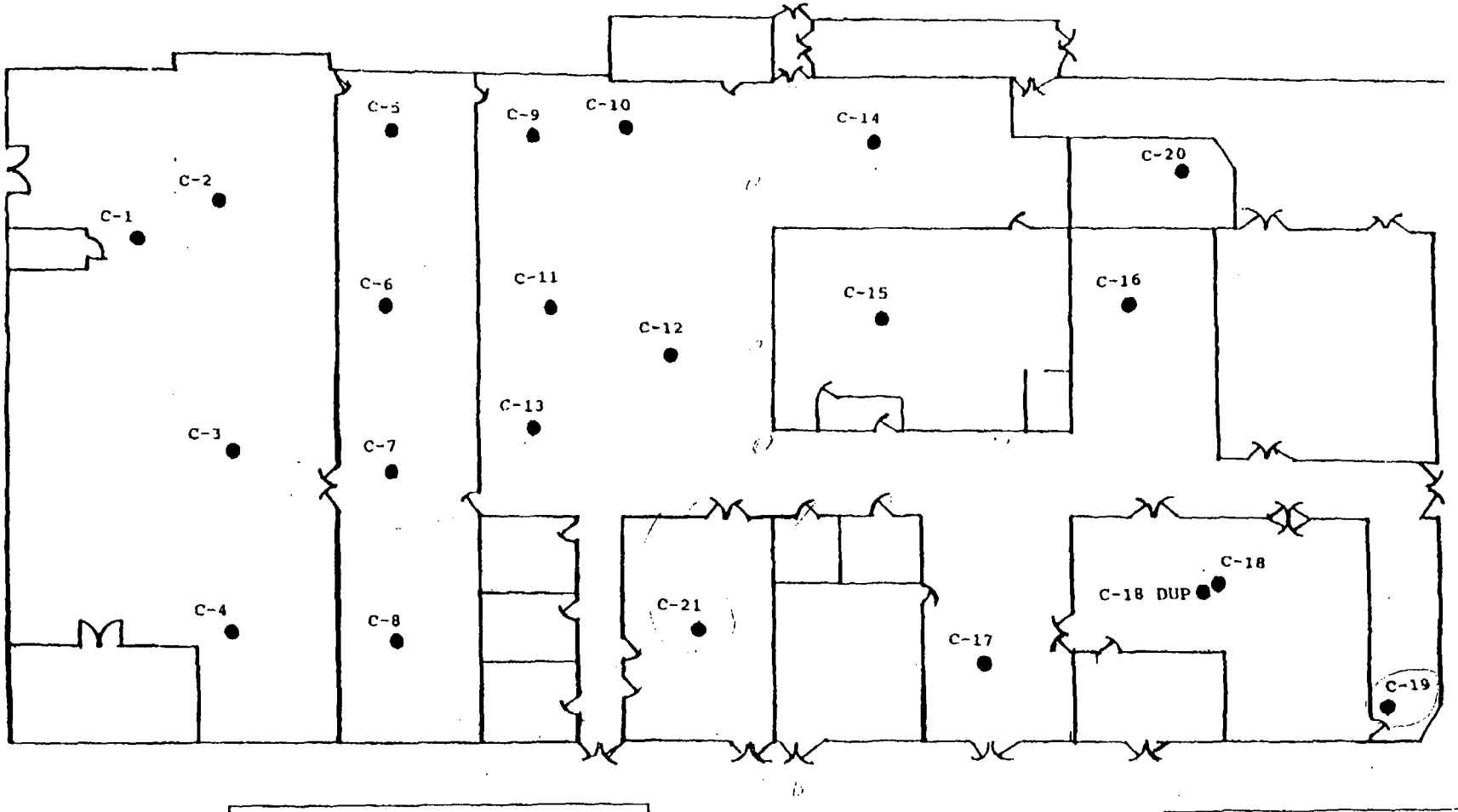
TASK I SAMPLE LOCATION DIAGRAM
ITT CORPORATION



KEY

SCALE 1/8" = 3 FEET

● CONCRETE CORE SAMPLE LOCATION

CLIENT: ITT CORPORATION
LOCATION: 100 Kingsland Rd.
Clifton, N.J.

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WHIPPANY N.J. 07981

M.J.Q.

10A

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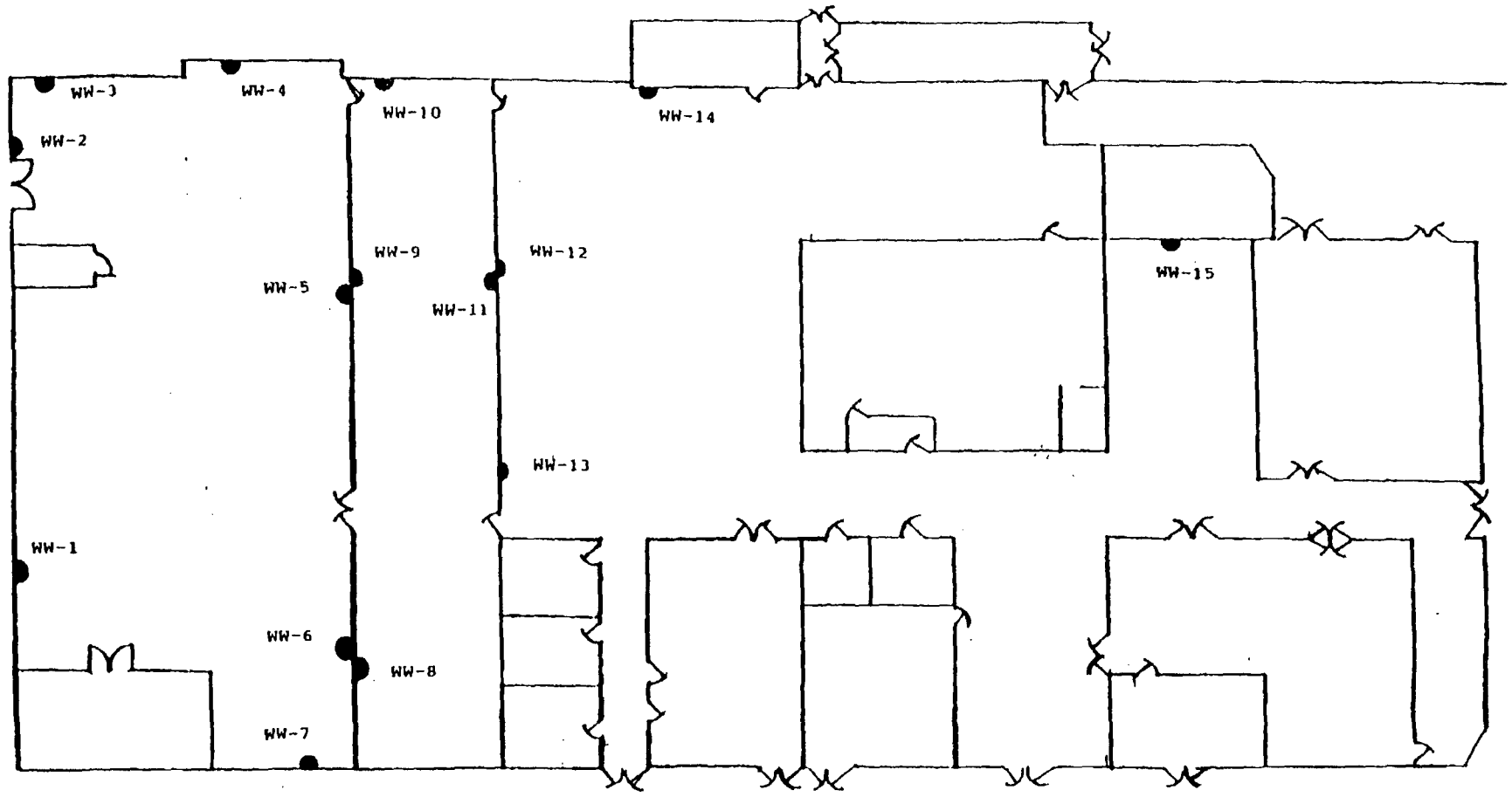
TASK II SAMPLE LOCATION DIAGRAM
ITT CORPORATION



KEY

SCALE 1/8" = 3 FEET

WALL WIPE
SAMPLE LOCATION

CLIENT: ITT CORPORATION
LOCATION: 100 Kingsland Rd.
Clifton, N.J.

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M.J.Q

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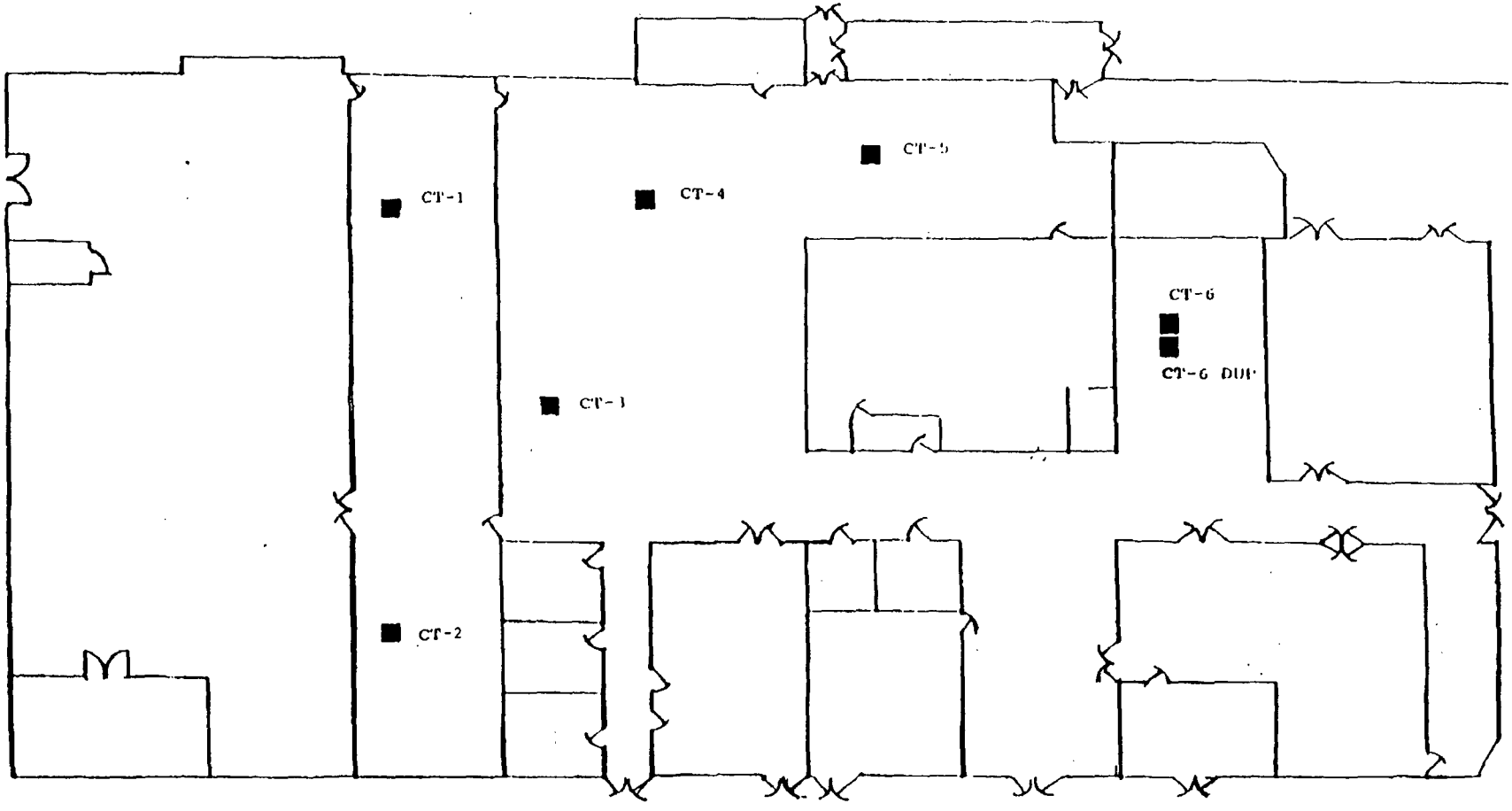
TASK ITT SAMPLE LOCATION DIAGRAM
ITT CORPORATION



KEY

SCALE 1/8" = 3 FEET

■ CEILING TILE SAMPLE LOCATION

CLIENT: ITT CORPORATION
LOCATION: 100 Kingsland Rd.
Clifton, N.J.

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M.J.Q.

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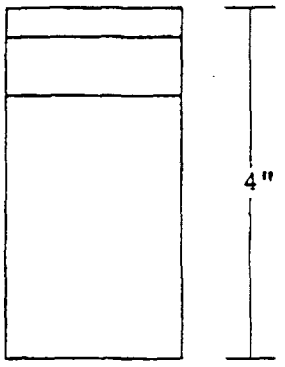
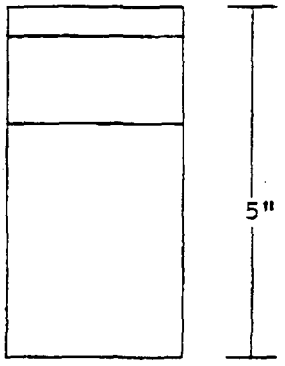
TASK I
CONCRETE CORE SAMPLING
FIELD SAMPLING REPORT FORM

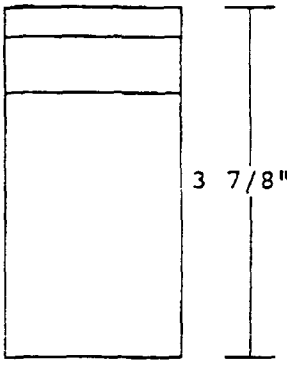
Sample ID: C-1
Date: 8/27/90
Time: 1000
Parameters: EP TOX Metals, Reactivity, Corrosivity
Description: 1/8" Tarazzo & Paint
1/4" Dark Gray
3 5/8" White, Gray, MF Gravel



Sample ID: C-2
Date: 8/27/90
Time: 1015
Parameters: EP TOX Metals, Reactivity, Corrosivity
Description: 1/8" Tarazzo & Paint
1/2" Dark Gray, Black
4 3/8" White, Gray, MF Gravel



Sample ID: C-3
Date: 8/27/90
Time: 1030
Parameters: EP TOX Metals, Reactivity, Corrosivity
Description: 1/8" Tarazzo & Paint
1/4" Dark Gray, Black
3 1/2" White, Lt Gray, MF Gravel



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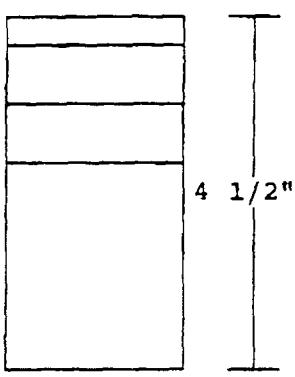
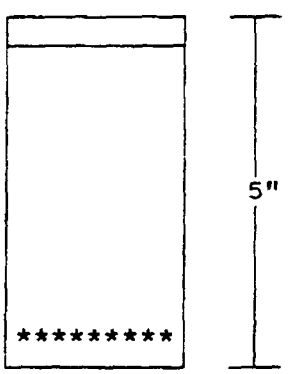
TASK I
CONCRETE CORE SAMPLING
FIELD SAMPLING REPORT FORM

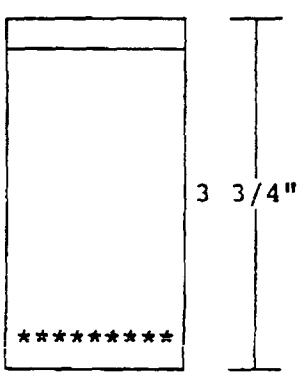
Sample ID: C-4
Date: 8/27/90
Time: 1043
Parameters: EP TOX Metals, Reactivity, Corrosivity
Description: 1/8" Tarazzo, Paint
1/4" Dark Gray, Black
1/4" Tan, Brown
3 7/8" White, Lt Gray, MF Gravel



Sample ID: C-5
Date: 8/27/90
Time: 1105
Parameters: EP TOX Metals, Reactivity, Corrosivity
Description: 1/16" Tarazzo, Paint
4 15/16" White, Lt Gray, MF Gravel
Wire Mesh at 4"



Sample ID: C-6
Date: 8/27/90
Time: 1115
Parameters: EP TOX Metals, Reactivity, Corrosivity
Description: 1/16" Tarazzo, Paint
3 11/16" Gray White MF Gravel
Wire Mesh at 3 1/2"



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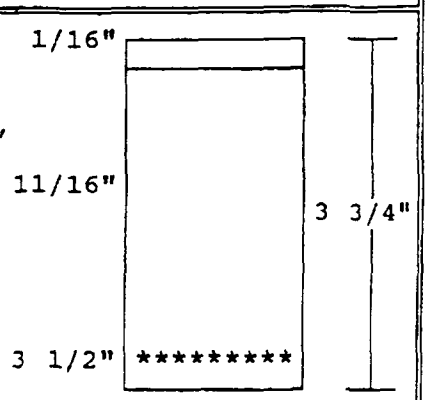
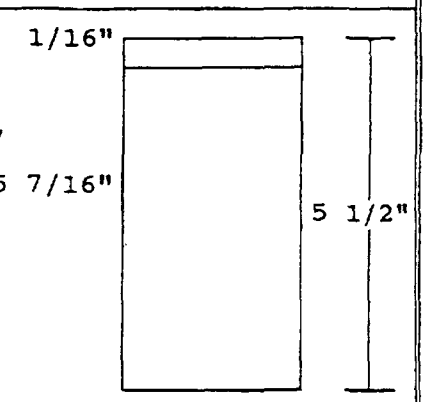
TASK I
CONCRETE CORE SAMPLING
FIELD SAMPLING REPORT FORM

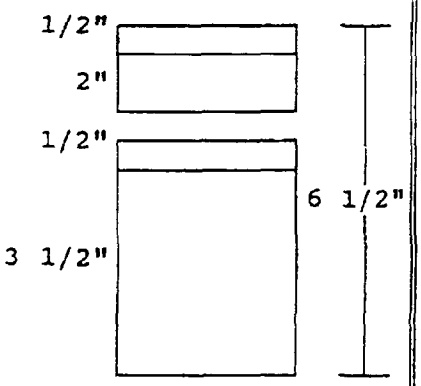
Sample ID: C-7
Date: 8/27/90
Time: 1130
Parameters: EP TOX Metals, Reactivity, Corrosivity
Description: 1/16" Tarazzo, Paint
3 11/16" Gray White
MF Gravel
3 1/2" Wire Mesh



Sample ID: C-8
Date: 8/27/90
Time: 1145
Parameters: EP TOX Metals, Reactivity, Corrosivity
Description: 1/16" Tarazzo, Paint
5 7/16" Lt Gray, White
MF Gravel



Sample ID: C-9
Date: 8/27/90
Time: 1307
Parameters: EP TOX Metals, Reactivity, Corrosivity
Description: 1/2" Tarazzo, Paint
2" Lt Tan MF Gravel
1/2" Dark Gray, Black
3 1/2" Lt Gray, White
MF Gravel



