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Buffalo - Service - Shop

GENERAL  ELECTRIC

UTILITY & INDUSTRIAL SALES & SERVICE DIVISION
GENERAL ELECTRIC COMPANY • ONE RIVER ROAD • SCHENECTADY, NEW YORK 12345

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May 27, 1987

RECEIVED

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OFFICE OF
HAZARDOUS WASTE OPERATIONS
DIVISION OF SOLID AND
HAZARDOUS WASTE

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 please find one (1) copy of Environmental Study at Buffalo Service Shop, Tonawanda, New York by Lawler, Matusky and Skelly. A work plan for remedial activity is currently being drafted and will be submitted to your office upon completion.

Very truly yours,

Michael Ianniello

M. L. Ianniello, Geologist
Environmental Programs

/emb
00159Z

Enc.

cc: Ray Fisher, NY State Dept. Environmental Conservation
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GENERAL ELECTRIC COMPANY
Schenectady, New York

ENVIRONMENTAL STUDY AT
BUFFALO SERVICE SHOP
TONAWANDA, NEW YORK

February 1987

LMSE-87/006&337/016

LAWLER, MATUSKY & SKELLY ENGINEERS
Environmental Science & Engineering Consultants
One Blue Hill Plaza
Pearl River, New York 10965

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CHAPTER 1

INTRODUCTION

1.1 OBJECTIVE

The purpose of this document is to report on the results of an environmental study performed at the General Electric Company (GE) Buffalo Service Shop in Tonawanda, New York. This study, conducted by Lawler, Matusky & Skelly Engineers (LMS) at the request of GE, had the following scope:

1. Site inspection
2. Interview with personnel employed by GE
3. Review of soils maps and building construction drawings
4. Drilling of soil borings
5. Construction of a groundwater monitoring well
6. Collection and analysis of soil and water samples
7. Data report

The program's primary objective was to obtain information on possible environmental contamination at this site by PCBs and, to a lesser extent, petroleum hydrocarbons (PHC).

1.2 BACKGROUND

The site is located in Tonawanda, New York, approximately 3 miles east of the Niagara River on land owned by GE (Figure 1-1). The closest surface water is Twomile Creek, about 1 mile from the site. Across Milens Road (west) is a soft drink bottling plant. To the south is a cold storage warehouse. A divided highway

