report. rcra. 915244.
1986-12-02. underground_
tank_ removal_ report

GENERAL ELECTRIC

APPARATUS AND ENGINEERING SERVICES
GENERAL ELECTRIC COMPANY • ONE RIVER ROAD • SCHENECTADY, NEW YORK 12345

Building 6, Room 211
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Tel. (518) 385-2973

December 2, 1986

Mr. George Heitzman
Asst. Sanitary Engineer, Permit Section
Bureau of Hazardous Waste Technology
Division of Solid and Hazardous Waste
New York State Department of Environmental Conservation
50 Wolf Road
Albany, NY 12233

Dear Mr. Heitzman:

Enclosed you will find the report which describes the removal of the underground tank at the General Electric Apparatus Service Shop. Circumstances encountered, and described fully in the report, made adherence to the tank system removal plan impractical. Thus it is implied that, adherence certification by an independent Professional Engineer is not warranted. It is anticipated that further action will be required on-site and that General Electric will work closely with the Department in these matters.

If you have any further questions or comments, please feel free to contact me.

Very truly yours,

Michael Ianniello

Michael Ianniello
Geologist, Environmental Programs

/emb
00100Z

Enc.

GENERAL ELECTRIC BUFFALO SERVICE SHOP

UNDERGROUND TANK REMOVAL AND

SOIL SAMPLING PROJECT

November 1986

TABLE OF CONTENTS

EXECUTIVE SUMMARY

(1) On October 14, 1986 a 2000 gallon steel underground storage tank was removed; it was in very good condition with respect to corrosion. No signs of excessive corrosion were noted.

(2) An oil film was present during the excavation of the tank. Most likely, this oil was the result of overfilling.

(3) Seven soil borings were installed by hollow-stem auger, from these soil samples collected six were sent to RECRA Environmental for chemical analysis.

(4) Analysis showed boring B-6 (4'-6') B.G. had the highest level at 380 ppm PCB; this boring was located at a central point within the excavation.

(5) Peripheral borings (B-1, 2, 3 and 5) indicate PCB concentration attenuation in the natural overburden, Clayey-Silt.

(6) Tank scrap metal was transported and disposed of on November 13, 1986 at the SCA/Chemical Waste Management landfill.

1.0 Background

1.1 Site History

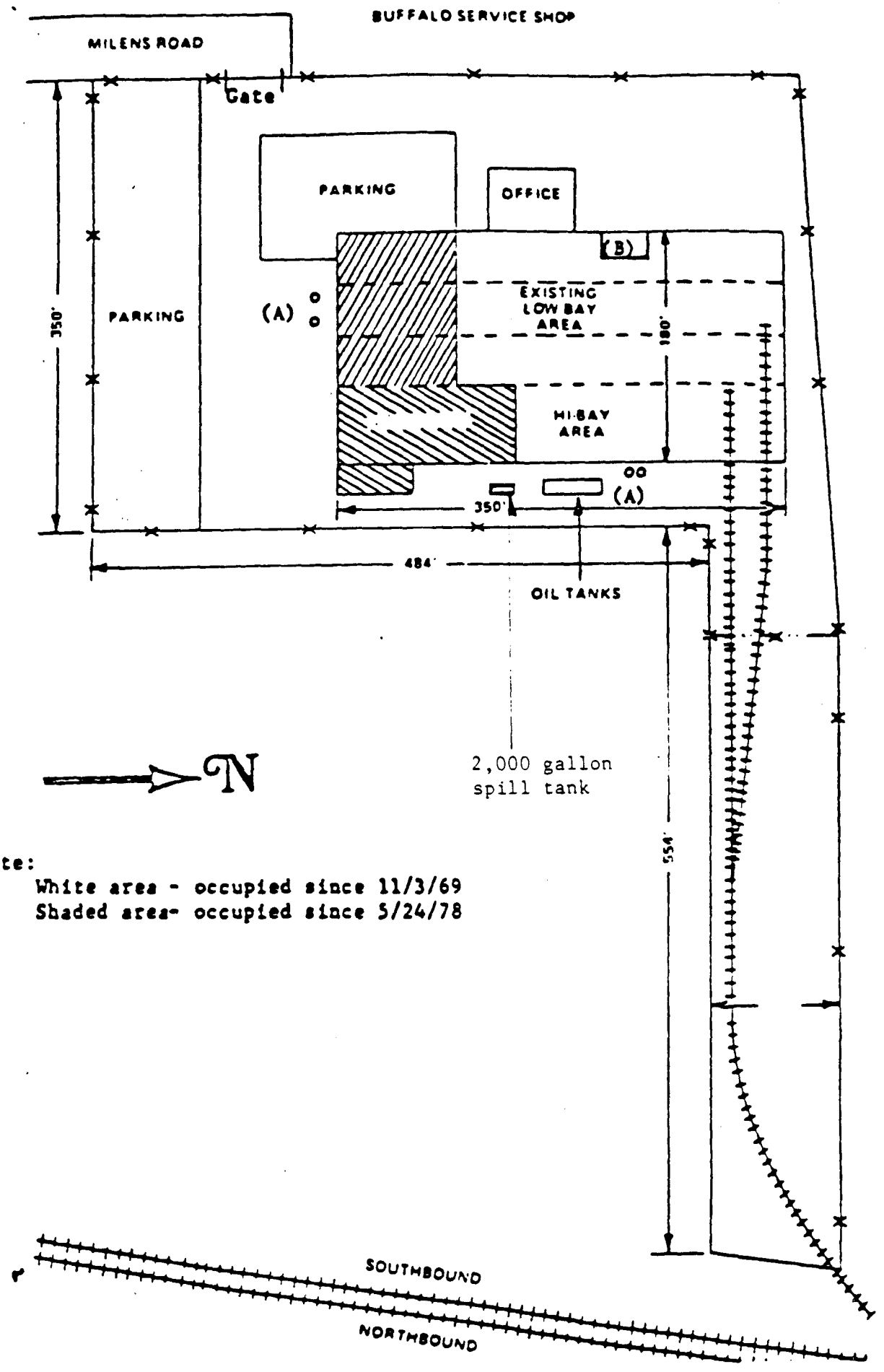
General Electric Service Shop is located on 175 Milens Road, Tonawanda, New York and has been in operation since 1969. This facility repairs electrical equipment such as motors, mechanical units, and transformers.