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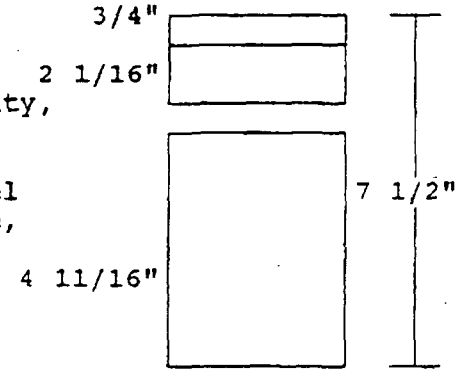
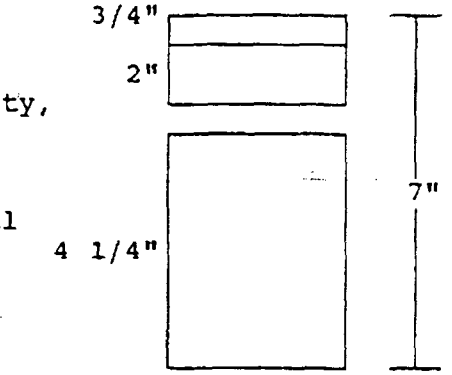
ADC000542

TASK I
CONCRETE CORE SAMPLING
FIELD SAMPLING REPORT FORM

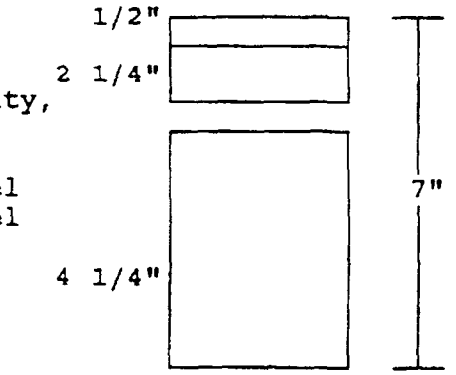
Sample ID: C-10
Date: 8/27/90
Time: 1315
Parameters: EP TOX Metals, Reactivity, Corrosivity
Description: 3/4" Tarazzo, Paint
2 1/16" Lt Tan MF Gravel
4 11/16" Lt Gray, White, MF Gravel



Sample ID: C-11
Date: 8/27/90
Time: 1330
Parameters: EP TOX Metals, Reactivity, Corrosivity
Description: 3/4" Tarazzo, Paint
2" Lt Tan, MF Gravel
4 1/4" Lt Gray MF Gravel



Sample ID: C-12
Date: 8/27/90
Time: 1345
Parameters: EP TOX Metals, Reactivity, Corrosivity
Description: 1/2" Tarazzo, Paint
2 1/4" Lt Tan, MF Gravel
4 1/4" Lt Gray,MF Gravel



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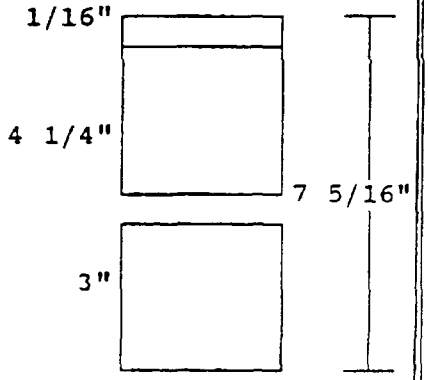
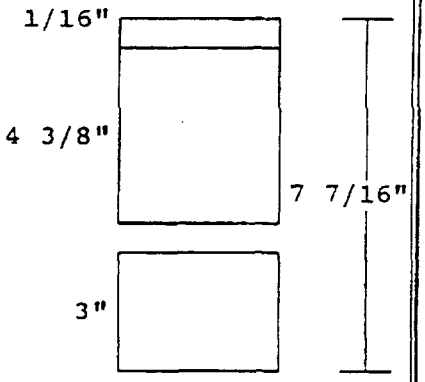
ADC000543

TASK I
CONCRETE CORE SAMPLING
FIELD SAMPLING REPORT FORM

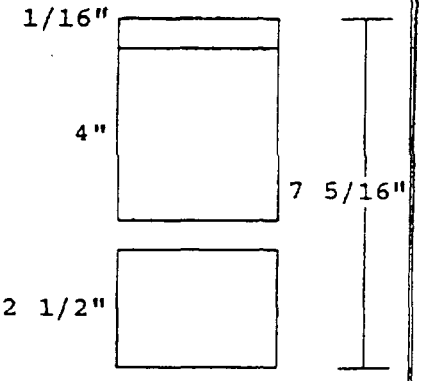
Sample ID: C-16
Date: 8/28/90
Time: 0935
Parameters: EP TOX Metals, Reactivity, Corrosivity
Description: 1/16" Tarazzo, Paint
4 1/4" Lt Tan, MF Gravel
3" Gray, MF Gravel



Sample ID: C-17
Date: 8/28/90
Time: 0925
Parameters: EP TOX Metals, Reactivity, Corrosivity
Description: 1/16" Tarazzo, Paint
4 3/8" Lt Tan, MF Gravel
3" White, Gray, MF Gravel



Sample ID: C-18
Date: 8/28/90
Time: 0945
Parameters: EP TOX Metals, Reactivity, Corrosivity
Description: 1/16" Tarazzo, Paint
4" Lt Tan, MF Gravel
2 1/2" Gray, White, MF Gravel



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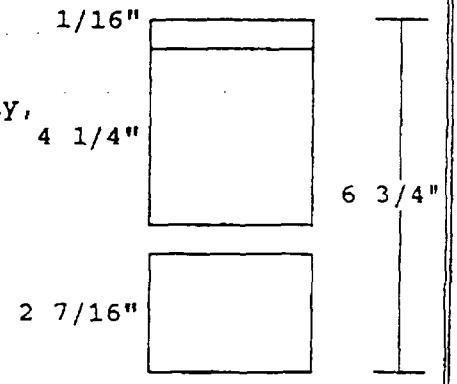
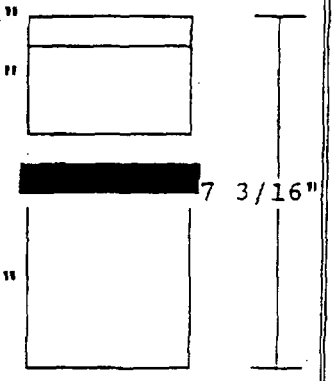
ADC000544

TASK I
CONCRETE CORE SAMPLING
FIELD SAMPLING REPORT FORM

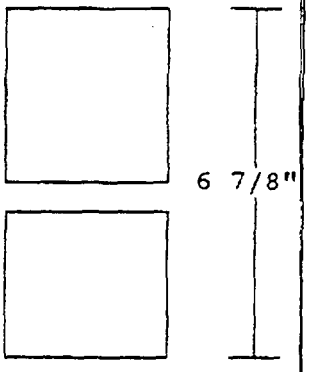
Sample ID: C-18 DUP
Date: 8/28/90
Time: 0950
Parameters: EP TOX Metals, Reactivity, Corrosivity
Description: 1/16" Tarazzo, Paint
4 1/4" Lt Tan, MF Gravel
2 7/16" White, Gray, MF Gravel



Sample ID: C-19
Date: 8/28/90
Time: 1025
Parameters: EP TOX Metals, Reactivity, Corrosivity
Description: 1/16" Tarazzo, Paint
2 1/8" Lt Tan, MF Gravel
5" White, Gray, Some Staining
Top 1" Of This Section



Sample ID: C-20
Date: 8/28/90
Time: 1045
Parameters: EP TOX Metals, Reactivity, Corrosivity
Description: 3 1/2" Gray, White, MF Gravel
3 3/8" Gray, Pink, MF Gravel



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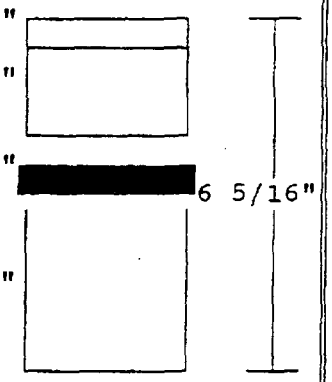
ADC000545

TASK I
CONCRETE CORE SAMPLING
FIELD SAMPLING REPORT FORM

Sample ID: C-21
Date: 8/28/90
Time: 1035
Parameters: EP TOX Metals, Reactivity, Corrosivity
Description: 1/16" Tarazzo, Paint
2 1/4" Lt Tan, MF Gravel
4" White, Gray,
MF Gravel, Discoloration
Top 1 1/2"



TASK II WALL WIPE SAMPLING FIELD SAMPLING REPORT FORM		
SAMPLE I.D.	DATE-TIME	DESCRIPTION
WW-1	8/28/90-1500	Area=0.25 square meters. Wipe Desc.- dark brown, black, rough. Surface Desc.- brick. (4 areas)
WW-2	8/28/90-1530	Area-0.25 square meters. Wipe Desc.- dark brown, black, soot. Surface Desc.- rough, painted brick. (4 areas)
WW-3	8/28/90-1540	Area-0.25 square meters. Wipe Desc.- dark brown, black, soot, paint chips. Surface Desc.- (in waste storage area) rough, painted brick.
WW-4	8/28/90-1510	Area-0.25 square meters. Wipe Desc.- dark brown, black. Surface Desc.- rough, brick. (4 areas)
WW-5	8/28/90-1525	Area-0.25 square meters. Wipe Desc.- dark brown, black. Surface Desc.- painted drywall (4 areas)
WW-6	8/28/90-1545	Area-0.25 square meters. Wipe Desc.- medium dust accumulation. Surface Desc.- (near solvent storage area) smooth painted surface.
WW-7	8/28/90-1605	Area-0.25 square meters. Wipe Desc.- light brown, dark brown, soot. Surface Desc.- painted brick.
WW-8	8/28/90-1555	Area-0.25 square meters. Wipe Desc.- medium dust accumulation. Surface Desc.- smooth. (4 areas)

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TASK II WALL WIPE SAMPLING FIELD SAMPLING REPORT FORM		
SAMPLE I.D.	DATE-TIME	DESCRIPTION
WW-9	8/28/90-1610	Area-0.25 square meters. Wipe Desc.- medium dust accumulation. Surface Desc.- smooth painted. (4 areas)
WW-10	8/28/90-1620	Area-0.25 square meters. Wipe Desc.- dark brown, some dust. Surface Desc.- painted drywall. (4 areas)
WW-11	8/28/90-1615	Area-0.25 square meters. Wipe Desc.- medium dust accumulation. Surface Desc.- rough, painted brick. (4 areas)
WW-12	8/28/90-1625	Area-0.25 square meters. Wipe Desc.- lightly soiled. Surface Desc.-(yellow sticky material stuck on wall) smooth painted wall surface. (4 areas)
WW-13	8/28/90-1635	Area-0.25 square meters. Wipe Desc.- lightly soiled. Surface Desc.- painted wall with holes. (4 areas)
WW-14	8/28/90-1635	Area-0.25 square meters. Wipe Desc.- light brown, dark brown. Surface Desc.- painted dry wall. (4 areas)
WW-15	8/28/90-1640	Area-0.25 square meters. Wipe Desc.- lightly soiled. Surface Desc.- painted dry wall. (4 areas)
WW-16	8/28/90-1650	Area-0.25 square meters. Wipe Desc.- Surface Desc.- Painted dry wall conference room. (4 areas)

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TASK III CEILING TILE SAMPLING EPISODE I FIELD SAMPLING REPORT FORM		
SAMPLE I.D.	DATE-TIME	DESCRIPTION
CT-1	8/28/90-1420	4"X4"X0.5" Textured (white on white) tan backing, ivory top.
CT-2	8/28/90-1427	4"X4"X0.5" Textured (white on white) with holes, tan backing.
CT-3	8/28/90-1435	4"X4"X0.5" Textured (white on white) with holes, tan backing.
CT-4	8/28/90-1437	4"X4"X0.5" Textured (white on white) with holes, tan backing.
CT-5	8/28/90-1440	4"X4"X0.5" Textured (white on white) with holes, tan backing.
CT-6	8/28/90-1445	4"X4"X0.5" Textured (white on white) with holes, tan backing.
CT-6 DUP	8/28/90-1447	4"X4"X0.5" Textured (white on white) with holes, tan backing.
CT-7	8/28/90-1645	4"X4"X0.5" Textured (white on white) with holes, tan backing. Sample taken in storage area of the Environmental Office.

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ADC000549

TASK III CEILING TILE SAMPLING EPISODE II FIELD SAMPLING REPORT FORM		
SAMPLE I.D.	DATE-TIME	DESCRIPTION
CT-1	9/10/90-0927	3 4"X4"X0.5" Textured (white on white) tan backing, ivory top.
CT-2	9/10/90-0925	3 4"X4"X0.5" Textured (white on white) with holes, tan backing.
CT-3	9/10/90-0912	3 4"X4"X0.5" Textured (white on white) with holes, tan backing.
CT-4	9/10/90-0915	3 4"X4"X0.5" Textured (white on white) with holes, tan backing.
CT-5	9/10/90-0920	3 4"X4"X0.5" Textured (white on white) with holes, tan backing.
CT-6	9/10/90-0905	3 4"X4"X0.5" Textured (white on white) with holes, tan backing.
CT-6 DUP	9/10/90-0908	3 4"X4"X0.5" Textured (white on white) with holes, tan backing.
CT-7	9/10/90-0955	3 4"X4"X0.5" Textured (white on white) with holes, tan backing. Sample taken in storage area of the Environmental Office.

945750358

ADC000550

TABLE I CONCRETE CORE SAMPLING DATA SUMMARY TABLE		
SAMPLE I.D.	CORROSIVITY	pH
C-1	NON CORROSIVE	11.8
C-2	NON CORROSIVE	11.9
C-3	NON CORROSIVE	11.3
C-4	NON CORROSIVE	11.8
C-5	NON CORROSIVE	12.3
C-6	NON CORROSIVE	12.3
C-7	NON CORROSIVE	12.4
C-8	NON CORROSIVE	12.3
C-9	NON CORROSIVE	11.8
C-10	NON CORROSIVE	12.1
C-11	NON CORROSIVE	11.8
C-12	NON CORROSIVE	11.8
C-13	NON CORROSIVE	11.7
C-14	NON CORROSIVE	12.2
C-15	NON CORROSIVE	12.2
C-16	NON CORROSIVE	12.1
C-17	NON CORROSIVE	12.2
C-18	NON CORROSIVE	11.7
C-18 DUP	NON CORROSIVE	11.9
C-19	NON CORROSIVE	11.7
C-20	NON CORROSIVE	12.1
C-21	NON CORROSIVE	11.6

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ADC000551

TABLE II CONCRETE CORE SAMPLING DATA SUMMARY TABLE			
SAMPLE I.D.	REACTIVITY	REACTIVE CYANIDE mg/kg	REACTIVE SULFIDE mg/kg
C-1	NON REACTIVE	<0.10	<10.0
C-2	NON REACTIVE	0.33	40.6
C-3	NON REACTIVE	0.33	40.2
C-4	NON REACTIVE	<0.10	20.0
C-5	NON REACTIVE	<0.10	10.0
C-6	NON REACTIVE	<0.10	<10.0
C-7	NON REACTIVE	<0.10	40.0
C-8	NON REACTIVE	<0.10	<10.0
C-9	NON REACTIVE	<0.10	<10.0
C-10	NON REACTIVE	<0.10	38.3
C-11	NON REACTIVE	<0.10	<10.0
C-12	NON REACTIVE	<0.10	21.2
C-13	NON REACTIVE	<0.10	12.4
C-14	NON REACTIVE	<0.10	<10.0
C-15	NON REACTIVE	<0.10	<10.0
C-16	NON REACTIVE	<0.10	<10.0
C-17	NON REACTIVE	<0.10	<10.0
C-18	NON REACTIVE	<0.10	<10.0
C-18 DUP	NON REACTIVE	<0.10	<10.0
C-19	NON REACTIVE	<0.10	<10.0
C-20	NON REACTIVE	<0.10	<10.0
C-21	NON REACTIVE	<0.10	<10.0

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ADC000552

TABLE III
CONCRETE CORE SAMPLING
DATA SUMMARY TABLE
mg/l

ANALYSIS	SAMPLE IDENTIFICATION					
	C-1	C-2	C-3	C-4	C-5	EP TOXICITY THRESHOLD LIMITS
ARSENIC	<0.200	<0.200	<0.200	<0.200	<0.200	5.00
BARIUM	<1.00	<1.00	<1.00	<1.00	<1.00	100.0
CADMIUM	<0.025	<0.025	<0.025	<0.025	<0.025	1.00
CHROMIUM	<0.100	<0.100	<0.100	<0.100	<0.100	5.00
LEAD	<0.200	<0.200	<0.200	<0.200	<0.200	5.00
MERCURY	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.200
SELENIUM	<0.200	<0.200	<0.200	<0.200	<0.200	1.00
SILVER	<0.025	<0.025	<0.025	<0.025	<0.025	5.00

ADC000553

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TABLE III
CONCRETE CORE SAMPLING
DATA SUMMARY TABLE
mg/l

ANALYSIS	SAMPLE IDENTIFICATION					
	C-6	C-7	C-8	C-9	C-10	EP TOXICITY THRESHOLD LIMITS
ARSENIC	<0.200	<0.200	<0.200	<0.200	<0.200	5.00
BARIUM	<1.00	<1.00	<1.00	<1.00	<1.00	100.0
CADMIUM	<0.025	<0.025	<0.025	<0.025	0.027	1.00
CHROMIUM	0.102	0.370	0.478	<0.100	<0.100	5.00
LEAD	<0.200	<0.200	<0.200	<0.200	<0.200	5.00
MERCURY	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.200
SELENIUM	<0.200	<0.200	<0.200	<0.200	<0.200	1.00
SILVER	<0.025	<0.025	<0.025	<0.025	<0.025	5.00

ADC000554

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TABLE III
CONCRETE CORE SAMPLING
DATA SUMMARY TABLE
mg/l

ANALYSIS	SAMPLE IDENTIFICATION					
	C-11	C-12	C-13	C-14	C-15	EP TOXICITY THRESHOLD LIMITS
ARSENIC	<0.200	<0.200	<0.200	<0.200	<0.200	5.00
BARIUM	<1.00	<1.00	<1.00	<1.00	<1.00	100.0
CADMIUM	<0.025	<0.025	<0.025	<0.025	<0.025	1.00
CHROMIUM	<0.100	<0.100	<0.100	<0.100	<0.100	5.00
LEAD	<0.200	<0.200	<0.200	<0.200	<0.200	5.00
MERCURY	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.200
SELENIUM	<0.200	<0.200	<0.200	<0.200	<0.200	1.00
SILVER	<0.025	<0.025	<0.025	<0.025	<0.025	5.00

ADC000555

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TABLE III
CONCRETE CORE SAMPLING
DATA SUMMARY TABLE
mg/l

ANALYSIS	SAMPLE IDENTIFICATION					
	C-16	C-17	C-18	C-18 DUP	C-19	EP TOXICITY THRESHOLD LIMITS
ARSENIC	<0.200	<0.200	<0.200	<0.200	<0.200	5.00
BARIUM	<1.00	<1.00	<1.00	<1.00	<1.00	100.0
CADMIUM	<0.025	<0.025	<0.025	0.059	0.032	1.00
CHROMIUM	<0.100	<0.100	<0.100	<0.100	<0.100	5.00
LEAD	<0.200	<0.200	<0.200	<0.200	<0.200	5.00
MERCURY	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.200
SELENIUM	<0.200	<0.200	<0.200	<0.200	<0.200	1.00
SILVER	<0.025	<0.025	<0.025	<0.025	<0.025	5.00