1-1A

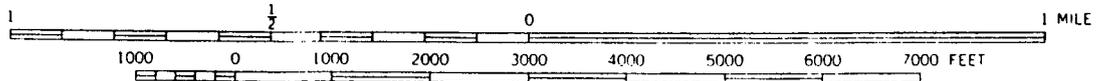
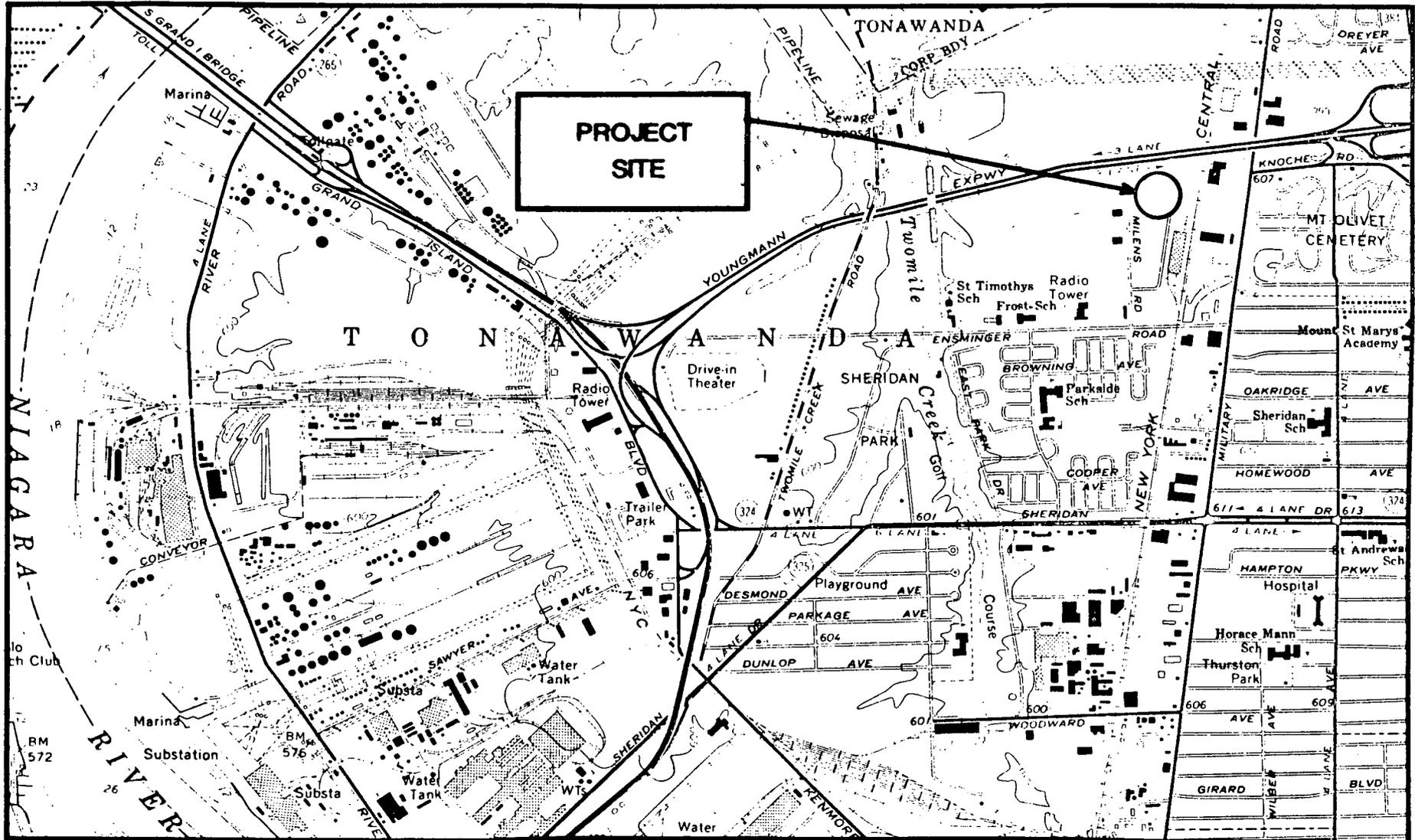
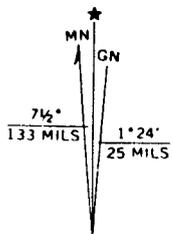


FIGURE 1-1

LOCATION OF BUFFALO SERVICE SHOP



UTM GRID AND 1965 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

borders the northern side of the plant, and to the east the land is vacant.

Prior to development by GE in 1968, this 4.6-acre site was vacant. In 1972, the office and an additional bay were added to the original structure. A second expansion on the south side of the original building was completed in 1978.

The facility repairs motors and rehabilitates and decommissions transformers. Major operations entail machining, cleaning (solvent, alkaline, sand, and steam), assembly, baking, welding, winding, painting, and material (including waste oils) handling. The motor repair operations are centered in the southwest corner of the building; transformer repair, in the southeast corner; and general machining, in the northern half of the building.

1.3 INSPECTION

An inspection was conducted by LMS on 6 May 1986. The following observations were made (refer to Plate I - bound at back of report):

Weather

Weather during the inspection was clear. The last rainfall was during the previous week. The inspection concentrated on the outside oil storage tanks/separators and activities involving handling of materials containing PCBs.

Rinse Water Storage Tank (east side of building)

This 2000-gal tank is located outside and below grade. It stored water and oil discharged by a floor trench, now filled in, that served the transformer servicing area and steam booths. The unit

was occasionally emptied by a scavenger. There are no known instances of oil overflowing the holding tank. The unit was taken out of service when the floor drain was filled in. The PCB work area is contained by a concrete dike. There are no floor drains inside it. The tank was rinsed with diesel fuel and emptied in 1982 and excavated and removed on 14 October 1986 (see Chapter 2).

Above-Grade Oil Tanks (east side of building)

There are two 6000-gal tanks that store oil used to fill re-conditioned transformers. The tanks are situated over crushed stone and soil contained by a concrete wall. The ground within the containment area slopes from north to south. At the southern end the soil was oil stained and there were oil stains along the lower 6-12 in. of the wall.

RCRA Storage Facility (east side of building)

This is an outdoor paved area enclosed by a fence. Varnish, solvent, and corrosive wastes are stored in drums at this location. There was no evidence of any leaks. Scrap was stored nearby on an unpaved, oil-stained area.