The service shop has applied for a 6NYCRR Part 360 Permit and has been assigned EPA ID. No. NYD067539940. It currently operates under interim status, and is awaiting final permit approval.

The underground spill containment tank was registered with the New York State Department Environmental Conservation (NYSDEC) earlier this year (1986). This tank system was designed to contain any spills in the PCB work area. In addition, a sink in the work area drained into the tank.

1.2 Site Description

The Buffalo Service Shop is located on 7.5 acres of land. The building is 69,000 $ft.^2$. The property is essentially flat-lying and paved. Surface runoff is collected by storm sewers.



Note:
White area - occupied since 11/3/69
Shaded area- occupied since 5/24/78

FIGURE 1 - Plant Layout

1.3 Scope and Conditions

Project scope was limited to the removal of the underground containment tank with soil samples collected from the area surrounding the tank at specified depth intervals.

Conditions encountered excavating the tank precluded strict adherence to the tank system removal sampling plan. During the tank excavation, perched water flowed into the pit reaching depths of 2 - 3 feet. This made removal of all soil "visibly contaminated", as specified in the plan, impractical. Sample collection methods also had to be altered because hand collection was not possible.

2.0 Site Geology and Hydrogeology

The site is underlain by three types of stratigraphic units. The lowermost unit is the Camilus Shale, which varies from a shale to a dolomitic shale, belonging to the Salina Group. This deposit was not encountered during the investigation.

Atop the shale are the glacial and proglacial deposits associated with the Wisconsin Glaciation. Of this group of deposits, the most significant and widespread is the uppermost glaciolacustrine deposit, found throughout the lowland areas. The uppermost glaciolacustine deposit are primarily red-brown to dark red-brown Clayey-Silts and Silty-Clays and are encountered below grade at varying depths of from 0 to 4 feet.

The uppermost unit on-site is the imported fill material. Generally, it is less than four feet in thickness, except in the tank area where it was used as backfill surrounding the tank. This material is generally coarser and more permeable than the underlying material.

Hydrogeologic units of concern are: (1) the fill material which exhibited perched water during the tank excavation. Note: this followed a rainy period of weather; and (2) the glaciolacustrine deposit which act as an aquiclude.

2.0 Site Geology and Hydrogeology (cont'd.)

During the investigation, two uncased borings were performed in order to determine whether the water noted during the excavation was the water table or a localized perched water condition possibly ephemeral in nature.