ADC000556

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TABLE III
CONCRETE CORE SAMPLING
DATA SUMMARY TABLE
mg/l

ANALYSIS	SAMPLE IDENTIFICATION			
	C-20	C-21		EP TOXICITY THRESHOLD LIMITS
ARSENIC	<0.200	<0.200		5.00
BARIUM	<1.00	<1.00		100.0
CADMIUM	<0.025	<0.025		1.00
CHROMIUM	0.450	<0.100		5.00
LEAD	<0.200	<0.200		5.00
MERCURY	<0.0002	<0.0002		0.200
SELENIUM	<0.200	<0.200		1.00
SILVER	<0.025	<0.025		5.00

ADC000557

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TABLE IV WALL WIPE SAMPLING DATA SUMMARY TABLE		
SAMPLE I.D.	CORROSIVITY	pH
WW-1	NON CORROSIVE	5.2
WW-2	NON CORROSIVE	5.6
WW-3	NON CORROSIVE	5.5
WW-4	NON CORROSIVE	5.4
WW-5	NON CORROSIVE	5.5
WW-6	NON CORROSIVE	6.1
WW-7	NON CORROSIVE	5.5
WW-8	NON CORROSIVE	5.6
WW-9	NON CORROSIVE	5.7
WW-10	NON CORROSIVE	5.4
WW-11	NON CORROSIVE	4.0
WW-12	NON CORROSIVE	6.4
WW-13	NON CORROSIVE	6.4
WW-14	NON CORROSIVE	4.8
WW-15	NON CORROSIVE	6.3
WW-16	NON CORROSIVE	6.3
FB1	NON CORROSIVE	6.3

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ADC000558

TABLE V WALL WIPE SAMPLING DATA SUMMARY TABLE			
SAMPLE I.D.	REACTIVITY	REACTIVE CYANIDE mg/kg	REACTIVE SULFIDE mg/kg
WW-1	NON REACTIVE	<0.20	<20.0
WW-2	NON REACTIVE	<0.20	<20.0
WW-3	NON REACTIVE	<0.20	<20.0
WW-4	NON REACTIVE	<0.20	<20.0
WW-5	NON REACTIVE	<0.20	<20.0
WW-6	NON REACTIVE	<0.20	<20.0
WW-7	NON REACTIVE	<0.20	<20.0
WW-8	NON REACTIVE	<0.20	<20.0
WW-9	NON REACTIVE	<0.20	57.6
WW-10	NON REACTIVE	<0.20	<20.0
WW-11	NON REACTIVE	<0.10	158.0
WW-12	NON REACTIVE	<0.10	<20.0
WW-13	NON REACTIVE	<0.20	<20.0
WW-14	NON REACTIVE	<0.20	<20.0
WW-15	NON REACTIVE	<0.20	<20.0
WW-16	NON REACTIVE	<0.20	<20.0
FB1	NON REACTIVE	<0.20	<20.0

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ADC000559

TABLE VI
WALL WIPE SAMPLING
DATA SUMMARY TABLE
ug/wipe

ANALYSIS	SAMPLE IDENTIFICATION					
	WW-1	WW-2	WW-3	WW-4	WW-5	CONTROL SAMPLE WW-16
ARSENIC	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250
BARIUM	13.9	13.2	3.82	9.93	4.10	0.398
CADMIUM	1.22	2.48	0.697	0.372	<0.125	<0.125
CHROMIUM	39.8	29.9	8.42	19.2	8.86	<0.250
LEAD	112.0	192.0	20.5	69.8	11.0	0.225
MERCURY	0.626	0.492	0.480	0.18	0.103	0.219
SELENIUM	<0.125	<0.125	<0.125	0.230	<0.125	<0.125
SILVER	<0.250	0.792	0.577	<0.250	<0.250	<0.250

ADC000560

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TABLE VI
WALL WIPE SAMPLING
DATA SUMMARY TABLE
ug/wipe

ANALYSIS	SAMPLE IDENTIFICATION					
	WW-6	WW-7	WW-8	WW-9	WW-10	CONTROL SAMPLE WW-16
ARSENIC	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250
BARIUM	0.715	2.88	0.512	0.717	2.85	0.398
CADMIUM	<0.125	0.315	<0.125	<0.125	<0.125	<0.125
CHROMIUM	1.71	5.87	0.878	3.76	12.3	<0.250
LEAD	1.27	7.20	28.1	6.40	154	0.225
MERCURY	<0.10	0.439	0.702	0.463	0.349	0.219
SELENIUM	<0.125	<0.125	<0.125	<0.125	<0.125	<0.125
SILVER	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250

ADC000561

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TABLE VI
WALL WIPE SAMPLING
DATA SUMMARY TABLE
ug/wipe

ANALYSIS	SAMPLE IDENTIFICATION					
	WW-11	WW-12	WW-13	WW-14	WW-15	CONTROL SAMPLE WW-16
ARSENIC	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250
BARIUM	0.672	<0.250	0.712	2.91	0.340	0.398
CADMIUM	<0.125	<0.125	<0.125	25.6	<0.125	<0.125
CHROMIUM	1.62	0.320	1.66	3.24	0.300	<0.250
LEAD	24.0	1.06	5.90	21.6	0.692	0.225
MERCURY	0.325	<0.10	0.459	0.480	0.198	0.219
SELENIUM	<0.125	<0.125	<0.125	0.210	<0.125	<0.125
SILVER	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250

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TABLE VI
WALL WIPE SAMPLING
DATA SUMMARY TABLE
ug/wipe

ANALYSIS	SAMPLE IDENTIFICATION					
	FB1					CONTROL SAMPLE WW-16
ARSENIC	<0.250					<0.250
BARIUM	<0.250					0.398
CADMIUM	<0.125					<0.125
CHROMIUM	<0.250					<0.250
LEAD	<0.125					0.225
MERCURY	<0.10					0.219
SELENIUM	<0.125					<0.125
SILVER	<0.250					<0.250

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TABLE VII
WALL WIPE SAMPLING
DATA SUMMARY TABLE
ug/square meter

ANALYSIS	SAMPLE IDENTIFICATION					
	WW-1	WW-2	WW-3	WW-4	WW-5	CONTROL SAMPLE WW-16
ARSENIC	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
BARIUM	55.6	52.8	15.28	39.72	16.4	1.592
CADMIUM	4.88	9.92	2.788	1.488	<0.50	<0.50
CHROMIUM	159.2	119.6	33.68	76.8	35.44	<1.0
LEAD	448.0	768.0	82.0	279.2	44.0	0.90
MERCURY	2.504	1.968	1.920	0.72	0.412	0.876
SELENIUM	<0.50	<0.50	<0.50	0.920	<0.50	<0.50
SILVER	<1.0	3.168	2.308	<1.0	<1.0	<1.0

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TABLE VII
WALL WIPE SAMPLING
DATA SUMMARY TABLE
ug/square meter

ANALYSIS	SAMPLE IDENTIFICATION					
	WW-6	WW-7	WW-8	WW-9	WW-10	CONTROL SAMPLE WW-16
ARSENIC	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
BARIUM	2.86	11.52	2.048	2.868	11.4	1.592
CADMIUM	<0.50	1.26	<0.50	<0.50	<0.50	<0.50
CHROMIUM	6.84	23.48	3.512	15.04	49.2	<1.0
LEAD	5.08	28.8	112.4	25.6	616.0	0.90
MERCURY	<0.40	1.756	2.808	1.852	1.396	0.876
SELENIUM	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
SILVER	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

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TABLE VII
WALL WIPE SAMPLING
DATA SUMMARY TABLE
ug/square meter

ANALYSIS	SAMPLE IDENTIFICATION					
	WW-11	WW-12	WW-13	WW-14	WW-15	CONTROL SAMPLE WW-16
ARSENIC	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
BARIUM	2.688	<1.0	2.848	11.64	1.36	1.592
CADMIUM	<0.50	<0.50	<0.50	102.4	<0.50	<0.50
CHROMIUM	6.48	1.28	6.64	12.96	1.2	<1.0
LEAD	96.0	4.24	23.6	86.4	2.768	0.90
MERCURY	1.30	<0.40	1.836	1.92	0.792	0.876
SELENIUM	<0.50	<0.50	<0.50	0.840	<0.50	<0.50
SILVER	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

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TABLE VII
WALL WIPE SAMPLING
DATA SUMMARY TABLE
ug/square meter

ANALYSIS	SAMPLE IDENTIFICATION					
	FB1					CONTROL SAMPLE WW-16
ARSENIC	<1.0					<1.0
BARIUM	<1.0					1.592
CADMIUM	<0.50					<0.50
CHROMIUM	<1.0					<1.0
LEAD	<0.50					0.90
MERCURY	<0.40					0.876
SELENIUM	<0.50					<0.50
SILVER	<1.0					<1.0

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TABLE VIII CEILING TILE SAMPLING DATA SUMMARY TABLE		
SAMPLE I.D.	CORROSIVITY	pH
CT-1	NON CORROSIVE	7.7
CT-2	NON CORROSIVE	7.1
CT-3	NON CORROSIVE	7.9
CT-4	NON CORROSIVE	7.9
CT-5	NON CORROSIVE	7.2
CT-6	NON CORROSIVE	7.6
CT-6 DUP	NON CORROSIVE	7.7
CT-7	NON CORROSIVE	7.7

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TABLE IX CEILING TILE SAMPLING DATA SUMMARY TABLE			
SAMPLE I.D.	REACTIVITY	REACTIVE CYANIDE mg/kg	REACTIVE SULFIDE mg/kg
CT-1	NON REACTIVE	<0.10	196.0
CT-2	NON REACTIVE	<0.10	148.0
CT-3	NON REACTIVE	<0.10	310.0
CT-4	NON REACTIVE	<0.10	323.0
CT-5	NON REACTIVE	<0.10	147.0
CT-6	NON REACTIVE	<0.10	142.0
CT-6 DUP	NON REACTIVE	<0.10	135.0
CT-7	NON REACTIVE	<0.10	256.0

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TABLE X
CEILING TILE SAMPLING
DATA SUMMARY TABLE
mg/l

ANALYSIS	SAMPLE IDENTIFICATION					
	CT-1	CT-2	CT-3	CT-4	CT-5	EP TOXICITY THRESHOLD LIMITS
ARSENIC	<0.200	<0.200	<0.200	<0.200	<0.200	5.00
BARIUM	<1.00	<1.00	<1.00	<1.00	<1.00	100.0
CADMIUM	<0.025	<0.025	<0.025	<0.025	<0.025	1.00
CHROMIUM	<0.100	<0.100	<0.100	<0.100	<0.100	5.00
LEAD	<0.200	<0.200	<0.200	<0.200	<0.200	5.00
MERCURY	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.200
SELENIUM	<0.200	<0.200	<0.200	<0.200	<0.200	1.00
SILVER	<0.025	<0.025	<0.025	<0.025	<0.025	5.00

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TABLE X
CEILING TILE SAMPLING
DATA SUMMARY TABLE
mg/l

ANALYSIS	SAMPLE IDENTIFICATION				
	CT-6	CT-6 DUP	CT-7		EP TOXICITY THRESHOLD LIMITS
ARSENIC	<0.200	<0.200	<0.200		5.00
BARIUM	<1.00	<1.00	<1.00		100.0
CADMIUM	<0.025	<0.025	<0.025		1.00
CHROMIUM	<0.100	<0.100	<0.100		5.00
LEAD	<0.200	<0.200	<0.200		5.00
MERCURY	0.000250	0.000500	0.00275		0.200
SELENIUM	<0.200	<0.200	<0.200		1.00
SILVER	<0.025	<0.025	<0.025		5.00

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Quality Assurance Project Plan

ITT Avionics Division
100 Kingsland Road
Clifton, Passaic County, New Jersey
NJPDES Permit No. NJ0076023

June 1996

1.0 Introduction

This Quality Assurance Project Plan ("QAPP") describes the project scope and specific measures that will be employed to achieve the data quality objectives appropriate for the proposed additional sampling at the ITT Avionics Division facility located at 100 Kingsland Road, Clifton, New Jersey. This QAPP was prepared in accordance with the specific requirements set forth in N.J.A.C. 7-26E-2.2. The proposed additional sampling is being undertaken in order to comply with N.J.A.C. 7:26E.

2.0 Project Scope

This QAPP provides a detailed description of the requirements necessary to implement the proposed additional sampling for the site. This sampling includes the following:

AOC	Description	Groundwater	Soil
3	Former No. 2 and No. 4 Fuel Oil USTs	3 wells; 2 rounds	
4	Chemical/Waste Storage Building	2 wells; 2 rounds	
6	Industrial Wastewater Pretreatment System Area		1 concrete sample/900 sf
8	Area Without Vegetation		2 soil samples
12	Building Transformers		1 concrete chip sample
14	Shipping/Receiving Bays		2 sediment samples 4 soil samples

3.0 Data Quality Objectives

Soil samples will be analyzed for volatile organic compounds (Method 8240), semi-volatile organic compounds (Method 8250), priority pollutant metals, (EPA 7000 series), and total petroleum hydrocarbons (Method 418.1). These analytical methods are sufficient to meet the detection limits required to determine if concentrations of these parameters are present above the Department's most stringent soil cleanup criteria.

Groundwater samples will be analyzed for volatile organic compounds using EPA Method 624. This analytical method is sufficient to meet the detection limits required to determine if concentrations of volatile organic compounds are above the Department's specific groundwater quality criteria. The concentration of volatile organics being analyzed can be estimated by the laboratory at concentrations below 5 ppb using this method. Estimating concentrations below 5 ppb will allow for comparison of concentrations with groundwater quality criteria which are less than 5 ppb (i.e., for benzene, 1,1-dichloroethene, 1,2-dichloroethane, tetrachloroethene, and trichloroethene).

4.0 Project Organization and Responsibilities

4.1 Laboratory

All matrix samples will be analyzed at H2M Labs, Inc. in Melville, New York (516- 694-3040). H2M Labs, Inc. is an NJDEP certified laboratory, Number 73158.

4.2 Project Coordination

General direction will be provided by H2M's Principal-in-Charge, Michael V. Tumulty, P.E. (201-256-5454). Mr. Tumulty has the corporate authority within the firm to commit corporate resources to ensure the quality and performance of the project.

4.3 Coordination of Field Sampling Activities and Quality Assurance/Quality Control

Coordination of all field activities will be provided by Charles A. Martello (201- 256-5454). Mr. Martello will be responsible for the management of all field activities associated with the additional sampling, coordination with the laboratory, as well as liaison with the NJDEP.

4.4 Coordination of Laboratory Activities

The Laboratory Director, John J. Molloy, P.E. (516-756-8000), has overall responsibility of all operational activities of H2M Labs, Inc. The Laboratory Quality Assurance Manager, Joann M. Slavin, will review all data and be responsible for laboratory reporting and quality control.

5.0 Summary of Laboratory Analytical Methods and Quality Assurance/Quality Control

This summary, prepared in accordance with N.J.A.C. 7:26E-2.2(a)1v., is provided in Table 1.

6.0 Site-Specific Sampling Procedures

Soil samples will be obtained with a hand auger. A shallow sample for total petroleum hydrocarbon and metals analysis will be obtained from 0.5 to 1.0 feet below grade. Volatile organic analysis will be performed on the 0.5 foot interval from 0.5 to 2.0 feet below grade which exhibits the

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Table 1
Analytical Methods / Quality Assurance Summary Table
Quality Assurance Project Plan
ITT Avionics Division
Clifton, New Jersey

Sampling Event	Area [sq. feet]	Matrix	Quantity of Samples: Matrix Samples	F. B. (Aq.)	T. B.rip (Aq.)	MS/ MSD	Analytical Parameters	Analytical Methods	Sample Preservation	Sample Container Volume / Type	Holding Time
AOC 6	9,950	Concrete	11	1	0	1	Halogenated/Non-Halogenated Volatile Organic Compounds	EPA Method 8240/Aq. EPA 624	Cool, 4 deg.C., Dark	120 ml glass with polypropylene screw cap with Teflon-lined septum/Aqueous described below	Soil / Aqueous - 10 Days
AOC 6	9,950	Concrete	11	1	0	1	Priority Pollutant Metals	EPA 7000 series of Methods	Cool, 4 deg.C.	Soil: 4 - 32 oz. glass, black phenolic cap, polyethylene liner; Aq: 1000 ml plastic w/HNO3 to pH <2	Soil / Aqueous - 180 Days
AOC 8	N/A	Soil	2	1	0	1	Priority Pollutant Metals	EPA 7000 series of Methods	Cool, 4 deg.C.	Soil: 4 - 32 oz. glass, black phenolic cap, polyethylene liner; Aq: 1000 ml plastic w/HNO3 to pH <2	Soil / Aqueous - 180 Days
AOC 8	N/A	Soil	1	1	0	1	Total Petroleum Hydrocarbons	EPA 418.1	Cool, 4 deg.C.	Soil - 4 oz. glass Aqueous - 1 Liter Glass	Soil - 28 Days Aq. - 7 Days
AOC 12	N/A	Concrete	3	1	0	1	PCBs	EPA Method 8088	Cool, 4 deg.C., Dark	120 ml glass with polypropylene screw cap with Teflon-lined septum/Aqueous described below	Soil / Aqueous - 10 Days
AOC 12	N/A	Concrete	3	1	0	1	Total Petroleum Hydrocarbons	EPA 418.1	Cool, 4 deg.C.	Soil - 4 oz. glass Aqueous - 1 Liter Glass	Soil - 28 Days Aq. - 7 Days
AOC 14	N/A	Soil	10	1	0	1	Halogenated/Non-Halogenated Volatile Organic Compounds	EPA Method 8240/Aq EPA 624	Cool, 4 deg.C., Dark	120 ml glass with polypropylene screw cap with Teflon-lined septum/Aqueous described below	Soil / Aqueous - 10 Days
Ground Water	N/A	Aqueous	5	1	1	1	Halogenated/Non-Halogenated Volatile Organic Compounds	EPA Method 624	Cool, 4 deg.C., Dark	40 ml amber glass vial with black phenolic plastic screw cap with Teflon-lined septum	10 Days

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[June 12, 1996]

highest response on a PID, or at a depth of 1.5 to 2.0 feet below grade if there is no PID response, in accordance with N.J.A.C. 7:26E-3.6(a)4.

Concrete chip samples will be obtained utilizing a decontaminated chisel to break off a surficial piece of concrete. The location of the sample will be biased based on surface staining or signs of deterioration.

Groundwater sampling, including required field measurements and minimum purge volumes, will be conducted in accordance with applicable sections of Chapter 7, Section H of the NJDEP *Field Sampling Procedures Manual* (1992). Dedicated, disposable polyethylene bailers will be used to purge the monitoring wells. No decontamination will be required of this equipment, since bailers will be dedicated to each well and not reused. This significantly reduces the risk of cross-contamination of samples.

Each sample container will be provided with a label for sample identification purposes. The amount of information on the label should include a sample identification number, time, date and initials of the sample collector. Each sample collected in the field will be labeled using waterproof ink. All sample containers will be accompanied by a full chain-of-custody, provided by the laboratory. It is laboratory practice to pre-clean and pre-preserve sample containers in order to minimize potential contaminants in the field, and to reduce unnecessary sample handling in the field. Upon completion of sampling, the sample containers will be sealed and placed on ice in a cooler. Samples will be stored and shipped to H2M Labs via overnight courier or delivered by field personnel at the end of each day of sampling. It is estimated that the soil and groundwater sampling event will be completed in one day.