Rail Spur (east side of building)

This spur is infrequently used. The pavement between the tracks was in poor condition. The general area had sand blasting and oil-stained material in the soil. A covered trench drain across the entrance to the building appeared to contain oil. However, this drain could not be fully inspected.

North Side of Building

This area is grassed and isolated from the building interior by a brick wall. A pipe was found extending from the east end of this wall, and because of material storage on the opposite side of the interior space its function could not be ascertained.

Fuel Oil Tanks (south side of building)

There are two 6000-gal fuel oil tanks, reportedly empty, located below grade in the parking lot. They have not been used since 1978 when the heating system was converted to gas.

New Oil/Water Separator (south side of building)

This unit is outside and below grade and treats water from floor drains and steam booths. The treated water is discharged to the sanitary sewer. Separated oil is held in the unit and emptied by a scavenger as required. The area surrounding the steel access covers is paved.

Old Oil/Water Separator (east side of building)

This reportedly inactive unit has a design similar to that of the new separator, except that the access covers are fabricated of concrete.

PCB Storage Area ^{east} ^{south corner} (~~south~~ side of building)

This area, which is covered, paved, and diked, is used to store drums of PCB-contaminated oil. Access is from the exterior of the building.

Sewers

The site is served by separate sanitary and storm sewers. There is a sanitary manhole on the south of the building from which quarterly samples are tested for PCBs (approximately 1 ppb consistently detected).

Two stormwater inlet chambers (one south of the building, the other west) were observed. The southern chamber receives water from the paved parking area and had a water level about 5 ft below grade. The outlet pipe was flooded, and therefore could not be inspected. The inlet west of the building receives drainage from a grass swale. Water in the catch basin was 1 ft below grade. Both inlet and outlet pipes were submerged. The only activity on the west side of the building is pedestrian traffic to and from the office.

Other Holding Tanks (building interior)

There is a 2000-gal waste oil tank in the curbed PCB work area. There are also portable tanks, used to store oil, that contain less than 50 ppm of PCBs.

CHAPTER 2

FIELD PROGRAM

2.1 DESIGN OF THE SAMPLING PROGRAM

Soils

Prior to design of the sampling program, LMS reviewed local soils maps and the boring logs completed for the construction of the building. The soils maps indicate that the site is underlain by the Schoharie Series, which consists of deep, somewhat poorly drained, soils formed in lake-laid deposits. These soils typically have a dark brown, silty clay, loam surface layer 8 in. thick. The mottled subsoil from 8 to 26 in. is reddish-brown silty clay. The mottled substratum from 26 to 60 in. is dark reddish-gray silty clay. Groundwater was encountered during drilling of the borings at a depth of 22-26 ft, with the water table having an east to west gradient. As the impermeable nature of the lake bed sediments will minimize penetration of contaminants to the relatively deep water table, the sampling program was designed to focus on surficial soils:

1. Two borings adjacent to the old oil/water separator would be drilled to a depth of approximately 6 ft for the purpose of collecting soil samples to be analyzed for PCBs and PHC.
2. Similarly, two borings would be drilled adjacent to the new oil/water separator.
3. One boring would be drilled on the downslope side of the containment area for the tanks of transformer refill oil.
4. Surficial soil samples (0-6 in. depth) would be collected from various unpaved areas throughout the plant, with the locations dependent on patterns of material handling and stormwater drain-

age (locations identified below). These samples would be analyzed for PCBs and PHC.

5. Two somewhat deeper surficial samples (18-24 in.) would be collected adjacent to the RCRA storage area and be analyzed for volatile organic compounds (VOCs).

As the below-grade fuel oil tanks were empty and not in use, they were not examined.

The sampling plan did not address the rinse water storage tank because this unit, following investigation by GE, was to be excavated pursuant to a New York State Department of Environmental Conservation (NYSDEC) approved RCRA tank system removal plan. For the closure, GE staff would collect soil samples at the limit of the excavation and analyze them for PCBs. Therefore, the initial plan for the environmental baseline did not incorporate any investigation of the rinse water storage tank. However, the schedules for LMS' sampling and the tank closure were arranged so that both activities could be completed in the same week. As discussed below, LMS ultimately collected samples about the tank area, following its removal.