Boring No. B-4 was installed in hydraulic communication with the fill material and after setting undisturbed for 24 hours, had filled with water to a depth of approximately 2 feet below grade.

Boring No. 7 was installed in the galciolacustrine material soley to a depth of 26 feet. After setting undisturbed for 8 hours had no water in it. This would indicate that the water observed during excavation is perched atop the clay layer.

3.0 Methodology

3.1 Tank Excavation and Removal

Tank excavation was accomplished by backhoe. Soil removed from the site was placed atop polyethylene sheeting adjacent to the excavation. After unearthing the tank top, four (4) feet below grade, the tank straps were removed and the empty tank floated to the surface.

Pipelines leading to the tank were cut at the building and grouted with concrete to permanently seal them. That piping was then excavated and disposed of with the tank as PCB solids.

3.2 Soil Sampling

In order to obtain samples in fulfillment of the plan, a drilling rig was utilized.

Soil sample collection was supervised by Lawler, Matusky and Skelly engineers. The drilling was performed by CATO Drilling Co., while operating as a subcontractor. All borings were performed using the hollow-stem auger drilling method, except as noted.

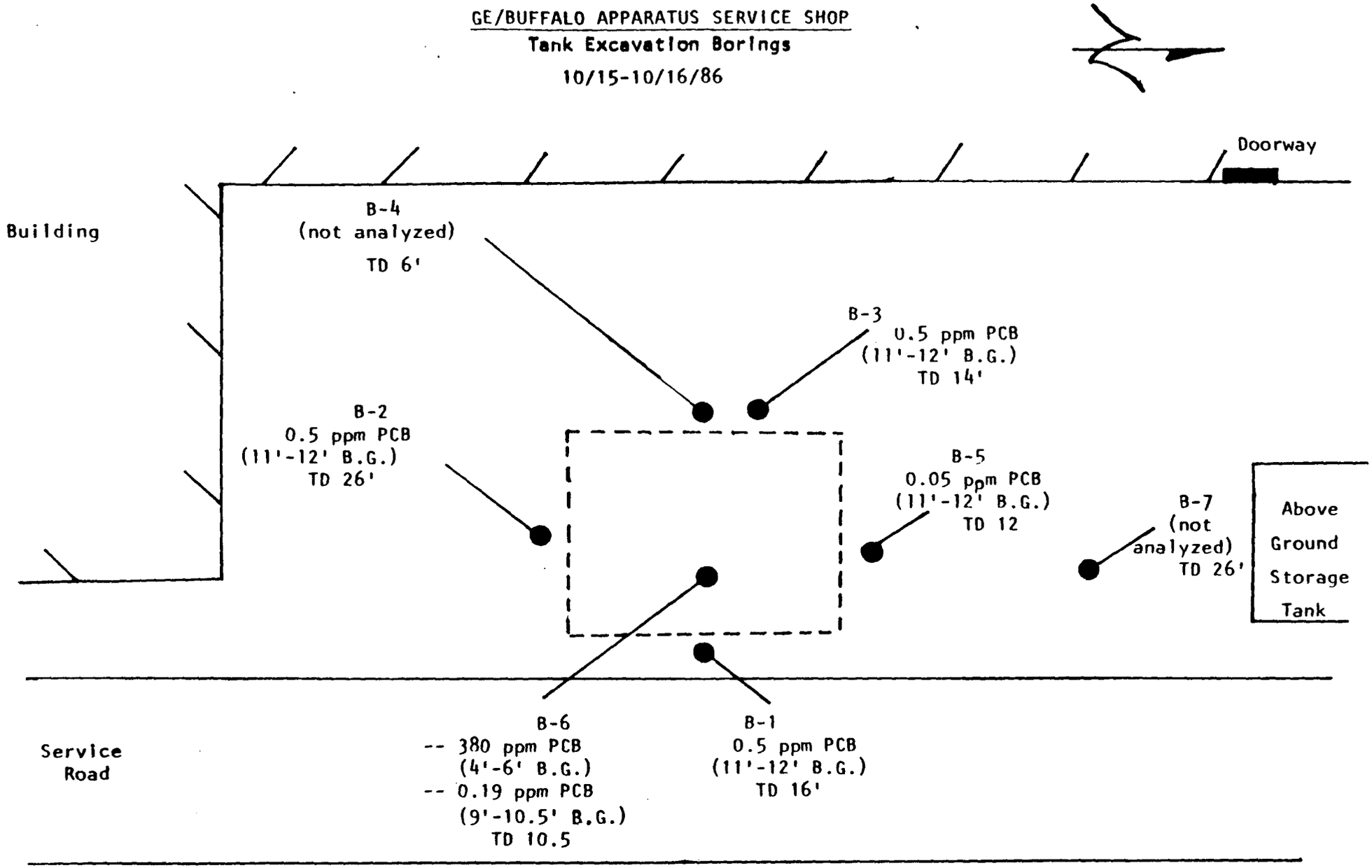
Five (5) boring locations were sampled, four of these were around the periphery of the tank excavation, with the 11-12 foot depth interval sent for analysis. This interval represents the level just beneath the tank's bottom. All of these peripheral borings intercepted the natural material, i.e., clayey-silt, which upon visual examination, showed no signs of contamination.