Information required by the Department in accordance with the NJDEP *Field Sampling Procedures Manual* (1992), as well as any other information pertinent to groundwater sampling activities, will be recorded in bound, waterproof field books and/or an H2M field sampling sheet. Proper documentation will consist of field personnel maintaining detailed records of all work accomplished potentially including but not limited to: (1) date and time of sampling events; (2) purpose of work; (3) names of people relevant to the project; (4) description of all sampling methods; (5) description of all samples; (6) quantity of samples; (7) description of sampling points; (8) date and time of sample collection; (9) sample collector's name; (10) weather; (11) field observations; and (12) any field measurements with portable instruments.

7.0 Field Instrumentation Calibration/Preventative Maintenance

All field instruments, including but not limited to photoionization detectors, water level probes, pH probes, conductivity probes, and dissolved oxygen probes, will be calibrated and maintained according to the manufacturers specifications and requirements. Calibration records will be maintained in the field log. Copies of the operations manuals, including calibration procedures for these specific field instruments currently being used by H2M field personnel, are maintained in the field and the office.

8.0 Chain of Custody Procedures

8.1 Field Custody

The field sampler initiates the chain-of-custody procedure in the field and is the first to sign the form upon collection of samples. A sample is under custody if:

1. it is in your actual possession; or
2. it is in your view, after being in your physical possession; or
3. it was in your physical possession and then you locked it up or sealed it to prevent tampering; or
4. it is in a designated secure place restricted to authorized personnel.

The field sampler is personally responsible for the care and custody of the samples until they are transferred and properly dispatched. Sample bottle labels shall be completed for each soil and aqueous sample, using waterproof ink subjected to proper preservation, and packaged to preclude breakage during shipment. Every sample shall be assigned a unique identification number that is entered on the chain-of-custody form. Samples can be grouped for shipment using a single form. When transferring the possession of samples, the individuals relinquishing and receiving will sign, date and note the time of transfer. This record documents transfer of custody of samples from the sampler to another person, to a courier, or to the laboratory. If samples are shipped directly to the laboratory, the chain-of-custody forms will be kept in possession of the person delivering the samples. For samples shipped by commercial carrier, the chain-of-custody form will be sealed in a watertight envelope, placed in the shipping container, and the shipping container sealed prior to being given to the carrier. The waybill will serve as an extension of the chain-of-custody record between the final field sampler and receipt in the laboratory. Whenever samples are split with a facility or regulatory agency, the chain-of-custody will be marked to indicate which samples and with whom the samples were split.

8.2 Laboratory Sample Custody/Sample Storage

H2M Labs, Inc. has a standard operating procedure for documenting the receipt, tracking and compilation of sample data. Sample custody related to sampling procedures and sample transfer are described below.

(1) Shipping or Pickup of Cooler by Field Team
   a. Cooler packed at H2M Labs after contact with field team or Project Manager.
   b. Cooler wrapped with custody seal.
   c. Chain-of-custody form filled out by H2M Labs personnel.
   d. Field team supplied with custody seal to secure cooler prior to shipment back to the laboratory.

(2) Delivery of Cooler to Field Team
   a. Samplers check for any external damages (such as leaking).
   b. Samplers or facility representative sign for cooler from shipper.

(3) Cooler Delivery to H2M Labs
   a. Check condition of external seal.
   b. Open cooler.
   c. Remove chain-of-custody forms, fill out and sign.
   d. Check to see if any samples are broken or damaged.

(4) Sample Storage at H2M Labs
   a. Samples are locked in a refrigerator until analyzed.
   b. Chain-of-custody maintained by laboratory receiving personnel and analysts.

9.0 Laboratory Data Deliverables Format

Pursuant to N.J.A.C. 7:26E-2.1(a)11, Non-CLP reduced laboratory deliverables will be provided, in accordance with N.J.A.C. 7:26E, Appendix A.

10.0 Report Format

A report will be submitted to the Department within six weeks of the sampling event. The report will include a brief summary of the sampling event, including field measurements; a summary table presenting the data, including a comparison to applicable NJDEP criteria, and, for groundwater, a discussion of the current data with respect to historic data. Recommendations for subsequent actions, if warranted, will be provided.

APPENDIX E
HEALTH & SAFETY PLAN

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H2MGROUP

Health and Safety Plan
ITT Avionics Division
Clifton, New Jersey

June 1996

1.0 Purpose

The purpose of this Health and Safety Plan is to establish a protocol for protecting field personnel from incidents that may arise during field activities at the ITT Avionics Division facility located at 100 Kingsland Road, Clifton, New Jersey. This plan has been prepared in accordance with the National Institute for Occupational Safety and Health (NIOSH), the Occupational Safety and Health Administration (OSHA) "Standards and Regulations, 29 CFR 1910 and 29 CFR 1926," the United States Coast Guard (USCG), and the United States Environmental Protection Agency (USEPA) publication, "Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities," dated October 1985.

This Health and Safety Plan is for H2M Group personnel. The plan establishes personnel protection standards and mandatory operating procedures, and provides a contingency plan for situations that may arise while field work is being conducted at the site. Personnel at the site may encounter hazards which include chemical exposure, explosion and fire, biological, safety, heat stress and noise.

2.0 Site Hazards

It is important that personnel protective equipment and safety requirements be appropriate to protect against potential or known hazards. Protective equipment will be selected based on the types, concentrations, possibilities and routes of personnel exposure to substances at a site. In situations where the type of material and possibilities of contact are unknown, or where the hazards are not clearly identifiable, a more subjective determination will be made of the personnel protective equipment required for initial safety.

The hazards that may be encountered include chemical exposure, explosion and fire, biological, safety, heat stress and noise.

- Chemical Exposure: Low levels of volatile organic compounds, predominantly 1,1,1-TCA and degradation compounds are present in the groundwater beneath the site.

- Explosion and Fire: The use of power equipment requires a source of fuel, usually gasoline; extreme care must be taken to avoid contact between fuel and hot surfaces (i.e., engine exhaust, etc.).

- Biological Hazards: The hazards that may be encountered include poison ivy, thorned brush, dogs, ticks and rodents.

- Safety Hazards: The hazards may include uneven terrain, sharp objects, heavy equipment, holes, ditches, and glass and debris.

- Heat/Cold Stress: Due to ambient conditions, personnel should be monitored for heat/cold stress.

- Noise: Work around heavy equipment often creates excessive noise. The effects of noise can include: workers being startled, annoyed or distracted; physical damage to the ear; and communication interference's.

3.0 Education and Training

All personnel involved in field work will be trained to carry out their designated field operations. Training will be provided in the use of all equipment, including: respiratory protective apparatus and protective clothing; safety practices and procedures; general safety requirements; first aid; and hazard recognition and evaluation. Each individual involved in field work must provide documentation of training, as per 29 CFR 1910.120 (e)(2). In addition, each individual must sign for, and be provided with, a copy of this Health and Safety Plan.

4.0 Personnel

4.1 Off-Site Personnel

4.1.1 Senior Level Management

Responsible for defining project objectives, allocating resources, determining the chain of command, and evaluating program outcome. Specific responsibilities include:

- Provide the necessary facilities and equipment.
- Provide adequate personnel and time resources to conduct activities safely.
- Support the efforts of on-site management.
- Provide appropriate disciplinary action when unsafe acts or practices occur.

4.1.2 Health and Safety Officer

Responsibilities include:

- Becoming familiar with the types of materials on-site, the potential for work exposures, and recommending the medical program for the site.
- Provide emergency treatment and decontamination procedures for the specific type of exposure that may occur at the site, and obtain special equipment or supplies necessary to treat such exposures.
- Provide emergency treatment procedures appropriate to the hazards on-site.

4.1.3 Project Manager

Reports to upper level management. The Project Manager has the authority to direct response operations and to assume total control over site activities. Specific responsibilities include:

- Prepare and organize the background review of the situation, the Work Plan, the Health and Safety Plan, and the field team.
- Obtain permission for site access and coordinate activities with appropriate officials.
- Ensures the Work Plan is complete and on schedule.
- Briefs the field team(s) on their specific assignments.
- Uses the site health and safety officer to ensure that health and safety requirements are met.
- Prepares the report and support files on the response activities.
- Serves as a liaison with client and/or public officials.

4.2 On-Site Personnel

4.2.1 Site Health and Safety Officer

Advises the field team leader on all aspects of health and safety on-site. Recommends stopping work, if any operation threatens workers or public health and safety. Specific responsibilities include:

- Selection of protective clothing and equipment.
- Periodic inspection of protective clothing and equipment.
- Ensuring that protective clothing and equipment are properly stored and maintained.
- Confirming each team member's suitability for work based on physician's recommendations.
- Monitoring the work parties for signs of stress, such as cold exposure, heat stress or fatigue.

- Monitoring on-site hazards and conditions.
- Conducting periodic inspections to determine if the Health and Safety Plan is being observed.
- Enforcement of the "buddy" system.
- Knowing emergency procedures, evacuation routes, telephone numbers of ambulance, local hospital, poison control center, fire and police departments.
- Notification, when necessary, to local public officials.
- Coordination of emergency medical care.

4.2.2 Field Team Supervisor

Responsible for field team operations and safety. Specific responsibilities include:

- Management of field team operations.
- Execution of the Work Plan and schedule.
- Enforcement of safety procedures.
- Coordination with the Site Health and Safety Officer in determining protection level requirements.
- Enforcement of site control.
- Documentation of field activities and sample collection.
- Notifying emergency response personnel by telephone or radio in the event of an emergency.
- Assisting the Site Health and Safety Officer in a rescue, if necessary.
- Maintaining a log of communication and site activities.
- Assisting other field team members in the clean areas, as needed.
- Maintaining line of sight and communication contact with the work parties via radio, signal horns or other means.

5.0 Personnel Protective Equipment

Anyone entering a zone in which hazards may be encountered must be protected against exposure to such hazards. The purpose of personnel protective clothing and equipment is to minimize exposure to hazards while working on-site.

Careful selection and use of adequate personnel protective equipment should protect the respiratory system, skin, eyes, face, hands, feet, head, body and hearing.

The level of protection is determined prior to the initial entry on-site based on available information and preliminary monitoring. Subsequent information may suggest changes in the original level chosen.

5.1 Level A Protection

The highest available level of respiratory, skin and eye protection.

5.1.1 Personal Protective Equipment

Recommended: Pressure demand, full face piece SCBA or pressure demand supplied-air respirator with escape SCBA, approved by OSHA and NIOSH.
Fully encapsulating, chemical resistant suit.
Inner chemical resistant gloves.
Chemical resistant safety boots/shoes.
Two-way radio communications.

Optional: Cooling unit; coveralls; long cotton underwear; hard hat; disposable gloves and boot covers.

5.1.2 Criteria for Selection

Meeting any of the criteria below warrants the use of Level A protection.

- The chemical substance has been identified and requires the highest level of protection for skin, eyes and the respiratory system based on either: measured (or potential for) high concentration of atmospheric vapors, gases or particulates; or site operations and work functions involve a high potential for splash, immersion or exposure to unexpected vapors, gases or particulates of materials that are harmful to skin or capable of being absorbed through the intact skin.

- Substances with a high degree of hazard to the skin are known or suspected to be present, and skin contact is possible.

- Total atmospheric readings on a flame ionization detector (FID), photoionization detector (PID), or similar instruments indicate greater than 500 ppm above ambient background concentrations of unidentified substances in the breathing zone.

- Operations must be conducted in confined, poorly ventilated areas until the absence of these conditions, requiring Level A protection, is determined.

5.1.3 Limiting Criteria

Fully encapsulating suit material must be compatible with the substances involved.

5.1.4 Minimum Decontamination Procedure

Station 1:	Segregated equipment drop
Station 2:	Outer garment/boot/glove wash and rinse
Station 3:	Outer boot and glove removal
Station 4:	Tank change
Station 5:	Boot/glove/outer garment removal
Station 6:	SCBA removal
Station 7:	Field wash

5.2 Level B Protection

The same level of respiratory protection, but less skin protection than Level A. It is the minimum level recommended for initial site entries until the hazards have been identified.

5.2.1 Personal Protective Equipment

Recommended: Pressure demand, full face piece SCBA or pressure demand supplied-air respirator with escape SCBA.
Chemical resistant clothing (overalls and long sleeved jacket; hooded, one or two-piece chemical splash suit; disposable chemical resistant one-piece suit).
Inner and outer chemical resistant gloves.
Chemical resistant safety boots/shoes.
Hard hat.
Two-way radio communications.

Optional: Coveralls; disposable boot covers; face shield; long cotton underwear.

5.2.2 Criteria for Selection

Meeting any of the criteria below warrants use of Level B protection:

- The type of atmospheric concentration of substances have been identified and require a high level of respiratory protection, but less skin protection. This involves atmospheres:

with IDLH concentrations of specific substances that do not represent a severe skin hazard; or that do not meet the criteria for use of air-purifying respirators.

- Atmosphere contains less than 19.5 percent oxygen.

- Presence of incompletely identified vapors or gases is indicated by direct reading organic vapor detection instrument, but vapors and gases are not suspected of containing high levels of chemicals harmful to skin or capable of being absorbed through the intact skin.

- Total atmospheric readings on an FID, PID or similar instrument indicates 10 to 500 ppm above ambient background concentrations of unidentified substances in the breathing zone.

5.2.3 Limiting Criteria

- Use only when the vapor or gases present are not suspected of containing high concentrations of chemicals that are harmful to skin or capable of being absorbed through the intact skin.

- Use only when it is highly unlikely that the work being done will generate high concentrations of vapors, gases, or particulates or splashes of material that will affect exposed skin.

5.2.4 Minimum Decontamination Procedure

Station 1:	Equipment drop
Station 2:	Outer garment/boot/glove wash and rinse
Station 3:	Outer boot and glove removal
Station 4:	Tank change
Station 5:	Boot/glove/outer glove removal
Station 6:	SCBA removal
Station 7:	Field wash

5.3 Level C Protection

The same level of skin protection as Level B, but a lower level of respiratory protection.

5.3.1 Personal Protective Equipment

Recommended: Full face piece, air purifying, canister equipped respirator.
Chemical resistant clothing (overalls and long sleeved jacket; hooded, one or two-piece chemical splash suit; disposable chemical resistant one-piece suit).
Inner and outer chemical resistant gloves.
Chemical resistant safety boots/shoes.
Hard hat.
Two-way radio communication.

Optional: Coveralls; disposable boot covers; face shield; escape mask; long cotton underwear.

5.3.2 Criteria for Selection

Meeting any of the criteria below warrants use of Level C protection:

- The atmospheric contaminants, liquid splashes or other direct contact will not adversely affect any exposed skin.
- All criteria for the use of air purifying respirators are met.
- Total atmospheric readings on a PID, FID or similar instrument indicates background to 10 ppm above background of unidentified substances in the breathing zone.

5.3.3 Limiting Criteria

Atmospheric concentration of chemicals must not exceed IDLH levels. The atmosphere must contain at least 19.5 percent oxygen.

5.3.4 Minimum Decontamination Procedure

Station 1:	Equipment drop
Station 2:	Outer boot and glove removal
Station 3:	Canister or mask change
Station 4:	Boot/glove/outer garment removal
Station 5:	Face piece removal
Station 6:	Face wash

5.4 Level D Protection

No respiratory protection. Minimal skin protection.

5.4.1 Personal Protective Equipment

Recommended: Coveralls.
Safety boots/shoes.
Safety glasses or chemical splash goggles.
Hard hat.

Optional: Gloves; escape mask; face shield.

5.4.2 Criteria for Selection

The atmosphere contains no known hazards. Work functions preclude splashes, immersion or the potential for unexpected inhalation of or contact with hazardous levels of any chemicals.

5.4.3 Limiting Criteria

The atmosphere must contain at least 19.5 percent oxygen.

5.4.4 Minimum Decontamination Procedure

Station 1: Equipment drop
Station 2: Hand and face wash

5.5 Duration of Work Period

The anticipated duration of the work period will be established prior to daily activities. Work will only be performed during daylight hours. Other factors that limit work period length include:

- Rain.
- Ambient temperature.

6.0 Determination of the Site Specific Level of Hazard

Categories of required personal protection depend on the degree of hazard and probability of exposure by a route of entry into the body. Typically, the probable route of exposure is via inhalation of gases and of airborne particulates released from surface soil, standing liquids and lagoons.

Based on this, it has been determined that the appropriate level of protection for the majority of activities at the site is Level D, with frequent ambient air monitoring with a photoionization detector (PID), flame ionization detector (FID), and/or explosimeter.

If subsequent measurements using these instruments suggest significant changes in atmospheric conditions above background concentrations, the work zone will be evacuated and consideration will be given to upgrading the level of protection.

7.0 Work Zones

The work zones are defined as the areas encompassing the exclusion zone, decontamination zone and support zone.

7.1 Exclusion Zone

The exclusion zone is the active work area where exposure to contamination does or could occur. The outer boundary of the exclusion zone shall encompass the physical area necessary for the specific work operations. Only qualified field personnel with proper protective equipment involved in field activities will be permitted in the exclusion zone. The level of personnel protection in the exclusion zone will be Level D, unless subsequent changes warrant an upgrading in the level of protection (see Section 5).

7.2 Decontamination Zone

The decontamination zone is a transition area between the exclusion zone and the support zone. Personnel and field equipment will undergo decontamination within this zone only. All waste materials generated in this zone (contamination and wash/rinse waters) will be containerized before being removed from this zone. The decontamination zone is also referred to as the contamination-reduction zone. The level of protection in the decontamination zone is Level D, unless subsequent changes, as determined by the use of air monitoring equipment (i.e., PID, FID), warrant an upgrading of personal protection equipment.

7.3 Support Zone

The support zone will be a defined location where first aid equipment, eyewash fountains and fire extinguishers will be readily accessible. The support zone will be located adjacent to the decontamination zone.

8.0 Site Access Control

It is understood that vehicular access to the site and work area locations is readily attainable. Field equipment will be removed from the site on a daily basis.

Parking areas should be regulated to ensure free entry and egress to and from the site.

9.0 Personal Hygiene

The following personal hygiene rules must be followed while performing work at the site:

- Eating, drinking, chewing gum or tobacco, smoking or any other practice that increases the probability of hand-to-mouth transfer and ingestion of material is prohibited on-site.

- Hands and face must be thoroughly washed upon leaving the work area and before eating, drinking or any other activity.

- Prior to entering any "clean" areas, rubber boots will be thoroughly cleaned. Safety boots will be cleaned of all excessive dirt and/or other contamination. "Clean" areas include eating and smoking areas, locker or change rooms, laboratory or office areas, personal vehicles and public buildings.

- Prior to leaving the site, workers must remove all contaminated clothing and place it in the appropriate storage or laundry area.

- Whenever decontamination procedures for outer garments are in effect, the entire body should be thoroughly washed as soon as possible after the protective garment is removed.

- Under no circumstances are employees to use the site or any other operational area as a toilet facility. Only the toilet facilities provided are to be used for this purpose.

- No excessive facial hair, which interferes with a satisfactory fit of the mask-to-face seal, is allowed on personnel required to wear respiratory protection equipment.