Water

The sampling plan called for collecting water samples (to be analyzed for PHC and PCBs) at the following locations:

1. Air compressor accumulator discharge
2. Stormwater catch basins
3. Truck/train bay drainage sumps
4. Oil/water separators
5. Manhole at the exit of the sanitary sewer from the plant

In addition, the plan called for one of the boreholes near the RCRA storage area to be advanced to a depth of 30 ft to allow collection of a soil water sample. This sample would then be collected through the auger stem with a bailer and analyzed for VOCs. The results of the analysis would provide a semi-quantitative screening for these substances.

Although the plan did not call for construction of monitoring wells, the driller was instructed to provide enough materials for one well should an unforeseen need arise to address groundwater conditions. The selected driller was CATOH Environmental Company, Inc., Weedsport, New York. The subcontract laboratories selected by LMS to provide analytical services were:

- Chyun Laboratories, Princeton, New Jersey - PHC, PCBs
- CAMO Laboratories, Poughkeepsie, New York - VOCs

The selected analytical techniques were:

- PHC-Soil: Infrared Spectrometry (IR)
- PHC-Water: IR Method 418.1
- PCBs-Soil: SW-846 Extraction Method 3550 and Gas Chromatography (GC) Analysis Method 8080
- PCBs-Water: GC Method 608
- VOCs: GC Mass Spectrometry (GC/MS) Method 624 plus 10 scan

Recra Laboratories was contracted directly by GE to analyze the rinse water storage tank post-closure soil samples.

2.2 COMPLETION OF THE SAMPLING PROGRAM

2.2.1 General

Sampling was completed during 14-16 October. There was light intermittent rain during this period. On 14 October the rinse water storage tank was excavated and removed. Drilling logs for the program are presented in Appendix A. Plate I depicts the boring and sampling locations. Split-spoon samples were collected continuously and placed in drillers' jars. Samples were collected from all borings except B12. Additional soil samples were placed in laboratory glassware for subsequent PCB and PHC analysis, as noted in Table 2-1.

2.2.2 New Oil/Water Separator (Borings B4 and B5)

Two borings drilled on either side (east and west) of this unit to collect soil samples (Table 2-1) encountered a sand and gravel fill underlain by clay. As the east boring (B4) also encountered oily water, a water sample was collected for PHC and PCB analysis with a bailer passed through the auger stem. The auger was retracted about 1 ft to increase the volume of water that would be bailed while still keeping the borehole from collapsing. After collection of the samples, the boreholes were sealed with bentonite grout, backfilled with the cuttings, and then plugged with cement.

2.2.3 Old Oil/Water Separator (Borings B1 and B2)

One boring (B1) was drilled to the north of this unit. Native soils (clay) were encountered. Because of the recent rain, the grass mound leading to the unit was too slippery for the drill rig to be positioned closer to the unit so as to auger through its surrounding fill. Also, because of the difficult access, the rig could not be positioned to drill the second boring (B2) located

TABLE 2-1

DEPTH AND SAMPLE SUMMARY FOR BORINGS

BORING No.	LOCATION	FILL DEPTH (ft)	TOTAL DEPTH (ft)	PHC/PCB SAMPLE INVENTORY No.						NOTES
				SAMPLE DEPTH (ft)						
				0-2	2-4	4-6	6-8	8-10	10-12	
B1	Old OWS-north side			55541	55543	55542	55545	55512		
B2	Old OWS-south side									Not drilled
B3	AGOTC				55538	55540	55539			
B4	New OWS-east side					55536	55535	55532	55577	Water sample
B5	New OWS-west side			55530	55528	55531	55534	55537	55527	
B6	RWTEP-east side	LT 1	16						55522	
B7	RWTEP-south side	3	26						55521	
B8	RWTEP-west side	LT 1	14						55571	
B9	RWTEP-west side	LT 1	6							
B10	RWTEP-north side	9	11						55515	Monitoring well
B11	RWTEP-center	LT 1	10.5			55518		55526 ^a	55520	
B12	RWTEP-north side	LT 1	26							No samples col- lected

^a9-10.5 ft.

OWS - Oil/water separator.

RWTEP - Rinse water tank excavation pit.

AGOTC - Above-grade oil tanks containment.

LT 1 - Less than 1 ft deep.