After backfilling the excavation, another sample was collected from the tank bottom axes intersection; at the same depth interval as the other borings. This boring was performed without the hollow-stem auger casing in order to minimize the transfer of material away from the excavation site. This boring differed from the peripheral borings because it had visual

GE/BUFFALO APPARATUS SERVICE SHOP

Tank Excavation Borings

10/15-10/16/86



Legend

B.G. .... Below Grade

TD .... Total Depth

--------- Limit of Excavation

1 10 Feet

Scale

Figure 2

indications of oil present and it intercepted the fill material (medium fine sand with silt surrounding the tank, instead of the natural material.

3.3 Tank Cutting and Clean Out

Tank cutting was accomplished on November 17, 1986 by Pinto Construction using LaBounty MSD-220 hydraulic shears; hydraulic shears were the preferred method because no additional waste materials were produced. Prior to the complete shearing of the tank, a man-sized entrance was cut and General Electric personnel entered the tank, removing any remaining liquids and wiping the interior surfaces. All liquids and absorbent materials were placed in drums for disposal.

When the tank was emptied of all liquids, both ends were cut off and then the tank was cut into strips parallel to its long-axis. This step was performed to prepare the tank scrap for hazardous waste landfilling; a tank designated for landfilling must have any void space eliminated.

3.5 Tank and Solids Disposal

Transportation of the tank scrap metal was performed on November 13, 1986 by Chemical Waste Management personnel. In addition to the scrap metal, a large concrete block, which anchored the manway entrance, was also disposed of as PCB-solids. These materials were disposed of on the 13th of December at the Chemical Waste Management landfill in Model City, New York. Total weight of the materials was 8660 lbs. and Hazardous Waste Manifest No. NYA 4198364 documents this disposal.

4.0 Soil Sampling Analytical Results

4.1 Soil Sampling Results

Soil sampling results (see Appendix C) indicate that the containment and attenuation of PCB concentrations occurs rapidly in the glaciolacastrine Clayey-Silt. Soil samples chosen for analysis were selected from the interval which would correspond to thetank's base or if an oily sheen was present in the split-spoon sample. The highest level was 380 ppm found in Boring no. 6 from the 4 - 6 foot depth interval.

APPENDIX A

RCRA ENV

LAWLER, MATUSKY & SKELLY ENGINEERS
CHAIN OF CUSTODY RECORD

PROJECT NUMBER: 337-016 PROJECT TITLE: GE

LMS FACILITY: NYACK FIELD PERSONNEL: SLK

SAMPLE TYPE (Circle): Drinking Water, Industrial Waste, Bottom Sediment, (Soil), River/Ocean, Other _____, Monitoring wells, Treatment Facility, Leachate, Stream/Pond

SAMPLE ID NUMBER	DATE	TIME	STATION	PARAMETERS	REMARKS
55522	10/15/86	-	B#6	PCB	11-12 comp
55521	10/15/86	-	B#7	↓	↓
55571	10/15/86	-	B#8	↓	↓
55515	10/16/86	1030	B#10	↓	↓
55526	10/16/86	0830	B#11	↓	9-10.5' comp
55520	10/16/86	-	B#11	PCBs	4-6' comp
	NOTE: 2 SAMPLES FROM B#11 MAY HAVE HIGH PCBs				

Relinquished By: Stanley Kaliniec	Date/Time: 10/20/86	Received By:	Comments:
Relinquished By:	Date/Time:	Received By:	Comments:
Relinquished By:	Date/Time:	Received By:	Comments:
Method of Shipment: FED EX.	Shipped By: SLK 10/20/86	Received By:	
Received at Laboratory By:		Date/Time:	Comments:

APPENDIX B

PRELIMINARY DATA

LMS DRILLING LOG

Project No: 337-016
Client: GE
Drilling Began: 0910
Drilling Completed: 1045
Well Construction Completed: NO WELL CONSTR.
Development Method/Completed:
Yield:
Total Depth: BORING TERMINATED AT 16'
Depth to Refusal:
Screened Interval:
Aquifer:

Boring No.: B#6 (1)
Permit No.: — /
(date): 10/15/86
Elevation, Ground Surface:
Elevation, Top of Casing:
Latitude:
Longitude:
Hole Dia.:
Monitoring Tube:

Depth in feet	Blows on Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Retained Sample	Recovery (ft.)	Sample No.	Instrument Reading
0	2				✓	.5	#1	
		2						
			3					
2				2				
	3							
		4						
			6					
4				7	✓	1.2	#2	
	6							
		9						
			9					
6				10	✓	1.2	#3	
	6							
		8						
			12					
8				20	✓	1.1	#4	
	9							
		13						
			17					
10				19	✓	1.3	#5	
	12							
		18						
			20					
12				24	✓	1.1	#6	
	9							
		15						
			18					
14				18	✓	1.7	#7	

Stratigraphic Column	Description
	WET BR CLAYEY SILT LOAM - 6" TOPSOIL
	.5 - 6 WET CF SAND AND CF GRAVEL
	COMPACT DRY RED BROWN SILTY CLAY LITTLE CF SAND CF GRAVEL
	DAMP - MOIST RED BROWN SILTY CLAY W/ LENSES OF GREY CLAY AND LITTLE CF GRAVEL.
	11' SOIL SAMPLE FOR PCB ANALYSIS 12'
	MOIST SOFT RED-BR SILTY CLAY

LMS DRILLING LOG

Project: GE

Boring No.: #6 10/15/86

Project No.: 337-016

Permit No.: —

Depth in feet	Blows on Sampler 0" 6"	6" 12"	12" 18"	18" 24"	Retained Sample	Recovery (ft.)	Sample No.	Instrument Reading
14	8							
		10						
			10					
				13	✓	1 3	#6	
16								

Stratigraphic Column	Description
	BORING TERMINATED AT 16'

PRELIMINARY DATA

LMS DRILLING LOG

Project No: 337-016
Client:
Drilling Began: 3:15 PM
Drilling Completed: 5:30 PM
Well Construction Completed: NO WELL CONSTRUCTED
Development Method/Completed:
Yield:
Total Depth: BORING TERMINATED AT 26'
Depth to Refusal:
Screened Interval:
Aquifer:

Boring No.: #7 (2)
Permit No.: —
(date): 10/15/86
Elevation, Ground Surface:
Elevation, Top of Casing:
Latitude:
Longitude:
Hole Dia.:
Monitoring Tube:

Depth in feet	Blows on Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Retained Sample	Recovery (ft.)	Sample No.	Instrument Reading
0	3	4						
2			5	6	✓	.6	#1	
	6	7						
4			8	8	✓	.2	#2	
	4	12						
6			12	18	✓	.6	#3	
	9	12						
8			14	20	✓	.8	#4	
	5	6						
10			15	17	✓	1.1	#5	
	9	14						
12			20	24	✓	1.5	#6	
	9	13						
14			17	18	✓	1.5	#7	
16								
18								
20	3	4						
22			5	4	✓	2.0	#8	
	4	7						
24			7	9	✓	1.6	#9	
	5	4						
26			4	5	✓	2.0	#10	

Stratigraphic Column	Description
	TOP SOIL
	MOIST GREY CF SAND CF GRAVEL - FILL
	DRY COMPACT RED-BROWN SILTY CLAY
	DRY COMPACT RED-BROWN SILTY CLAY SOME MOIST CF SAND CF GRAVEL
	MOIST SOFT RED-BROWN SILTY CLAY LITTLE CF SAND ; CF GRAVEL 11-12' SOIL SAMPLE FOR PCB ANALYSIS
	MOIST RED-BROWN CLAYEY SILT
	MOIST SOFT RED BROWN SILTY CLAY LITTLE CF SAND CF GRAVEL ; SOME GREY SILTY CLAY LENSES.