- Contact with contaminated surfaces or with surfaces suspected of being contaminated should be avoided. Whenever possible, one should not walk through puddles, mud and other discolored surfaces, kneel on the ground, lean, sit or place equipment on drums, containers, vehicles or the ground.

- Medicine and alcohol can potentiate the effects from exposure to toxic chemicals. Prescribed drugs should not be taken by personnel on response operations if there is a likelihood of such potentiation.

10.0 Contingency Plan

This Contingency Plan is developed to identify precautionary measures, possible emergency conditions and emergency procedures.

10.1 Emergency Medical Care and Treatment

The Health and Safety Plan addresses emergency medical care and treatment of field personnel, including possible exposures to toxic substances and injuries due to accidents or physical problems. The following items are included in emergency care provisions:

- Name, address and telephone number of the nearest medical treatment facility will be readily available. Directions for locating the facility, plus the travel time, will also be readily available.

- Names and telephone numbers of ambulance service, police and fire departments, and procedures for obtaining these services, will be readily available.

- Procedure for prompt notification of H2M Health and Safety Officer/H2M Project Manager.

- Emergency eyewash fountains and first aid equipment will be readily available on-site and located in an area known to all personnel.

- Readily available fire extinguisher (ABC), non-toxic, dry chemical.

10.2 Off-Site Emergency Medical Care

The Site Health and Safety Officer shall develop plans for emergency medical care services at a convenient medical facility and establish emergency routes.

10.3 Personnel Accidents

Bodily injuries which occur as a result of an accident during the operations at the site will be handled in the following manner:

- First aid equipment will be available on-site for minor injuries. If the injuries are not considered minor, proceed to the next step.

- The local first aid squad rescue unit, a paramedic unit, the local hospital and the Site Health and Safety Officer shall be notified of the nature of the emergency.

- The injured employee shall be transported by the local emergency vehicle to the local hospital.

- A written report by the Site Health and Safety Officer shall be submitted to the H2M Health and Safety Officer/H2M Project Manager, detailing the events and actions taken during the emergency, within 24 hours of the accident.

- A for a list of emergency contacts in the area is attached.

10.3.1 Personnel Exposure

In the event that any personnel are splashed or otherwise excessively contaminated by chemicals, the following procedure will be undertaken:

- Disposable clothing contaminated with observable amounts of chemical residue is to be removed and replaced immediately.

- In the event of direct skin contact in Level D, the affected area is to be washed immediately with soap and water. For Level B, the person will also be taken to the hospital.

- The Site and Health and Safety Officer, or other individuals who hold a current first aid certificate, will determine the immediate course of action to be undertaken. This may involve using the first aid kit and/or eyewash.

10.3.2 Weather

Adverse weather conditions are important considerations in planning and conducting site operations. Hot or cold weather can cause physical discomfort, loss of efficiency and personal injury. Of particular importance is heat stress resulting when protective clothing decreases natural body ventilation. One or more of the following will help reduce heat stress:

- Provide plenty of liquids. To replace body fluids (water and electrolytes) lost because of sweating, use a 0.1 percent salt water solution and more heavily salted foods or commercial mixes. The commercial mixes may be preferable for those employee on a low sodium diet.

- Provide cooling devices to aid natural body ventilation. These devices, however, add weight, and their use should be balanced against worker efficiency. Long cotton underwear acts as a wick to help absorb moisture and protect the skin from direct contact with heat absorbing protective clothing. It should be the minimum undergarment worn.

- Install mobile showers and/or hose down facilities to reduce body temperature and cool protective clothing.

- In extremely hot weather, conduct non-emergency response operations in the early morning or evening.

- Ensure that adequate shelter is available to protect personnel against heat, cold, rain, snow, etc.

- In hot weather, rotate shifts of workers wearing impervious clothing.

10.3.3 Heat Stress Monitoring

For monitoring the body's recuperative ability to excess heat, one or more of the following techniques should be used as a screening mechanism. Monitoring of personnel wearing impervious clothing should commence when the ambient temperature is 70°F or above. Frequency of monitoring should increase as the ambient temperature increases, or as slow recovery rates are indicated. When temperatures exceed 85°F, workers should be monitored for heat stress after every work period. The following are important considerations.

- Heart rate (HR) should be measured by the radial pulse for 30 seconds as early as possible in the resting period. If the heart rate exceeds 110 beasts per minute at the beginning of the rest period, shorten the next work cycle by one-third and keep the rest period the same. If the heart rate still exceeds 110 beast per minute at the next rest period, shorten the following work cycle by one third.

- Heat stroke is the most severe form of heat stress. The body must be cooled immediately to prevent severe injury and/or death. Signs and symptoms are: red, hot dry skin; no perspiration; nausea; dizziness and confusion; strong rapid pulse; and coma.

10.3.4 Effects of Cold Exposure

Persons working outdoors in temperatures at or below freezing may be frost-bitten. Extreme cold for a short time may cause severe injury to the surface of the body or result in profound generalized cooling, causing death. Areas of the body that have a high surface area-to-volume ratio, such as fingers, toes and ears, are the most susceptible.

Hypothermia can occur even at temperatures well above freezing, especially in windy, wet conditions. Signs of hypothermia include shivering and disorientation. Persons exhibiting these symptoms should remove damp clothing and go indoors or in a warm vehicle.

10.4 Fire

In the event of an uncontrolled fire occurring on-site, the following actions will be undertaken:

- Evacuate all unnecessary personnel from the site, if necessary.
- Contact the local fire and police departments (see Appendix A).
- Contact the local hospital concerning the possibility of fire victims.
- Contact the H2M Project Manager and H2M Health and Safety Officer.
- All personnel in the area of the fire shall be at Level B personnel protective equipment.

10.5 Personnel Protective Equipment Failure

If any site worker experiences a failure or alteration of protective equipment that affects the protection factor, that person and his/her buddy shall immediately leave the exclusion zone. Re-entry shall not be permitted until the equipment has been repaired or replaced.

11.0 Summary

This Health and Safety Plan establishes polices and procedures to protect workers from potential or known hazards that exist at a site. Personnel protective equipment will be based upon the type(s), concentration(s), possibility and routes of personal exposure to substances at a site. All site operation planning incorporates an analysis of the hazards involved and procedures for preventing or minimizing the risk to personnel. The following summarizes the rules which must be observed:

1. The Health and Safety Plan shall be made available to all personnel conducting field work on-site. All personnel must sign for this plan acknowledging that they are fully familiar with its contents.

2. All personnel will be familiar with standard operating procedures and additional instruction contained in the Health and Safety Plan.

3. All on-site personnel will be adequately trained and thoroughly briefed on anticipated hazards, equipment to be worn, safety practices to be followed, emergency procedures and communications.

4. Any required respiratory protective equipment and clothing will be worn by all personnel going on-site.

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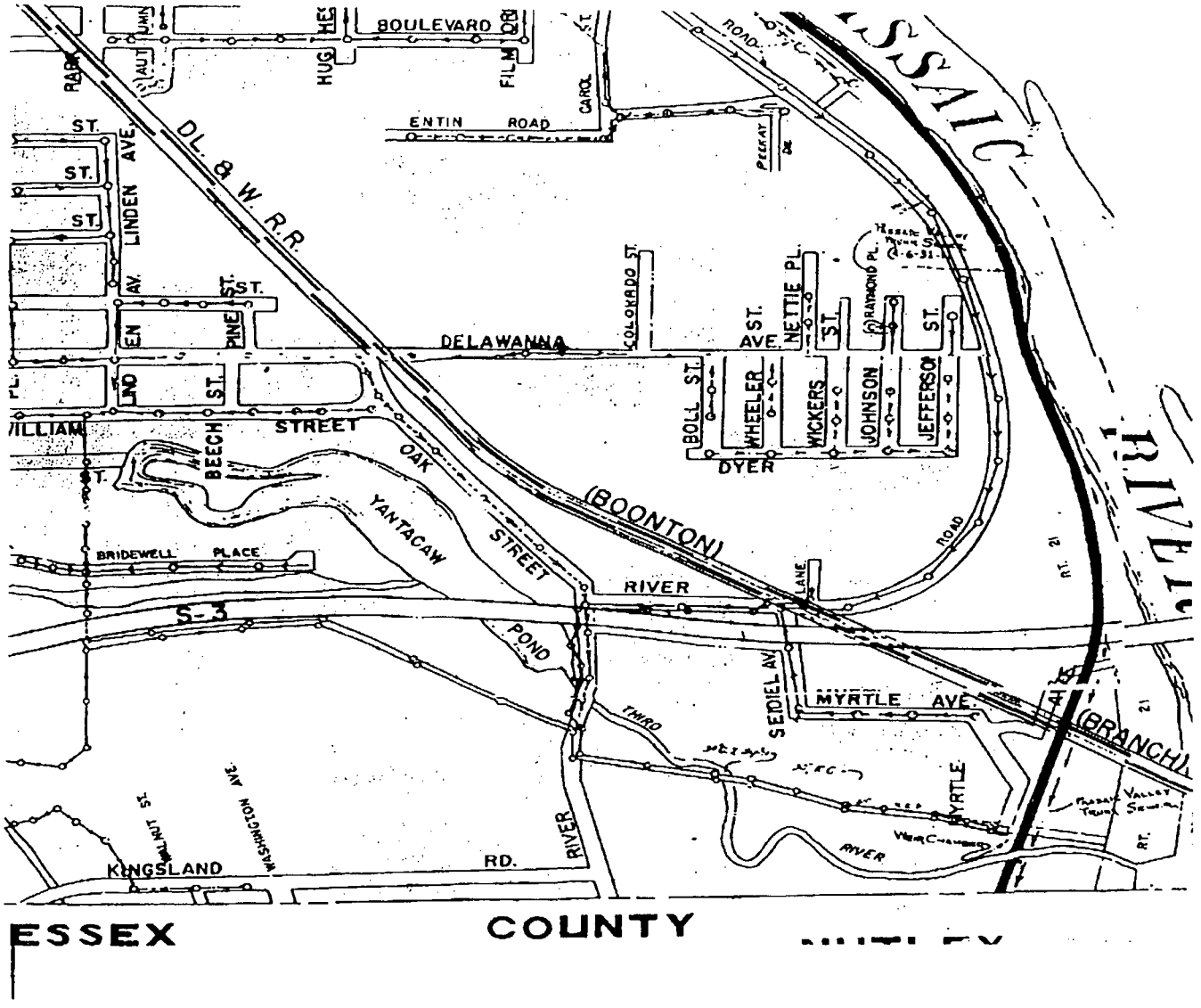

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NOTICE ABOUT UNSCANNABLE MAP

THIS MAP CAN BE FOUND IN THE SITE FILES LOCATED AT: U.S. EPA SUPERFUND RECORDS CENTER, 290 BROADWAY, 18TH FLOOR, NY, NY 10007

ITT AVIONICS DIVISION
PLANT ENGINEERING DIVISION
BOILER BLOW DOWN PIPING "CLIFTON PLANT"
04-09-1975

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PERMIT NUMBER NJ0020214

Permittee	Co-Permittee
ITT AVIONICS 100 KINGSLAND ROAD CLIFTON NJ 07014	

Property Owner	Location of Activity
ITT AVIONICS 100 KINGSLAND ROAD CLIFTON NJ 07014	ITT AVIONICS 100 KINGSLAND ROAD CLIFTON NJ 07014

Current Authorization Covered By This Approval And Previous Authorization	Issuance Date	Effective Date	Expiration Date
C :THERMAL SURFACE WATER DISCH	03/31/1992	05/01/1992	04/30/1997
05 :GROUP I - STORMWATER RUNOFF	03/31/1992	05/01/1992	04/30/1997

DISCHARGE TO: Third River (DSN 001)
Passaic River (DSN 002, 003)

CLASSIFICATION: FW2-NT
SE-2

By Authority of:
COMMISSIONER'S OFFICE

DEPE AUTHORIZATION
DENNIS HART
ADMINISTRATOR
WASTEWATER FACILITIES REGULATION PROGRAM

NJPDESNJPDESNJPDESNJPDESNJPDESNJPDESNJPDESNJPDESNJPDESNJPDESNJPDESNJPDESNJPDE

Checklist of Parts and Modules Comprising this NJPDES Permit

1. Cover Page
2. Checklist
3. **Part I - General Conditions for All NJPDES Discharge Permits**
4. **Part II - Additional General Conditions for the types of NJPDES Permits checked as follows:**

   ___ Part II - A (Municipal/Sanitary)

   _X_ Part II - B/C (Industrial/Commercial/Thermal)

   ___ Part II - L (SIU)

   ___ Part II - IWMF (Industrial Waste Management Facility)

   ___ Part II - DGW Specify type(s):_____

5. **Part III - Effluent Limitations and Monitoring Requirements**

   ___ Part III - A

   _X_ Part III - B/C

   ___ Part III - L

   ___ Part III - DGW Specify type(s):_____

6. **Part IV - Special Conditions**

   ___ Part IV - A

   _X_ Part IV - B/C

   ___ Part IV - L

   ___ Part IV - IWMF

   ___ Part IV - Residuals

   ___ Part IV - DGW Specify type(s):_____

7. ___ **Part V - Chronic Toxicity Methods**

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

GENERAL CONDITIONS FOR ALL NJPDES DISCHARGE PERMITS

1. Duty to Comply

A. The permittee shall comply with all conditions of this New Jersey Pollutant Discharge Elimination System (NJPDES) permit. No pollutant shall be discharged more frequently than authorized or at a level in excess of that which is authorized by the permit. The discharge of any pollutant not specifically authorized in the NJPDES permit or listed and quantified in the NJPDES application shall constitute a violation of the permit, unless the permittee can prove by clear and convincing evidence that the discharge of the unauthorized pollutant did not result from any of the permittee's activities which contribute to the generation of its wastewaters. Any permit noncompliance constitutes a violation of the New Jersey Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.; hereinafter referred to as the State Act) or other authority of the NJPDES regulations (N.J.A.C. 7:14A-1 et seq.) and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

B. A permittee shall not achieve any effluent concentration by dilution. Nor shall a permittee increase the use of process water or cooling water or otherwise attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve permit limitations or water quality standards.

C. The permittee shall comply with applicable effluent standards or prohibitions established under Section 307 (a) of the "Federal Water Pollution Control Act" (PL 92-500 et seq.; hereinafter referred to as the Federal Act) and Section 4 of the State Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

D. The State Act provides that any person who violates a permit condition implementing the State Act is subject to a civil penalty not to exceed $10,000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing the State Act is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than 1 year, or both.

E. The permittee is required to comply with all other applicable federal, state and local rules, regulations, or ordinances. The issuance of this permit shall not be considered as a waiver of any other requirements.

2. Permit Expiration

This permit and the authorization to discharge shall expire at midnight on the expiration date of the permit. The permittee shall not discharge after the above date of expiration of the permit.

A. Duty to Reapply. If the permittee wishes to continue an activity regulated by a NJPDES permit after the expiration date of the permit, the permittee shall apply for and obtain a new permit. (If the activity is to be continued, the permittee shall complete, sign, and submit such information, forms, and fees as are required by the Department no later than 180 days before the expiration date.) The permittee shall follow the requirements stated in paragraph 12.A. when signing any application.

water pollution control and abatement to achieve compliance with the terms and conditions of the permit. Proper operation and maintenance includes but is not limited to effective performance based on designed facility removals, adequate funding, effective management, adequate operator staffing and training and adequate laboratory and process controls including appropriate quality assurance procedures as described in 40 CFR Part 136 and applicable State Law and regulations. All permittees who operate a treatment works, except for sanitary landfills and land application of sludge or septage, must satisfy the licensing requirements of the "Licensing of Operators of Wastewater and Water Systems" N.J.S.A. 58:11-64 et seq. or other applicable law. This paragraph requires the operation of back-up or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit or where required by applicable law or regulation.

B. Facilities Operation and Operator Certification. The operation of any treatment works shall be under the supervision of an operator on the first day of operation of the treatment works and continually thereafter in accordance with paragraph 5.A above. The operator shall meet the requirements of the Department of Environmental Protection of the State of New Jersey pursuant to the provisions of N.J.S.A. 58:11-64 et seq. and amendments thereto. The name of the proposed operator shall be submitted to this Department in order that his qualifications may be determined prior to inititating operation of the proposed treatment works.

6. Permit Actions

A. This permit may be modified, suspended, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

B. Causes for modification, revocation and reissuance, and suspension are set forth in N.J.A.C. 7:14A-2.12 et seq.

C. The following are causes for terminating or modifying a permit during its term, or for denying a permit renewal application:

(1) Noncompliance by the permittee with any condition of the permit;

(2) Failure to pay applicable fees (N.J.A.C. 7:14A-1.8), including the annual NJPDES permit fee which has been assessed by the New Jersey Department of Environmental Protection (NJDEP, hereinafter referred to as the Department);

(3) The permittee's failure in the application or during the permit issuance process of a National Pollutant Discharge Elimination System (NPDES), Discharge Allocation Certificate (DAC), NJPDES, Treatment Works Approval (TWA) or Construct and Operate permit to disclose fully all relevant facts, or the permittee's misrepresentation of any permit condition;

(4) A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination;

(5) When there is a change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge controlled by the permit (for example, plant closure or termination of discharge by connection to a Domestic Treatment Works (DTW);

(6) The nonconformance of the discharge with any applicable facility, basin or areawide plans;

the purpose of obtaining samples of ground water, soil and vegetation and measuring ground water elevations.

B. Any refusal by the permittee, facility land owner(s), facility lessee(s), their agents, or any other person(s) with legal authority, to allow entry to the authorized representatives of the NJDEP and/or USEPA shall constitute grounds for suspension, revocation and/or termination of this permit.

C. By acceptance of this permit, the permittee hereby agrees, consents and authorizes the representatives of the NJDEP and/or USEPA to present a copy of this permit to any municipal or state police officer having jurisdiction over the premises occupied by the permittee in order to have said officer effectuate compliance with the right of entry, should the permittee at any time refuse to allow entry to said inspectors.

D. By acceptance of this permit, the permittee waives all rights to prevent inspections by authorized representatives of the NJDEP and/or USEPA to determine the extent of compliance with any and all conditions of this permit and agrees not to, in any manner, seek to charge said representatives with the civil or criminal act of trespass when they enter the premises occupied by the permittee in accordance with the provisions of this authorization as set forth hereinabove.

10. Ground Water Monitoring Wells

The permittee shall install and maintain ground water monitoring wells if required by this permit at locations and according to specifications provided by the Department. All permit required monitoring wells shall be installed within 30 days of the Effective Date of the Permit. The monitoring wells shall provide turbidity-free water at a minimum rate of two gallons per minute or what the formation will yield with a properly installed and developed ground water monitoring well.

When a monitoring well cannot be used for the purpose of sample collection or ground water level measurements, the permittee shall replace the well at his own expense within 30 days of the missed sampling and/or measurement date. Said unuseable wells shall be sealed, also at the permittee's own expense, in accordance with Department well sealing specifications within the same 30 day period in which the well is replaced. Monitoring wells as required in this permit shall be considered as a monitoring device, which are required to be maintained under the provisions of the New Jersey Water Pollution Control Act N.J.S.A. 58:10A-10(f).