NOTE: B4 samples collected at 4.5 - 6.5 ft, 6.5 - 8.5 ft, etc. Soil samples for Borings B1-B5 sent to Chyun Laboratories for PHC/PCB analysis. Soil samples for Borings B6-B11 sent to Recra Environmental for PCB analysis. A split from 4-6 ft (LMS No. 55518) was also sent to Chyun for B11. B1-B5 soil samples collected on 14 October 1986. B6-B12 soil samples collected on 15 October 1986.

south of the unit. (The alternative access to the unit, from the south, was blocked by the excavation of the rinse water tank.) As the boring south of this unit was to be drilled to a depth of 25 ft, no water sample was collected from the deep groundwater.

2.2.4 Above-Grade Oil Tanks (Boring B3)

This boring was drilled according to plan in the interior of the south end of the containment. There was about 1 ft of standing water in this area.

2.2.5 Rinse Water Storage Tank

This unit was excavated on 14 October. There was oil floating on water in the excavation and a chemical odor characteristic of trichlorobenzene, indicating that the tank or fittings may have leaked. Water in the excavation was sufficient to cause the collapse of the excavation walls, so no samples could be collected by GE staff at the excavation's limit. Following removal of the tank, the excavated soils were backfilled and the upper 1-2 ft of still stable sides were dug out laterally approximately 4 ft so as not to leave an unsafe ledge of soil.

Following completion of this earthwork, GE instructed LMS to drill several borings as close as possible to the edge of the excavation. Because of the unstable soil conditions, and because the edge of the excavation was extended out laterally, the rig could only be positioned to drill just beyond (approximately 1 ft) the original excavation walls at the south (B7), west (B8 and B9), and north (B10) quadrants. At the east quadrant, however, timbers could be placed so as to allow the drill rig to be positioned closer to the center of the excavation (Boring B11). Boring B6 was drilled 3 ft east of the excavation. Boring B12 (18 ft north) was drilled to a depth of 25 ft to collect a water sample from the

deep groundwater. (There was no drilling log prepared for this activity.) However, no groundwater was encountered, and after remaining dry after 6 hrs, the hole was backfilled.

A 10-ft deep groundwater monitoring well was constructed in Boring B10. The construction schematic for this well is given with the boring drilling log in Appendix A. No water samples were collected.

2.2.6 Remaining Samples

Tables 2-2 and 2-3 summarize the locations of the remaining surficial soil samples and water samples, respectively. These samples were collected according to the original plan, except that (1) there was no sampling port to allow collection of a water sample from the effluent of the new oil/water separator, and (2) the winch to the access hatches of the old oil/water separator was inoperable. However, although the old unit was reportedly no longer in use, an effluent was observed and sampled.

TABLE 2-2

SAMPLE SUMMARY FOR SURFICIAL SOIL SAMPLES

No.	LOCATION	SAMPLE INVENTORY No.	
		PBC/PHC	VOC
S1	Truck bay floor	55575	
S2	Truck bay trench	55576	
S3	Swale - west side of building	55578	
S4	Old OWS No. 1 - side	55572	
S5	Old OWS No. 2 - side	55525	
S6	Old OWS No. 3 - side	55524	
S7	Old OWS No. 4 - side	55559	
S8	East doorway exterior No. 1	55573	
S9	East doorway exterior No. 2	55574	
S10	RR track area No. 1	55557	
S11	RR track area No. 2	55565	
S12	RR track area No. 3	55566	
S13	East fence No. 1	55562	
S14	East fence No. 2	55560	
S15	North side of building	55561	
S16	Above-ground oil tanks containment	55564 ^a	
S17	RCRA storage area No. 1		55556
S18	RCRA storage area No. 2		55558
S19	RCRA storage area No. 3		55567

^aPHC only.

NOTE: All PCB/PHC samples 0-6 in. deep below sod. All VOC samples 12 in. deep below sod.
Samples collected on 16 October 1986.

OWS - Oil/water separator.

TABLE 2-3

SAMPLE SUMMARY FOR WATER SAMPLES

No.	LOCATION	SAMPLE INVENTORY No.	
		PCB	PHC
W1	Old OWS effluent	16318	23074
W2	Boring B4 (new OWS) soil water	46949	55900
W3	Trench at RR bay entrance	52511	55899
W4	Storm manhole - west side of bldg.	52515	52513
W5	Key sanitary manhole	52508	52512
W6	Storm manhole - south side of bldg.	16325	52505
W7	Accumulator blowdown	52507	52510

OWS - Oil/water separator.