PRELIMINARY DATA

LMS DRILLING LOG

Project No: 337-016
Client: GE
Drilling Began: 1145
Drilling Completed: 1330
Well Construction Completed: NO WELL CONSTRUCTED
Development Method/Completed:
Yield:
Total Depth: BORING TERMINATED AT 14'
Depth to Refusal:
Screened Interval:
Aquifer:

Boring No.: #8 1 (3)
Permit No.: —
(date): 10/15/86
Elevation, Ground Surface:
Elevation, Top of Casing:
Latitude:
Longitude:
Hole Dia.:
Monitoring Tube:

Depth in feet	Blows on Sampler 0" 6"	6" 12"	12" 18"	18" 24"	Retained Sample	Recovery (ft.)	Sample No.	Instrument Reading
0	1							
		1						
			1					
				1	✓	.4	#1	
2	1							
		2						
			2					
				5	✓	.4	#2	
4	15							
		25						
			33					
				33	✓	1.8	#3	
6	12							
		15						
			21					
				28	✓	1.4	#4	
8	15							
		14						
			23					
				30	✓	1.2	#5	
10	9							
		18						
			20					
				25	✓	1.4	#6	
12	11							
		19						
			17					
				18	✓	1.5	#7	
14								

Stratigraphic Column	Description
	TOPSOIL
	DRY COMPACT RED BROWN SILTY CLAY LITTLE CF GRAVEL
	WET GREY CF SAND AND CF GRAVEL
	MOIST RED-BROWN SILTY CLAY LITTLE CF GRAVEL
	DRY COMPACT RED-BROWN SILTY CLAY SOME CF GRAVEL
	DAMP-MOIST SOFT MEDIUM BROWN SILTY CLAY SOME MEDIUM GREY SILTY CLAY LENSES
11'	SOIL COMPOSITE FOR PCB ANALYSIS
12'	
	MOIST SOFT BROWN SILTY CLAY

PRELIMINARY DATA

LMS DRILLING LOG

(4)

Project No: 337-016
Client: GE
Drilling Began: 1445
Drilling Completed: 1530
Well Construction Completed: NO WELL CONSTRUCTED
Development Method/Completed:
Yield:
Total Depth: BORING TERMINATED AT 6'
Depth to Refusal: NO FILL OR WATER
Screened Interval:
Aquifer:

Boring No.: #9
Permit No.: —
(date): 10/15/86
Elevation, Ground Surface:
Elevation, Top of Casing:
Latitude:
Longitude:
Hole Dia.:
Monitoring Tube:

Depth in feet	Blows on Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Retained Sample	Recovery (ft.)	Sample No.	Instrument Reading
0	2							
		2						
			3					
				2	✓	.6	#1	
2	3							
		3						
			5					
				8	✓	.6	#2	
4	17							
		19						
			30					
				30	✓	1.6	#3	
6								

Stratigraphic Column	Description
////	TOPSOIL
	DRY COMPACT MEDIUM BROWN SILTY CLAY
	WET MED. GRCY CF SAND AND CF GRAVEL
	DRY COMPACT MEDIUM BROWN SILTY CLAY
	BORING TERMINATED AT 6'

PRELIMINARY DATA

LMS DRILLING LOG

Project No: 337-016
Client: GE
Drilling Began: 1000
Drilling Completed: 1300
Well Construction Completed: 1500
Development Method/Completed: NO DEVELOPMENT
Yield: —
Total Depth: 11'
Depth to Refusal: BORING TERMINATED AT 11'
Screened Interval: 10.5' – 2.5'
Aquifer:

Boring No.: #10 (5)
Permit No.: —

SWL (date): 10/16/86 4' below ground
Elevation, Ground Surface: —
Elevation, Top of Casing: 2.5' PROTECTIVE CASING STICK-UP
Latitude: —
Longitude: —
Hole Dia.: 8'
Monitoring Tube: 2' PVC 10-SLOT 2' STICK-UP
PROTECTIVE CASING - 4' PVC