All monitoring wells must be installed by a New Jersey licensed well driller. The elevation to the nearest hundredth of a foot of the top of each well casing shall be established by a New Jersey licensed land surveyor within 30 days of the installation of the monitoring wells. The elevation established shall be in relation to the New Jersey geodetic control datum. Ground water monitoring wells and all point source discharges to ground water shall be located by horizontal control (latitude and longitude) using third order work, class II specification and by vertical control (elevation) using third order work. Within 30 days of the installation date of the monitor well, the permittee shall submit to the Department completed "Ground Water Monitoring Well Certifications - Forms A and B for each well required to be sampled by the permit. Within 60 days of the Effective Date of the Permit, the permittee shall submit to the Department a plot plan of the facility showing the location of all discharges and the ground water monitoring well locations. The scale of the plot plan shall be at least one inch equals fifty (50) feet.

Each ground water monitoring well casing shall have permanently affixed to it a monitoring well number to be assigned by the Department, elevation of the top of the well casing, elevation of the top of the well casing above the ground level and latitude and longitude of the monitoring well.

G. If the permittee monitors any pollutant more frequently than required by the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR, MRF, or other approved format.

H. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Department in the permit.

I. Discharge Monitoring Reports

(1) Monitoring results shall be summarized and reported on the appropriate Monitoring Report Forms following the completed reporting period. Signed copies of these, and all other reports required herein, shall be submitted to the following address:

Water Quality Management
Division of Water Resources
CN 029
Trenton, New Jersey 08625
ATTN: Monitoring Reports

(2) If a contract laboratory is utilized, the permittee shall submit the name and address of the laboratory and the parameters analyzed at the time it submits its monitoring reports (See Section 11.E. above). Any change in the contract laboratory being used or the parameters analyzed shall be reported prior to or together with the monitoring report covering the period during which the change was made.

J. Monitoring Reports. Monitoring results shall be reported at the intervals and starting date specified elsewhere in this permit.

K. Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

12. Signatory Requirement

A. Signature Requirements. All permit applications, except those submitted for Class II wells for a UIC discharge (see paragraph B) shall be signed as follows:

(1) For a corporation, by a principal executive officer of at least the level of vice president;

(2) For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or

(3) For a municipality, state, federal or other public agency, by either a principal executive officer or ranking elected official.

B. Reports. All reports required by permits, other information requested by the Department and all permit applications submitted for Class II wells under N.J.A.C. 7:14A-5.8 shall be signed by a person described in paragraph A of this section or by a duly authorized representative only if:

(1) The authorization is made in writing by a person described in paragraph A of this section;

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as a position of plant

(6) Steps being taken to reduce, eliminate, and prevent reoccurence of the noncomplying discharge.

B. The permittee shall orally provide the information in paragraphs A.(1) through (3) to the DEP Hotline (609) 292-7172 within 2 hours from the time the permittee becomes aware of the circumstances.

C. The permittee shall orally provide the information in paragraphs A.(4) through (5) to the DEP Hotline within 24 hours of the time the permittee becomes aware of the circumstances.

D. A written submission shall also be provided wit n 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain the information in A.(1) through (6).

E. Other Noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs 11.J, 11.K, 13.A, and 14.A through D at the time monitoring reports are submitted. The reports shall contain the information required in the written submission listed in paragraph 14.D.

F. The following shall be reported to the Department in accordance with paragraphs 14.A through D:

(1) In the case of any discharge subject to any applicable toxic pollutant effluent standard under Section 307(a) of the Federal Act or under Section 6 of the State Act the information required by paragraphs 14.A(1) through (3) regarding a violation of such standard shall be provided to the Department within 2 hours from the time the permittee becomes aware of the circumstances. The information required by paragraphs 14.A(4) through (6) shall be provided to the Department within 24 hours from the time the permittee becomes aware of the circumstances. Where the information is provided orally, a written submission covering these points must be provided within five working days of the time the permittee becomes aware of the circumstances covered by this paragraph.

(2) In the case of other discharges which could constitute a threat to human health, welfare, or the environment, including but not limited to, discharge of pollutants designated under Section 311 of the Federal Act, under Section 6 of the State Act, under the "Spill Compensation and Control Act", N.J.S.A. 58:10-23.11 et seq., or under the "Safe Drinking Water Act", N.J.S.A. 58:12A-1 et seq., the information required by paragraph 14.A(1) through (3) shall be provided to the Department within 2 hours from the time the permittee becomes aware of the circumstances. The information required by paragraphs 14.A(4) through (6) shall be provided to the Department within 24 hours from the time the permittee becomes aware of the circumstances. Where the information is provided orally, a written submission covering these points must be provided within five working days of the time the permittee becomes aware of the circumstances covered by this paragraph.

(3) The information required in paragraphs 14.A(1) through (3) shall be provided to the Department within 2 hours where a discharge described under paragraphs 14.F(1) or (2) is located upstream of a potable water intake or well field. The information required by paragraphs 14.A(4) through (6) shall be provided to the Department within 24 hours. If this information is provided orally, a written submission covering these points must be provided within five days of the time the permittee becomes aware of the discharge.

(4) Any bypass which violates any effluent limitations in the permit shall be reported within 24 hours unless paragraphs 14.F(1) through (3) are applicable. (See Section 15.)

(1) An upset occurred and that the permittee can identify the specific cause(s) of the upset;

(2) The permitted facility was at the time being properly operated;

(3) The permittee submitted notice of the upset as required in paragraph 14.F.(5); and

(4) The permittee complied with any remedial measures required under Section 4 above.

C. Burden of Proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

17. Emergency Plan (DGW and DGW permits only)

A. The permittee shall develop, submit, and implement an Emergency Plan report prepared in accordance with N.J.A.C 7:14A-3.12(b) unless exempted pursuant to N.J.A.C. 7:14A-3.12(e). If not previously submitted to and approved by NJDEP, the Emergency Plan (or a request for exemption) must be submitted within six (6) months of the effective date of the permit unless otherwise required by N.J.A.C. 7:14A-3.12(a).

B. Liability

(1) Submission of an Emergency Plan pursuant to this section shall not exempt a permittee from liability for violations arising from an emergency situation. A permittee shall take all necessary actions to mitigate the damage to the waters of the State arising from an emergency situation. Such actions shall not be limited by the emergency operating plan and the manual of procedures.

(2) Exemption from development of an Emergency Plan under this section does not exempt the permittee from liability for violations arising from an emergency situation. Such permittee shall take all necessary actions to mitigate the damage to the waters of the State arising from an emergency situation.

C. Violations

Failure to submit an emergency plan in compliance with paragraph A. of this section and failure to implement the emergency plan shall each constitute a violation of this permit.

18. Residuals Management

A. Collected grit and screenings, scums, sand bed sands, slurries, and sludges, and all other solids from the treatment process shall be disposed of in such a manner as to prevent such materials from entering the ground and/or surface waters of the state except in accordance with a NJPDES permit. If for any reason such materials are placed in the water or on the lands where they may cause pollutants to enter the ground and/or surface waters of the State, the following information shall be reported to the Division of Water Resources Enforcement Element together with the monitoring data required in Part I, Section 11.I.:

(1) Dates of occurrence;

(2) A description of the noncomplying discharge (nature and volume);

(3) Cause of noncompliance;

(4) Steps taken to reduce and eliminate the noncomplying discharge; and

58:11A-1 et seq.), The New Jersey Water Pollution Control Act, (N.J.S.A. 58:10A-1 et seq.) and the Solid Waste Management Act (N.J.S.A. 13:1E-1 et seq.).

H. The permittee shall conform with the requirements under Section 405 of the Federal Act governing the management of sewage sludge from publicly owned treatment works and with Sections 4 and 6 of the State Act.

19. Discharge Permitted

The permittee shall discharge to surface waters, land or ground waters of the State, directly or indirectly, only as authorized herein and consistent with the terms and conditions of this permit.

20. Operation Restrictions

The operation of a waste treatment or disposal facility shall at no time create: (1) a direct discharge to surface waters of the State, except as authorized by NJDEP; (2) a persistent standing or ponded condition for water or waste on the permittee's property except as specifically authorized by this permit, or (3) any standing or ponded condition for water or waste on adjacent properties unless these activities are specifically included within the permit.

21. Oil and Hazardous Substance Liability

The imposition of responsibilities upon, or the institution of any legal action against the permittee under Section 311 of the Federal Act shall be in conformance with regulations promulgated pursuant to Section 311 of the Federal Act governing the applicability of Section 311 to discharges from facilities with NJPDES permits.

22. Reopener Clause for Toxic Effluent Limitations

Notwithstanding any other condition of this permit, if any applicable toxic effluent standards, limitation or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Federal Clean Water Act or Sections 4 or 6 of the State Act for a toxic pollutant and that effluent standard, limitation, or prohibition is more stringent than any limitation on the pollutant in the permit (or controls a pollutant not limited in the permit), this permit shall be promptly modified or revoked and reissued to conform to that effluent standard, limitation or prohibition.

23. Availability of Information

A. NJPDES permits, effluent data, and information required by NJPDES application forms provided by the Regional Administrator or Director (including information submitted on the forms themselves and any attachments used to supply information required by the forms) shall be available for public inspection at the offices of the Director.

B. In addition to the information set forth in paragraph A., any other information submitted to EPA and/or the Department in accordance with the conditions of this permit shall be made available to the public without further notice unless a claim of business confidentiality is asserted at the time of submission in accordance with the procedures in 40 CFR Part 2 (Public Information)

(6) A notarized statement signed by the new principal officer stating that he has read the NJPDES permit and agrees to abide by all the conditions of the permit and that the production levels, products produced, rates of discharge, and wastewater characteristics will remain unchanged.

b. Where there will be a change in production levels, products produced, rates of discharge, or wastewater characteristics, the information required in paragraph 25.C(1)(a)above shall be submitted at least 180 days prior to a proposed transfer date.

(2) The current permittee shall include in the notice of proposed transfer a written agreement between the existing and new permittee which includes a specific date for transfer of permit responsibility, coverage, and liability between the parties. In the case of a UIC permit, the notice shall demonstrate that the financial responsibility requirements of Section 5.10(a)7. of the NJPDES Regulations will be met by the new permittee;

(3) The Department does not notify the existing permittee and the proposed new permittee, within thirty (30) days of receipt of notice of proposed transfer, of an intent to modify, revoke or revoke and reissue the permit or, for a discharge to surface water (DSW), require a DAC. A modification under this paragraph may also be a minor modification under Section 2.14 of the NJPDES Regulations. If such notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph 25.C(2) of this section; and

(4) Whenever the regulated discharge has ceased prior to the proposed permit transfer, any compliance schedule shall not be automatically reinstated but shall be subject to revision or complete withdrawal if circumstances leading to its imposition have changed.

26. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

27. Stay of Conditions, N.J.A.C. 7:14-8.10

A request for an adjudicatory hearing shall not automatically result in a stay of the conditions of this permit.

28. Definitions

A. Unless otherwise stated, all terms shall be as defined in the "Regulations Concerning the New Jersey Pollutant Discharge Elimination System", N.J.A.C. 7:14A-1 et seq.

(1) "Aliquot" means a sample of specified volume used to make up a total composite sample.

(2) "Bypass" means the intentional diversion of wastes from any portion of a treatment facility.

(3) "Composite" means a combination of individual (or continuously taken) samples (aliquots) of at least 100 milliliters, collected at periodic intervals over the entire discharge day. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically. For a continuous discharge, a minimum of 24

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1.A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning EDP and lasting through EDP + 5 years the permittee is authorized to discharge non-contact cooling water/storm water runoff from outfall: DSN 001.

There shall be no discharge of floating solids or visible foam in other than trace amounts. There shall be no visible sheen.

The abbreviation 'N/A', in the table below denotes 'Not Applicable' while the abbreviation 'NL', denotes 'Not Limited' with both monitoring and reporting required.

All analytical data shall be reported on Discharge Monitoring Reports (DMR's).

Samples taken in compliance with the specified monitoring requirements shall be taken at the following location: From the end of the concrete conveyance located next to the Ramada Inn parking lot and River Road, and shall be reported monthly.

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS			MONITORING REQUIREMENTS	
All units are in mg/l unless otherwise specified	Daily Minimum	Monthly Average	Daily Maximum	Frequency	Sample type
Flow, MGD	N/A	NL	NL	Monthly	Instantaneous
Chemical Oxygen Demand	N/A	NL	50	Monthly	Grab
Total Suspended Solids	N/A	NL	50	Monthly	Grab
Petroleum Hydrocarbons	N/A	NL	10	Monthly	Grab
Temperature, $^{o}C(^{o}F)$	N/A	NL	30(86)	Monthly	Grab
pH range, s.u.	6.0	NL	9.0	Monthly	Grab

MGD - is the abbreviation for million gallons per day.
s.u.- is the abbreviation for standard units.

I.B. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning EDP and lasting through EDP + 5 years the permittee is authorized to discharge non-contact cooling water/storm water runoff from outfall: DSN 002.

There shall be no discharge of floating solids or visible foam in other than trace amounts. There shall be no visible sheen.

The abbreviation 'N/A', in the table below denotes 'Not Applicable' while the abbreviation 'NL', denotes 'Not limited' with both monitoring and reporting required.

All analytical data shall be reported on Discharge Monitoring Reports (DMR's).

Samples taken in compliance with the specified monitoring requirements shall be taken at the following location: from the catch basin located between building 390 and River Road, and shall be reported monthly.

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS			MONITORING REQUIREMENTS	
All units are in mg/l unless otherwise specified	Daily Minimum	Monthly Average	Daily Maximum	Frequency	Sample type
Flow, MGD	N/A	NL	NL	Monthly	Instantaneous
Chemical Oxygen Demand	N/A	NL	50	Monthly	Grab
Total Suspended Solids	N/A	NL	50	Monthly	Grab
Petroleum Hydrocarbons	N/A	NL	10	Monthly[1a]	Grab[1b]
Temperature, $^{o}C(^{o}F)$	N/A	NL	30(86)	Monthly	Grab
pH range, s.u.	6.0	NL	9.0	Monthly	Grab

[1] During months when continuous flow has ceased the permittee shall sample for storm water runoff as follows:

(a) During the first precipitation event of the month which causes a discharge during working hours, and which is preceded by a minimum dry period of 72 hours.

(b) The permittee shall take multiple grab samples 15, 30 and 45 minutes after the onset of the discharge. The permittee shall analyze each sample individually and report the maximum value.

MGD - is the abbreviation for million gallons per day.
s.u. - is the abbreviation for standard units.

1.C. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning EDP and lasting through EDP + 5 years the permittee is authorized to discharge non-contact cooling water/storm water runoff from outfall: DSN 003.

There shall be no discharge of floating solids or visible foam in other than trace amounts. There shall be no visible sheen.

The abbreviation 'N/A', in the table below denotes 'Not Applicable' while the abbreviation 'NL', denotes 'Not Limited' with both monitoring and reporting required.

All analytical data shall be reported on Discharge Monitoring Reports (DMR's).

Samples taken in compliance with the specified monitoring requirements shall be taken at the following location: From the catch basin located between Building 500 and River Road, and shall be reported monthly.

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS			MONITORING REQUIREMENTS	
All units are in mg/l unless otherwise specified	Daily Minimum	Monthly Average	Daily Maximum	Frequency	Sample type
Flow, MGD	N/A	NL	NL	Monthly	Instantaneous
Chemical Oxygen Demand	N/A	NL	50	Monthly	Grab
Total Suspended Solids	N/A	NL	50	Monthly	Grab
Petroleum Hydrocarbons	N/A	NL	10	Monthly[1a]	Grab[1b]
Temperature, $^{o}C(^{o}F)$	N/A	NL	30(86)	Monthly	Grab
pH range, s.u.	6.0	NL	9.0	Monthly	Grab

[1] During months when continuous flow has ceased the permittee shall sample for storm water runoff as follows:

(a) During the first precipitation event of the month which causes a discharge during working hours, and which is preceded by a minimum dry period of 72 hours.

(b) The permittee shall take multiple grab samples 15, 30 and 45 minutes after the onset of the discharge. The permittee shall analyze each sample individually and report the maximum value.

MGD - is the abbreviation for million gallons per day.
s.u.- is the abbreviation for standard units.

2. **Toxic Pollutant Reopener Clause**

Pursuant to N.J.A.C. 7:14A-3.13(a)3.iv., the Department may modify or revoke and reissue any permit to incorporate limitations or requirements to control the discharge of toxic pollutants, including whole effluent, chronic and acute toxicity requirements, chemical specific limitations or toxicity reduction requirements, as applicable.

3. **USE OF BIOCIDES OR OTHER COOLING WATER ADDITIVES**

The permittee has informed the Department that it does not use any corrosion inhibitors, biocides, or other cooling water additives in its non-contact cooling water at the time of permit issuance. If the permittee decides to begin using any agents in the future, the permittee must notify the Department at least 180 days prior to use so that the permit may be reopened to incorporate any additional limitations deemed necessary.

1. SPECIAL CONDITIONS

A. Operation of Treatment Works

1. If subsequent to the issuance of this permit the permittee proposes to install or modify a treatment works, the permittee shall submit to the NJDEPE, for approval of the treatment works and determination of the operator's appropriate license classification, a complete application for Treatment Works Approval pertaining to the proposed treatment works installation/modification pursuant to N.J.A.C. 7:14A-12.1 et seq.. A Treatment Works Approval is required to be obtained from NJDEPE prior to beginning construction. The permittee shall obtain, the services of a licensed operator of the appropriate classification in accordance with the "Rules Governing the Examination and Licensing of Operators", N.J.A.C. 7:10-13.1 et seq., which became effective July 2, 1984, for any treatment works installed.

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REPORT UPON

OVERFLOW ANALYSIS

TO

PASSAIC VALLEY SEWERAGE COMMISSIONERS

PASSAIC RIVER OVERFLOWS

YANTACAW STREET, CLIFTON
NPDES. NO. 003

1976

ELSON T. KILLAM ASSOCIATES, INC
Environmental and Hydraulic Engineers
40 ESSEX STREET MILLBURN NEW JERSEY 07041

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PASSAIC VALLEY SEWERAGE COMMISSIONERS

PASSAIC RIVER OVERFLOWS

YANTACAW STREET, CLIFTON
NPDES NO. 003

TABLE OF CONTENTS

Overflow Data Extract	Page
Chamber Location and Description	1
Area Served and Dry Weather Flow	3
Storm Water Overflows	4
Storm Water Overflow Characteristics	8
APPENDIX	10

List of Illustrations

Plate A Plan and Profile	2
Table 1 Overflow Observations	5

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ELSON T. KILLAM ASSOCIATES, INC.

OVERFLOW DATA EXTRACT

YANTACAW STREET OVERFLOW
NPDES NO. 003
CLIFTON

Chamber Location and Description

Overflow Chamber Status:	Inactive
Overflow to:	Third River, tributary to Passaic River
Character of District Served:	all Domestic and Industrial flow upstream to terminus of PVSC (main interceptor in Paterson area).
Overflow Location (See Plate A):	at inlet siphon chamber upstream of Third River main line siphons
District Outlet Sewer *(See Plates A and B):	120" semi-elliptical concrete-PVSC main intercepter
Outfall to River (See *Plates A and B):	2- 66" X 72" arched concrete outfall lines
Outfall Condition:	clear to outfall point
Tidal Effects:	none
Surcharge Effects:	none
Overflow and Regulator Operation (See Plates *B and C):	Under normal dry weather flow conditions, the flow is diverted to the PVSC interceptor via the regulator. During periods of rainfall, a portion of the combined flow enters the interceptor, with the balance overflowing the stop logs and being discharged through the outfall line into the Passaic River.