All samples collected on 16 October 1986 except W2 collected on 14 October 1986.

CHAPTER 3

FINDINGS

3.1 GEOHYDROLOGY

As previously stated, borings drilled prior to the construction of the building indicated that the native soil at the site is primarily clay and thus relatively impermeable. Water was encountered at that time at depths of 22-26 ft with an east to west gradient.

During the drilling for this study, groundwater was encountered at depths of 2-3 ft in areas that had been excavated and filled in with sand and gravel. The native soil, even that below the saturated fill, was only damp. Although dampness increased with depth, none of the deep groundwater mentioned in the construction boring logs was encountered during this drilling. (Boring B12, drilled to a depth of 25 ft, remained dry after 6 hrs and was backfilled.)

These findings suggest that there is some confinement and perching of infiltrate adjacent to the below-ground utilities, tanks, and building foundation. Rainwater percolating into the soil will accumulate in the sand/gravel filled excavations and tend to remain perched above the clayey native soil. The accumulated water will then tend to remain in an isolated fill or migrate laterally through an interconnected fill, e.g., along a sewer route.

3.2 CHEMISTRY

The analytical reports from CAMO and Chyun laboratories are presented in Appendices B and C, respectively. These reports are summarized in Table 3-1 for soil samples collected during drilling,

TABLE 3-1

ANALYTICAL SUMMARY FOR BORINGS

BORING No.	LOCATION	CONCENTRATION (mg/kg)											
		SAMPLE DEPTH (ft)											
		0-2		2-4		4-6		6-8		8-10		10-12	
		PCB	PHC	PCB	PHC	PCB	PHC	PCB	PHC	PCB	PHC	PCB	PHC
B1	Old OWS - north side	2.3	670	1.6	10	LT0.5	14	ND	LT5	ND	LT5	-	-
B2	Old OWS - south side	-	-	-	-	-	-	-	-	-	-	-	-
B3	AGOTC	-	-	1.7	40800	ND	27	ND	33	-	-	-	-
B4	New OWS - east side	-	-	-	-	LT0.5	17	1.4	71	ND	28	2.3	140
B5	New OWS - west side	ND	5100	ND	410	ND	2100	ND	8	ND	LT5	ND	LT5
B6	RWTEP - east side	-	-	-	-	-	-	-	-	-	-	a	-
B7	RWTEP - south side	-	-	-	-	-	-	-	-	-	-	a	-
B8	RWTEP - west side	-	-	-	-	-	-	-	-	-	-	a	-
B9	RWTEP - west side	-	-	-	-	-	-	-	-	-	-	a	-
B10	RWTEP - north side	-	-	-	-	-	-	-	-	-	-	a	-
B11	RWTEP - center	-	-	-	-	26	310	-	-	a	-	-	-
B12	RWTEP - north side	-	-	-	-	-	-	-	-	-	-	a	-

OWS - Oil/water separator.

RWTEP - Rinse water tank excavation pit.

AGOTC - Above-grade oil tanks containment.

- - No analysis.

ND - Not detected at 0.5 mg/kg detection limit.

LT0.5 - Trace level detected by detection limit (PCBs only).

LT5 - Not detected (PHC only.)

^aSamples issued to RCRA Environmental. Results not yet available to LMS.

NOTE:

B4 samples collected at 4.5-6.5 ft, 6.5-8.5 ft, etc.

B11 8-10 ft sample actually collected at 9-10.5 ft.

B1-B5 soil samples collected on 14 October 1986.

B6-B12 soil samples collected on 15 October 1986.

Tables 3-2 and 3-3 for surficial soil samples, and Table 3-4 for water samples. PCBs are reported as the dominant Arochlor 1260.

Elevated PHC concentrations, but no PCBs, are found to depths of 6 ft on the west side of the new oil/water separator (Boring B5). Below 6 ft (native soil) there is essentially no PHC. On the east side (B4), concentrations were low for both PHC (generally less than 100 mg/kg) and PCBs (less than 2.3 mg/kg). However, the B4 soil water contained 200 and 0.74 mg/l of PHC and PCBs, respectively. There is an increase in soil concentrations from 8-10 ft to 10-12 ft, which appears unusual given the impermeable nature of the soil.