Depth in feet	Blows on Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Retained Sample	Recovery (ft.)	Sample No.	Instrument Reading	Stratigraphic Column	Description
0	2									TOPSOIL
		5								DAMP RED BROWN SILTY CLAY LITTLE CF SAND
			3							MOIST DARK BROWN ORGANIC MATERIAL - WOOD
				5	✓	.8	#1			DAMP-MOIST RED BROWN SILTY CLAY LITTLE CF SAND ; CF GRAVEL
2	5									
		5								
			5							
				4	✓	.3	#2			WATER
4	2									
		1								WET MEDIUM GREY CF SAND AND CF GRAVEL - FILL
			4							
				2	✓	.6	#3			
6	5									
		7								
			3							
				3	✓	.7	#4			
8	3									
		4								
			5							
				9	✓	.7	#5			MOIST HARD MED BROWN SILTY CLAY
10	15									LITTLE MED GREY SILTY CLAY LENSES
		21								11'
			25							SOIL COMPOSITE FOR PCB ANALYSIS
				30	✓	.8	#6			12'
12										
14										

PRELIMINARY DATA

LMS DRILLING LOG

Project No: 337-016
Client: GE
Drilling Began: 1000
Drilling Completed: 1300
Well Construction Completed: 1500
Development Method/Completed: NO DEVELOPMENT
Yield: —
Total Depth: 11'
Depth to Refusal: BORING TERMINATED AT 11'
Screened Interval: 10.5' — 2.5'
Aquifer:

Boring No.: #10 (5)
Permit No.: —

SWL (date): 10|16|86 4' below ground
Elevation, Ground Surface: —
Elevation, Top of Casing: 2.5' PROTECTIVE CASING STICK-UP
Latitude: —
Longitude: —
Hole Dia.: 8'
Monitoring Tube: 2' PVC 10-SLOT 2' STICK-UP
PROTECTIVE CASING - 4' PVC

Depth in feet	Blows on Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Retained Sample	Recovery (ft.)	Sample No.	Instrument Reading	Stratigraphic Column	Description
0	2									TOPSOIL
		3								DAMP RED BROWN SILTY CLAY LITTLE CF SAND
			3							MOIST DARK BROWN ORGANIC MATERIAL - WOOD
2				5	✓	.8	#1			DAMP - MOIST, RED BROWN SILTY CLAY LITTLE CF SAND ; CF GRAVEL
	5									
		5								
			5							
4				4	✓	.3	#2		▽	WATER
	2									
		1								WET MEDIUM GREY CF SAND AND CF
			4							GRAVEL - FILL
6				2	✓	.6	#3			
	5									
		7								
			3							
8				3	✓	.7	#4			
	3									
		4								
			5							
10				9	✓	.7	#5			MOIST HARD MED BROWN SILTY CLAY
	15									LITTLE MED GREY SILTY CLAY LENSES
		21								11'
			25							SOIL COMPOSITE FOR PCB ANALYSIS
12				30	✓	.8	#6			12'
14										

APPENDIX C

ANALYTICAL RESULTS

GENERAL ELECTRIC COMPANY

METHOD 8080 - ORGANOCHLORINE PESTICIDES AND PCB'S

SAMPLE IDENTIFICATION	ANALYSIS DATE	PARAMETER (UNITS OF MEASURE)	
		POLYCHLORINATED BIPHENYLS (µg/g DRY AS AROCLOR 1260)	DRY WEIGHT (103°C) (%)
55522 (B #6)	10/31/86	<0.05	86.3
55521 (B #7)	10/31/86	<0.05	87.3
55571 (B #8)	10/31/86	<0.05	86.3
55515 (B #10)	10/31-11/1/86	<0.05	86.9
55526 (B #11 9-10.5' Comp)	10/31/86	0.19	94.6
55520 (B #11 4-6' Comp)	11/1/86	380	80.2

Date Extracted - 10/27/86

I.D. #86-1049

1/4216

ANALYTICAL RESULTS

GENERAL ELECTRIC COMPANY

QUALITY CONTROL INFORMATION - ACCURACY
SOIL MATRIX
POLYCHLORINATED BIPHENYLS

SAMPLE IDENTIFICATION METHOD BLANK SPIKE

COMPOUND	NANOGRAMS OF SPIKE	PERCENT RECOVERY
Aroclor 1221	1.0	105
Aroclor 1242	1.0	105
Aroclor 1254	1.0	100
Extraction Date	10/27/86	
Analysis Date	10/31/86	

QUALITY CONTROL INFORMATION - PRECISION

SAMPLE IDENTIFICATION 55515 (B #10)

COMPOUND Units of Measure = µg/g Dry	VALUE 1	VALUE 2	MEAN	STANDARD DEVIATION
Aroclor 1260	<0.05	<0.05	<0.05	-