*Plates B & C - Not Applicable

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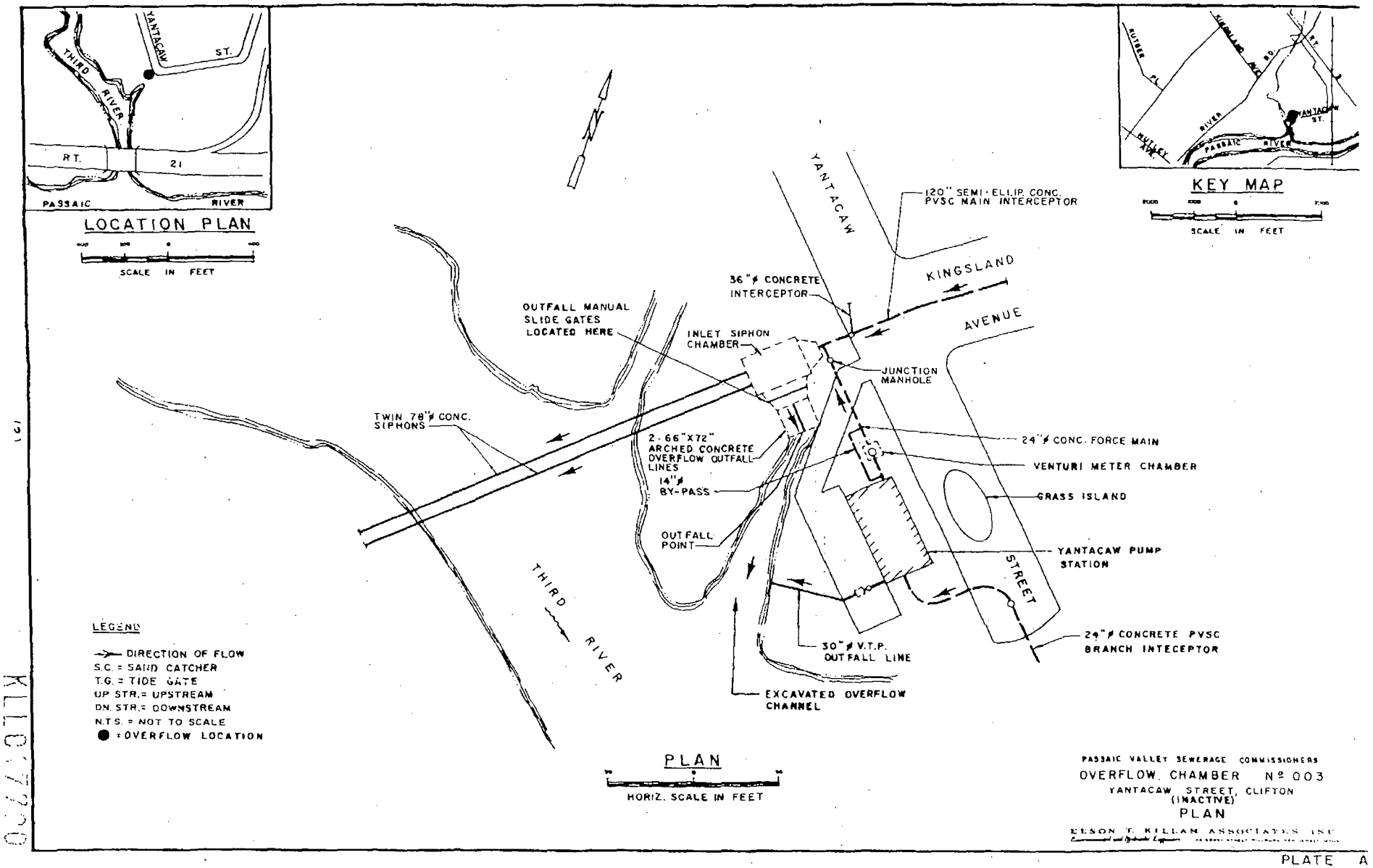

PLATE A

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POWER PLANT

Blowdown Water

Best Practices

NPDES

Blowdown Water

Blowdown water is also know as "boiler blowdown." Boiler blowdown is water that is released from a boiler to remove impurities and sediment. Periodically rinsing out the boilers helps limit the buildup of contaminants in the boiler water that may degrade boiler performance. Blowdown water is an industrial wastewater and usually contains contaminants such as dissolved/ suspended minerals, heavy metals (iron, copper), corrosion inhibitors, oil, and/or algaecides.

You'll learn more about the environmental laws, regulations and best practices associated with blowdown in this section.

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ChemAlliance Plant Tour: All Regulatory Information

Jump to topics covered in this section:
Boilers & Furnaces | Construction | Cooling Towers | Equipment Cleaning
Hazardous Waste Shed | Heat Exchangers | Incinerator | Injection Well
Laboratory | Landfill | Loading Station | Office | Piping
Reactor | Remediation | Separation Processes | Storage Tanks
Town | Vent/Flare | Warehouse | Wastewater Treatment

Topic	Regulatory Information

Boilers & Furnaces

Highlighted Topic: Burning Process Gases or Fuel Containing Hazardous Waste

This boiler is part of the plant's production system. Since boilers and furnaces emit air exhausts, they will be regulated as emissions sources under the Clean Air Act. The Vent & Flare (Stack Emissions) Tour Stop has more details on the general structure of the Clean Air Act.

In addition, a notable feature of boilers and industrial furnaces is that they can be used to control emissions from other unit operations and/or they can be used to burn fuel containing hazardous waste (e.g., certain types of used oil). In either of these cases the boiler or furnace will be subject to additional regulation.

In the case of controlling emissions from other unit operations, the boiler or furnace will also need to be evaluated for the monitoring, recordkeeping, and reporting requirements applicable to the other unit. For example, if a reactor emissions stream is vented to a boiler, then Clean Air Act regulations that apply to the reactor may also apply to the boiler.

In addition, boilers and industrial furnaces that use or burn fuel containing hazardous waste (e.g., certain types of used oil) will be regulated under RCRA, the *Resource Conservation and Recovery Act*. RCRA governs the use and disposal of hazardous waste (discussed in more detail at the Maintenance and Cleaning Tour Stop). The specific requirements related to burning fuel containing hazardous waste are found under the *Boiler and Industrial Furnace Rule*, 40 CFR 266 and 179, and include design and operating standards to control the types and levels of air emissions that occur. For example, certain types of emissions monitoring may be required.

Other Regulatory Issues:

Boilers may also be subject to state or local safety-related regulation. Boiler blowdown must be managed as a wastewater source; and any solid waste generated from boiler or furnace cleanout will have to be evaluated as hazardous waste.
[Back to top]

Construction

Highlighted Topic: Natural Resource Issues

Most of our tour is focused on pollution control. However, through construction or other land-based activities you might need to address natural resource issues as well. For example, your facility might want to expand into a wetlands area. Or it might (as pictured here) decide to do some dredging and filling work near a river.

Any time you start to make changes to your general environment, you should consider the possibility of natural resource regulation. Key issues include:

• **Dredging and filling of surface water and wetlands**. As a general rule, any discharge or placement of fill material from a point source (a bulldozer would be a point source) into any surface water or wetland is prohibited by the CWA unless a permit is issued by the Army Corps of Engineers.

• **Impacts to endangered species covered by the Endangered Species Act.** The Act makes it unlawful for any person to "take" an endangered or threatened species of fish or wildlife. A "taking" can include habitat modification which injures or kills members of an endangered species.

• **General land use regulations under state, regional, or local government authority**. Land use regulations that affect the site and plant activities need to be met. Plants that are located in environmentally sensitive areas such as coastal zones, floodplains, and prime farmlands may be subject to special land use requirements.

• **Water Acquisition.** Direct acquisition and use of surface or groundwater generally requires a permit from a state water resources agency.

Other Regulatory Issues:

Remember than any construction activity will be covered by the standard pollution control regulations. For example, you will have to manage stormwater runoff and fugitive emissions from construction activities during the construction process. Among other air pollutants, construction sites often generate significant dust, which is an ambient air quality pollutant under the *National Ambient Air Quality Standards* (NAAQS) and thus must be managed.

In addition, an important issue with construction involves the Clean Air Act: before you can even start constructing a new facility (or modifying an existing one), you have to ensure that the Clean Air Act requirements for new sources will be met once the facility starts operating. If not, you may have to change your construction or siting plans.
[Back to top]

Cooling Towers

Highlighted Topic: Assessing Wastewater Volumes

Cooling towers can be a significant source of wastewater at a chemical plant.

The main law governing wastewater discharge is the Clean Water Act (CWA). The Clean Water Act covers discharges of wastewaters from a facility, including discharges either piped to a sewer authority or released directly to a waterway via an "outfall." The Wastewater Treatment Tour Stop a little later on this tour provides more details on CWA permitting provisions. This stop on the tour will first focus on the importance of evaluating your wastewater volumes.

One of the fundamental principles of wastewater regulation is that facility-specific limitations will be based in part on expected wastewater volume flows. Since wastewater can arise from both process and non-process activities, as well as from both ongoing and periodic activities (e.g., cooling tower blowdown), it is important to systematically map out all these potential sources of wastewater before you seek a wastewater discharge permit.

Although under normal conditions cooling water will not contact process fluids, the chance of contamination and/or leaks needs to be considered and factored into its management. In addition, cooling water may contain additives to control corrosion, bacteria buildup, etc. *Therefore, even in cases when cooling water is considered "non-contact," it still represents a* wastewater stream that must be managed.

Other Regulatory Issues:

Another important wastestream from cooling towers is vapor discharged to the atmosphere. This vapor might contain volatile or dispersible components of the fluid being cooled, and must be reviewed for coverage under the Clean Air Act's regulations covering hazardous air emissions.
[Back to top]

Equipment Cleaning

Highlighted Topic: Hazardous Waste Generation

These workers are cleaning an open process tank. As they do so, they may well be generating hazardous waste.

RCRA, the *Resource Conservation and Recovery Act*, provides special requirements that cover the generation, storage, handling, and management of hazardous wastes. RCRA regulations are quite detailed and stringent, so it is important to fully understand your responsibilities here. RCRA is a federal law, but may be implemented by your state environmental agency.

What is hazardous waste? First, it is waste – i.e. some "discarded material". Second, it is waste that is not covered by the Clean Air Act or Clean Water Act; that is, not air or water emissions. Third, it is waste that either 1) exhibits certain specific hazardous characteristics (e.g., is corrosive), or 2) is listed as a hazardous waste by EPA.

Under RCRA, facilities must determine if they generate hazardous waste, through waste testing or other means. If so, the facility must obtain an EPA identification number, and follow a series of specific recordkeeping, handling, and management requirements. These include:

- cradle-to-grave tracking
- proper labeling
- proper storage
- limited accumulation times (usually less than 90 days without a permit).

Other Regulatory Issues:

Maintenance activities will also likely generate air and/or water emissions, and so would be regulated by the Clean Air Act and Clean Water Act.
[Back to top]

Hazardous Waste Shed

Highlighted Topic: Storage of Hazardous Waste

This is the shed where hazardous waste is stored.

RCRA provides specific requirements on how to properly handle, label, and store hazardous waste. RCRA also imposes a time limit on how long you can store hazardous waste. In fact, you will need a TSD permit if you plan to store your hazardous waste beyond the established storage time limits (90 days for most generators).

Note that there are some tricky rules regarding whether recycling or reclamation of hazardous waste is considered "treatment" requiring a TSD permit. It is therefore very important to be sure any time you are processing secondary materials that you are not unknowingly engaging in TSD activities without a permit.

Other Regulatory Issues:

Remember that storage areas can be a source of fugitive air emissions that would need to be counted as part of your overall air source and managed.
[Back to top]

Heat

Highlighted Topic: Characterizing an Air Emissions Source

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Exchangers

The main law governing air emissions is the Clean Air Act (CAA). The next tour stop covering Vents & Flares (Stack Emissions) provides a general introduction to the main provisions of the CAA. This stop on the tour will use a heat exchanger to illustrate how to methodically characterize a piece of equipment or unit in order to identify potential air emissions sources.

At first glance, a heat exchanger might not seem to be an important air emissions source, since under normal operations there is no contamination between the heat exchange fluid and the process fluid, and the major purpose of the unit is simply to reduce process fluid temperatures. However, there is always the chance that leaks or corrosion will occur, causing either cross-contamination of the fluids or releases to the atmosphere. In addition, any potential venting of the heat exchange gases (e.g., to control pressure) may also release air pollutants. Finally, even non-process oriented activities, such as blowdown of heat exchange water to minimize corrosion, can represent a source of air emissions.

In order to best evaluate the types of air regulations that might apply to a given unit operation, it is important to first step through all the various regular processes or potential events that might occur with that unit. For a heat exchanger, this list would include:

- Regular Processes:

– startup
– operation
– venting
– blowdown activities
– equipment cleanout
– maintenance
– shutdown

- Potential events:

– leaks
– failures/malfunctions

After the list of events is identified, it is then important to consider the possible materials and chemicals that would be involved in those events. Depending on the specific process fluid and heat exchange fluid being used, each of these actual or potential events may represent a source of air emissions, either because there is specific "venting" involved; or due to general "fugitive" vapor release, etc. Note that even "potential" events are specifically considered under the Clean Air Act. For example, there are certain regulations covering controlling equipment leaks (e.g., equipment containing certain hazardous organic compounds).

With a comprehensive idea of the types of regular and potential events that might affect a unit operation, you will be better able to characterize you air emissions sources and meet regulatory requirements.

Other Regulatory Issues:

A unit's list of regular or potential events can also be used to evaluate the potential for generating hazardous waste (managed under RCRA) and wastewater (managed under the Clean Water Act).
[Back to top]

Incinerator

Highlighted Topic: Hazardous Waste Treatment (Incineration/Oxidation)

If you generate hazardous waste, there are two major options for treating it: send it off-site for treatment or treat it on-site (as is pictured with this incinerator.)

If you send your hazardous waste off-site for treatment, you will still need to follow the requirements of being a hazardous waste generator, including getting an EPA ID, properly handling your waste (through labeling and segregation), and meeting storage time limits. You

will need to identify a suitable Treatment, Storage, and Disposal (TSD) facility that can manage your waste and arrange for the waste – accompanied by its waste manifest – to be sent off-site.

Hazardous Waste Treatment:

If you treat your hazardous waste on-site (i.e., using incineration or other technologies), you will have to get a special, stringent TSD permit. This permit will establish a whole host of detailed operating requirements for your treatment process, including technical specifications; monitoring, recordkeeping, and reporting; and so forth. The permitting process can stretch over years, and is considered very rigorous.

Other Regulatory Issues:

Hazardous waste treatment equipment can generate both air and water emissions, and thus would also be covered by the Clean Air Act and Clean Water Act.
[Back to top]

Injection Well **Highlighted Topic: Hazardous Waste Treatment (Injection)**

If you generate hazardous waste, there are two major options for treating it: send it off-site for treatment or treat it on-site (as is pictured with this injection well.)

If you send your hazardous waste off-site for treatment, you will still need to follow the requirements of being a hazardous waste generator, including getting an EPA ID, properly handling your waste (through labeling and segregation), and meeting storage time limits. You will need to identify a suitable Treatment, Storage, and Disposal (TSD) facility that can manage your waste and arrange for the waste – accompanied by its waste manifest – to be sent off-site.

In the chemical industry, one common form of on-site waste treatment (for both hazardous and non-hazardous waste) is underground injection. Underground injection is regulated via the *Underground Injection Control* (UIC) Program under the *Safe Drinking Water Act* (SDWA). The UIC program is often managed by state agencies and is designed to insure wastes pumped into the ground do not contaminate the groundwater. You will need a permit for any underground injection, which will specify conditions for what you can inject and how. (This permit will take the place of a RCRA TSD permit if you are injecting hazardous waste.)

Other Regulatory Issues:

As with other activities, you will need to evaluate and manage your injection equipment for fugitive emissions, as covered by the Clean Air Act.
[Back to top]

Laboratory **Highlighted Topic: Laboratory Waste Issues**

Although the bulk of your waste and emissions sources will arise from your general process operations lines, you shouldn't neglect the waste coming from support operations such as laboratory work or general maintenance activities. These wastes might still represent significant management and disposal headaches for you, as well as opportunities for waste minimization. Here are some issues to consider:

* Analytical laboratories: Analytical laboratories can generate small quantities of a wide range of wastes. In addition, laboratories can often contain old stockpiles of poorly labeled or outdated chemicals. These materials cannot be simply thrown into the trash or poured down in drain. Instead, in general you will need to manage these materials as hazardous waste under RCRA.

* Maintenance wastes: Maintenance activities tend to generate things like an equipment graveyard, used oil, and used cleaning solvents. Again, these materials will require appropriate management. For the oils and solvents, your first step will be to determine if they are hazardous waste. Some types of used oils can be recycled for energy recovery, although

here again it is important to check with EPA or state authorities on used oil regulations before you proceed.
[Back to top]

andfill

Highlighted Topic: Solid Waste

This landfill receives solid, non-hazardous waste from facility activities. Although not as heavily regulated as hazardous waste, solid waste must still be managed according to regulation. Here are some issues to consider:

* Empty containers: In general, empty containers of hazardous materials or hazardous waste are considered non-hazardous, and can be disposed of as solid waste. However, in practice, you might find it difficult to manage the number and variety of containers that are generated. You may need to consult EPA or state authorities for more information.

* General solid waste: Solid (non-hazardous) waste is defined by RCRA as "discarded material." Although RCRA provides some guidance on non-hazardous solid waste management, in most cases your requirements for waste disposal will be set by your regional solid waste landfill. For example, the landfill might restrict the types of waste they will accept or set other types of controls on waste disposal.

Other Regulatory Issues:

Landfill operations need to be evaluated and managed for fugitive emissions, particularly dust, which is an ambient air quality pollutant under the *National Ambient Air Quality Standards* (NAAQS). Landfill operators also need to manage for stormwater runoff from the landfill.
[Back to top]

Loading
tation

Highlighted Topic: Accidental Release of Chemicals

Transfer points where materials are loaded or unloaded are a common site for fugitive air emissions and/or ground spills, both of which have environmental regulatory consequences.

Managing accidental release of chemical substances and hazardous materials – as a result of accidental spills, chronic leaks, or other causes – is a major focus of environmental regulation. Essentially all the environmental laws contain some sort of accidental release provisions that apply to various lists of hazardous substances. These requirements go hand in hand with emergency planning requirements.

Given that you have a release, there are two key actions you will need to take: 1) initiating emergency response, including reporting the release, and 2) cleaning it up. Below we will cover emergency response and reporting.

Your emergency response plan should include procedures both for managing the substantive hazards of a release and for initiating notification to appropriate authorities. Among other things, you will need to determine what substances were released and in what quantities. If releases are above reportable quantities, you will need to notify the following:

- The National Response Center (NRC) at 1-800-424-8802. This is the primary organization which coordinates hazardous materials response for the federal government. Report to the National Response Center within 24 hours of a release.

- For release of CERCLA hazardous substances or EPCRA extremely hazardous substances, you must also report to designated state/local authorities (SERC and LEPC) within 24 hours.

- For release of CAA listed air toxics, you will need to inform the public and local emergency response agencies according to your

Risk Management Plan.

Other agencies might also need notification during accidental releases. Considerations include:

- For any release, you might want to directly contact your regional EPA and state environmental agency.
- Release of hazardous materials during transportation: report to DOT as well as the National Response Center.
- Releases that workers are exposed to: report to OSHA or other agencies according to your Process Safety Management Plan, and/or Hazardous Waste Operations and Emergency Response plan.

Note that it is better to be comprehensive in reporting releases -- that is, you're better off reporting to all potentially relevant agencies and letting them determine applicability.

Other Regulatory Issues:

The U.S. Department of Transportation regulates all hazardous materials transport under the HMTA or *Hazardous Materials Transportation Act*. The HMTA covers transport of any hazardous materials, whether chemical feedstocks, products, wastes, or even hazardous waste. HMTA requires facilities to follow certain packaging, labeling, loading, routing, and emergency planning requirements. In addition, spills during transportation are covered by the reporting and cleanup requirements of the HMTA. If you are transporting RCRA hazardous waste, you will need to meet additional RCRA requirements for proper labeling and manifesting of the waste.

Finally, as with other activities, transfer and loading operations can be a source of fugitive air emissions that would need to be counted as part of your overall air source and managed. In addition, outside loading zones need to be managed for stormwater runoff.
[Back to top]

Office

Highlighted Topic: Environmental Compliance Planning

Here's the plant office where you do much of your environmental compliance planning.

How do you survey and analyze your operations to check for regulatory coverage? In addition to trying the other resources provided in this web site (e.g., the self-assessment tools provided) we'd like to suggest you go through the following exercise:

1) **Map your product preparation systems**. Include the inputs, processes, and outputs. Include both planned and unplanned operations (possible upsets). Consider how each input, process, and output might affect the environment. Be comprehensive when detailing any air emissions, water emissions, and waste items that result.

2) **Describe your general facility operations** by listing the various major types of equipment and activities that occur at the plant. Go beyond the product preparation lines to include: storage activities, facility energy generation, facility and equipment maintenance, and other support services. For example, how does the plant get energy? Water? How and where are chemical inputs stored? Consider how each of these activities might have environmental impacts, both ongoing *and* accidental.

3) **Describe any facility construction or other land-based activities**. Where are construction or land-based activities occurring and how are they changing the site? Consider how each of these activities might affect the environment.

4) **Become familiar with the general environment** of your site. Learn something about the hydrology (how the water flows), wind patterns, and surrounding land-use. Do a walk-around

of the site, looking for any signs of current or previous practices that might be affecting the environment.

5) **Create an environmental compliance program** by drawing from the above information and linking it to the information provided in this Handbook and elsewhere. At a minimum, your compliance program should include a comprehensive list of the various regulatory requirements you face, along with the specific actions needed, the staff responsible, and schedule. You might want to create a central site in which to maintain important documents, including not only permit documents and official materials, but also any facility-based plans or procedures developed. You might also want to develop staff training regarding the compliance program and general environmental performance.
[Back to top]

Piping

Highlighted Topic: Fugitive Air Emissions (Air Leaks)

Pumps, valves, and piping often can be sources of small air leaks (as can other pieces of equipment, such as tanks, reactors, etc.).

The *Clean Air Act* covers not only air emissions from stacks, but also any "fugitive" emissions that may escape from piping, valves, tanks or other sources. This means you need to think about all the opportunities for solvents, volatile organics, or other chemicals to evaporate from storage locations, transfer stations, and work areas. Even vapor leaks are included.

Here are some of the possible sources of fugitive emissions:

- vapor losses from storage containers
- losses from pumps, valves, and fittings
- losses during loading and unloading activities
- losses from reactors, heat exchangers, separation tanks, centrifuges, or other process equipment
- evaporation from open process tanks, wastewater treatment, or sewer systems
- evaporation from accidental liquid spills or leaks
- dust created during transportation or other activities.

Emissions levels from these sources must be included in the site-level air emissions inventory that will go into setting your site-wide permit limitations. In addition, in some cases there are specific regulations that cover possible sources of fugitive emissions. For example, there are specific *New Source Performance Standards* to manage equipment leaks of VOCs and of benzene from containers or piping that hold those chemicals (Part 60 and 61 of the regulations). There are also hazardous air standards that would also apply to any source of the pollutant - whether a stack or a fugitive source (*National Emissions Standards for Hazardous Air Pollutants* or NESHAPS, at Parts 61 and 63).

Other Regulatory Issues:

Pipes, valves and pumps can also be a source of liquid leaks. In turn these liquid leaks can both generate air emissions (as the leak evaporates), and can cause hazardous waste or wastewater generation (as the leak is cleaned up or managed). In addition, depending on the type and amount of leak, accidental release provisions under the *Emergency Planning and Community Right to Know Act* (EPCRA) may be triggered. More details on these requirements is provided at the tour stop on Truck and Train Loading.

Pipes, valves and pumps can also be the source of hazardous waste generation and/or wastewater generation during maintenance and cleaning activities.
[Back to top]

Reactor

Highlighted Topic: Regulations on the Manufacture or Importation of Chemicals

This chemical reactor is formulating a new chemical product. There are certain environmental regulations that involve assessing or reviewing chemical products. These

regulations may directly affect the kinds of chemicals you manufacture and import, or how they are formulated.

Two key laws that govern the manufacture or importing of *new* chemicals are: TSCA (for general chemicals) and FIFRA (for pesticides). TSCA stands for the *Toxic Substances Control Act*, while FIFRA stands for the *Federal Insecticide, Fungicide, and Rodenticide Act*. Both of these laws focus on screening chemicals for environmental and health effects before they are manufactured or used.

Under TSCA, EPA can require companies to provide health and other data in a "premanufacture notice" prior to manufacturing or importing a chemical. EPA can restrict or even ban the substance based on risks to humans or the environment. TSCA also has special provisions for the management of PCBs, asbestos, and CFCs.

FIFRA complements TSCA by covering pesticides. FIFRA focuses on registration and classification of pesticides, as well as application and use requirements.

Another requirement that affects the manufacture or importing of chemicals is the Clean Air Act's consumer products rule (known as the "Section 183(e) rule"). This rule is aimed at limiting the emissions of volatile organic compounds (VOCs) from several different types of consumer products, including various home beauty products, household cleaners, adhesives, and insecticides. In the aggregate, these VOC emissions contribute to the formation of ozone, which at ground level is a health hazard, even though in the stratosphere it is a valuable shield against the sun's uv rays. Manufacturers, importers, and/or distributors must insure their products are in compliance with the VOC limitations.

Other Regulatory Issues:

Process tanks themselves are likely to be subject to direct emissions limits under the Clean Air Act. For example, certain types of process tanks (e.g., distillation tanks, reactor tanks) are automatically covered by Clean Air Act *New Source Performance Standards* (Part 60 of the regulations). In addition, process tanks and process lines may be sources of both controlled vents and fugitive emissions, and would be covered by one of several hazardous air standards that apply to reactors and equipment (*National Emissions Standards for Hazardous Air Pollutants* or NESHAPS, at Parts 61 and 63).

Process tanks can also be sources of hazardous waste generation, and process wastewaters.
[Back to top]

Remediation

Highlighted Topic: Superfund & Remediation

You may have an area on your site with hazardous materials contamination. Perhaps this contamination stems from previous activities or even from a prior owner. Perhaps this contamination arises from some current operation (such as spills during product transfer activities). Depending on the type and extent of contamination, the site may become a candidate for remediation. (Your first order of business in this case will be to notify EPA and other authorities)

You may also become involved in remediation occurring at another site; for example, at a hazardous waste treatment site you have used in the past. Regardless of how much waste you contributed to a site, you can still be held liable for cleanup costs if a release occurs.

CERCLA – known as "Superfund" – is the major federal law governing cleanup of abandoned, contaminated sites. If a site is selected for Superfund cleanup, there will be a risk assessment and feasibility study to determine how cleanup should be conducted, and finally a cleanup alternative will be selected. Many states have additional – and sometimes more stringent – state-level Superfund requirements.

While Superfund covers cleanup of many types of releases from past practices, any release of contamination from *operating* TSD facilities, underground storage tanks, or underground injection wells will be covered by "corrective action" plans. These plans will specify the kinds

of remediation to be performed, and other technical and administrative requirements. In general, corrective action plans are similar to CERCLA cleanup plans, but are applied to operating facilities.

Other Regulatory Issues:

Similarly to construction activity, remediation work is covered by the standard pollution control regulations. For example, you will have to manage both direct discharges and fugitive emissions from remediation activities.
[Back to top]

Separation Processes

Highlighted Topic: Ongoing Clean Air Act Regulatory Changes

Distillation and separation equipment can create a wide range of air emissions. On this stop of the tour we will illustrate how a unit operation will be affected by ongoing changes to the Clean Air Act.

The CAA is a complex law with thousands of pages of regulation. It is also highly technical, with alot of technical specifications and details – as well as legal specifications and details. In addition, the regulations are not static. In fact, there is a 10-year push to issue source-based air toxics regulations. After amendments passed to the clean Air act in 1990, EPA has a schedule for identifying sources of the 188 Toxic air pollutants, and issuing technology-based emissions standards (MACT) for each source category. So EPA has been releasing a series of these NESHAPS and MACT standards over the past several years, including the MON or Miscellaneous Organic NESHAPS.

For chemical facilities, this means continuing effort to evaluate and comply with these new standards, while keeping up with the old standards. Thus facilities can be affected by multiple source standards –even a given source or unit process can be affected by multiple standards. These include not only NESHAPS standards for air toxics but also new source performance standards (NSPS) for various pollutants (though there is less ongoing regulatory development here currently).

For example, for a distillation unit in the synthetic organic chemical sector, the following source-specific standards may all be applicable at the same time:

- VOC Emissions from Distillation Operations (Part 60, Subpart NNN)
- Equipment leaks of VOCs (Part 60, Subpart VV)
- Equipment leaks of benzene (Part 61 Subpart J)
- Equipment leaks of volatile HAPs (Part 61 Subpart V)
- Hazardous organic NESHAPS (HON)(Part 63 Subpart F)
- Hazardous organic NESHAPS from process vents (Part 63 Subpart G)

Each of these rules might have specific MACT control requirements as well as other requirements. Integrating these various requirements is a major challenge of Clean Air Act compliance.

Other Regulatory Issues:

In addition to air emissions, distillation and separation equipment also are a likely source of hazardous waste (e.g., still bottoms) as wastewater, and so would also be regulated under RCRA and Clean Water Act.
[Back to top]

Storage Tanks

Highlighted Topic: Underground Storage Tank Regulations

Your facility may have underground storage tanks (USTs) storing either petroleum or certain hazardous substances that are subject to federal and state environmental regulations. An UST is a tank and any underground piping connected to the tank that has at least 10 percent

of its combined volume underground.

USTs are regulated as part of the UST Program under RCRA, the *Resource Conservation and Recovery Act*. This program is administered in large part by state and local agencies.

The UST program focuses on prevention of leaks (through requirements such as spill, overfill, and corrosion protection and regular leak detection monitoring and reporting), as well as on proper response should leaks occur. UST requirements are briefly presented in a plain language booklet prepared by EPA, *Musts For USTs*. This booklet is available on the web at: http://www.epa.gov/swerust1/pubs/index.htm#musts.

Federal UST requirements apply to USTs storing petroleum or certain hazardous substances defined by the Comprehensive Environmental Response, Compensation, and Liability Act (*CERCLA*). However, federal UST requirements do not apply to USTs storing hazardous **wastes**, which are instead regulated under the hazardous waste requirements of RCRA.

Other Regulatory Issues:

Storage tanks need to be considered part of the chemical inventory and included in your emergency planning and notification process. Storage tanks are covered by a series of spill prevention and management requirements, including the Spill Prevention Control & Counter Measures Plan (SPCC) required for certain hazardous materials under the Clean Water Act and the Risk Management Plan (RMP) required for certain air toxics under the Clean Air Act.

In addition, tanks can be a source of fugitive air emissions, and need to be evaluated for Clean Air Act coverage. Tanks that contain volatile organic compounds are particularly subject to regulation.
[Back to top]

own

Highlighted Topic: Right-to-Know legislation

The town or community surrounding your plant will have a key role to play in the environmental performance of your facility. While community groups have no direct regulatory authority, citizens do have the right under several laws to sue if a facility isn't following the regulations. Community groups also have general influence on how your business is regulated.

An important law that involves the surrounding community is the Emergency Planning and Community Right-to-Know Act (EPCRA), passed in 1986. EPCRA is intended to improve local community access to information about chemical hazards and to improve state and local emergency response capabilities. EPCRA has three main objectives:

- To bolster local emergency planning efforts
- To improve emergency notification in the event of a release of hazardous chemicals
- To develop a baseline on routine chemical releases into the environment

To meet these objectives, EPCRA creates various reporting obligations for facilities that store or manage specified listed chemicals. All information submitted pursuant to EPCRA regulations is publicly accessible, unless protected by a trade secret claim. The Toxic Release Inventory (TRI) is part of the EPCRA requirements.
[Back to top]

ent/Flare

Highlighted Topic: Clean Air Act Overview

One of the major environmental laws affecting chemical facilities is the Clean Air Act (CAA). The Act applies to air emissions not only from process vents, but also from boilers, steam vents, and flares. It also covers "fugitive" emissions from piping, storage and transfer

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activities, and even construction and remediation. You also need to check for coverage under state or regional air regulations, since states and regional authorities have important responsibilities under the Clean Air Act, and can impose additional requirements.

The CAA regulates emissions that affect general air quality (such as sulfur dioxide or particulates), as well as hazardous or toxic chemical emissions (benzene, MEK, and other VOCs, etc.) The CAA can be enforced by EPA, or by state or regional air agencies that have been delegated authority by EPA.

Three major components of the Clean Air Act that will affect chemical facility process operations are:

- regulation of criteria pollutants under the *National Ambient Air Quality Standards* (NAAQS). These standards cover the ambient regional air quality, and address certain key pollutants such as particulate matter (PM), sulfur oxides, and VOCs. Each facility will have a permit covering these pollutants that addresses major sources and any changes to emissions levels.

- regulation of certain source emissions under the *New Source Performance Standards* (NSPS). These standards are source-based, and set certain operation and reporting requirements for the specific sources.

- regulation of certain hazardous air pollutants under the *National Emissions Standards of Hazardous Air Pollutants* (NESHAPS). The NESHAPS standards are pollutant-based, and generally require the implementation of "*Maximum Achieveable Control Technology*" or MACT that would be applicable to whichever sources generate the pollutant.

By its nature, a chemical plant is likely to be fully regulated under the CAA, with many units being covered by multiple regulations (e.g., a reactor would be covered by NSPS standards for reactors, as well as various NESHAPS standards for the specific pollutants present).

Note that all air requirements for a facility will likely be consolidated into one operating permit document called the Title V (or "Title Five") permit, which establishes emissions levels, and monitoring and reporting requirements. In addition, major individual sources will also be subject to specific permits (e.g., reactors, incinerators, etc.), which often require installation of a certain control technology as well as continuous emissions monitoring, and recordkeeping and reporting requirements.

Other Regulatory Issues:

In addition to air emissions, vents, flares or other stacks are potential sources of hazardous waste and wastewater (e.g., in the case of any wet scrubbing).
[Back to top]

Warehouse

Highlighted Topic: Emergency Planning Requirements

If you have sufficient quantities of chemicals on site – even if they are just sitting in your warehouse and storage tanks – you will be subject to a series of interwoven requirements related to emergency planning and community right to know. Indeed, this may be one of your biggest responsibilities in regulatory compliance.

There are two general parts to these emergency planning requirements:

- you must **provide information** to the authorities and to your local community regarding the materials you have on site, and

- you must **plan against accidental releases**.

To meet these requirements, you will need to provide your storage tanks with such features as containment, corrosion protection, labeling, venting, and other preventive management measures. You will also need to protect against spills and leaks during transfer and loading operations.

Several laws require emergency planning and community right to know for various lists of chemicals:

- EPCRA, the *Emergency Planning and Community Right to Know Act* requires: 1) notification of authorities if you possess certain listed extremely hazardous chemicals, 2) notification if you have accidental releases, and 3) annual emissions reports – called the TRI (*Toxic Release Inventory*) reports.

- The Clean Air Act requires planning for the accidental release of certain listed air toxics, known as "Risk Management Planning" or RMP requirements. Facilities covered under the requirement must develop a Chemical Accidental Release Prevention Program, including a hazards analysis and a Risk Management Plan.

- The Clean Water Act requires a SPCC (*Spill Prevention Control and Countermeasures)* plan for any oil or hazardous materials storage that might release into surface waters.

- OSHA has certain hazardous materials notification previsions. OSHA is not generally covered in this Handbook, but associated OSHA planning requirements include: 1) Hazardous Communication (Worker Right-to-Know), 2) the Process Safety Management (PSN) emergency action plan, and 3) the hazardous waste operations and emergency response planning requirements.

- Finally, there may be additional state and/or local notification or planning requirements that you will be subject to.

Other Regulatory Issues:

Remember that storage areas can be a source of fugitive air emissions that would need to be counted as part of your overall air source and managed.
[Back to top]

Wastewater Treatment

Highlighted Topic: Wastewater Discharge and Stormwater Issues

Wastewater generated at a chemical plant will likely be treated on-site and then discharged either to a sewer authority or directly to a waterway.

Sewer discharge:

Chemical plant wastewaters that are delivered to a sewer authority or Publicly Owned Treatment Works (POTW) are covered by the Clean Water Act's "pretreatment" regulations. There are two types of pretreatment requirements: 1) categorical standards developed by the EPA that apply to each industry, and 2) local standards developed by each POTW. Under the pretreatment program, you will have to register with the EPA and your POTW, and meet certain permit limits as well as performing monitoring and reporting.

Note that all wastewater discharges to a POTW need to be considered here, including not only process line discharges, but also discharges from other activities, such as throwing chemicals or cleaning materials down the drain during laboratory work or maintenance activities.

Direct discharge:

Whenever there is wastewater discharging from a pipe or other "point" source into a waterway (river, lake, even intermittent stream), you will be subject to the *Clean Water Act's National Pollution Discharge Elimination System* (NPDES) permit program. Common NPDES wastewater sources include process operations and cooling towers.

Your NPDES permit will limit the types and amounts of pollutants that can be directly released into waterways. Under NPDES, you need to register with appropriate authorities, procure a permit, and do regular monitoring and reporting of your wastewater discharges. The NPDES permit is issued either by EPA or by your state agency, depending on whether the state has gained authority for the program from EPA.

Storm water:

It has been widely recognized that stormwater runoff from industrial sites can often contain high levels of harmful contaminants - including both process chemicals and materials from vehicles, hard machinery, and other sources. To protect waterways, facilities must now get a *National Pollution Discharge Elimination System* (NPDES) permit for their stormwater drains.

This NPDES permit works much like the permit you would get for other wastewater discharges. Again, the permit will be issued either by EPA or your state agency depending on whether the state has gained authority for the program from EPA.

Other Regulatory Issues:

Your on site wastewater treatment facility as well as your final water discharge might cause air emissions. If so, these sources will need to be counted as part of your overall air source and managed for fugitive emissions.
[Back to top]

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