The concentrations about the old oil/water separator are at low or trace levels below 2 ft (B1). The surficial (S4, S5, S6, S7) and 0-2 ft samples in this area contain from trace to 670 mg/kg PHC and PCB concentrations in the 2.3 to 17 mg/kg range.

In the above-ground oil containment area, PHC concentrations are in the 40,800 (S16) to 80,100 (B3) mg/kg range above 4 ft. Below that level, the soil is essentially clean of PHC. As expected, no or only trace levels of PCBs were detected.

The concentrations of PHC and PCBs in the surficial soil samples elsewhere at the plant vary widely depending on location. North of the plant (S15) the soil is essentially free of these substances. Along the east fence line (S13 and S14) concentrations are at low or trace levels. The highest levels were found in the truck bay (S1: 160 mg/kg PCBs) and outside the east door (S8 and S9: 120 to 370 mg/kg PCBs). Concentrations along the railroad bed were generally comparable for the three (S10, S11, and S12) sampling locations: 7.5 to 51 mg/kg PCBs and 640 to 2890 mg/kg PHC.

TABLE 3-2

ANALYTICAL SUMMARY FOR PHC AND PCBs IN SURFICIAL SOIL SAMPLES

LOCATION	CONCENTRATION (mg/kg)	
	PCB	PHC
S1 Truck bay floor	160 .	5,600
S2 Truck bay trench	51 .	1,200
S3 Swale - west side of building	ND	17
S4 Old OWS No. 1 - south side	3.3	53
S5 Old OWS No. 2 - southeast side	6.1	17
S6 Old OWS No. 3 - northeast side	17	28
S7 Old OWS No. 4 - north side	8.1	460
S8 East doorway exterior No. 1	120	11,100
S9 East doorway exterior No. 2	370	760
S10 RR track area No. 1	16	920
S11 RR track area No. 2	51 .	2,890
S12 RR track area No. 3	7.5	640
S13 East fence No. 1	2.0	26
S14 East fence No. 2	4.5	120
S15 North side of building	ND	15
S16 Above-ground oil tanks containment	-	80,100
S17 RCRA storage area No. 1	-	-
S18 RCRA storage area No. 2	-	-
S19 RCRA storage area No. 3	-	-

OWS - Oil/water separator.

- - No analysis.

ND - Not detected at 0.5 mg/kg detection limit.

Samples collected on 16 October 1986.

TABLE 3-3

ANALYTICAL SUMMARY FOR VOCs IN SURFICIAL SOIL SAMPLES

PARAMETER	CONCENTRATION (ug/kg)		
	S17	S18	S19
	RCRA No. 1	RCRA No. 2	RCRA No. 3
1,1-Dichloroethane	3	LT1	LT1
1,1,1-Trichloroethane	20	LT1	LT1
Ethyl ether ^a	18	13	9
1,2-Dichlorobenzene ^a		28	
2 Propanol ^a	9		
1 Propanol ^a	36		

^aTentatively identified.

All locations adjacent to RCRA storage area.

Samples collected on 16 October 1986.

All other parameters not detected:

Chloromethane	Trans-1,3-dichloropropene
Bromomethane	Trichloroethylene
Vinyl chloride	Dibromochloromethane
Chloroethane	Cis-1,3-dichloropropene
Methylene chloride	1,1,2-Trichloroethane
Xylenes	Benzene
1,1-Dichloroethylene	2-Chloroethylvinyl ether
Trans-1,2-dichloroethylene	Bromoform
Dichlorodifluoromethane	Tetrachloroethylene
Chloroform	1,1,2,2-Tetrachloroethane
1,2-Dichloroethane	Toluene
Carbon tetrachloride	Chlorobenzene
Bromodichloromethane	Ethylbenzene
1,2-Dichloropropane	Acrolein
	Acrylonitrite

TABLE 3-4

ANALYTICAL SUMMARY FOR WATER SAMPLES

No.	LOCATION	CONCENTRATION (mg/l)	
		PCB	PHC
W1	Old OWS effluent	LT0.005	89 I
W2	Boring B4 (new OWS) soil water	0.74	200 I
W3	Trench at RR bay entrance	0.005	LT0.5 I
W4	Storm manhole - west side of bldg.	LT0.005	LT0.5 ✓
W5	Key sanitary manhole	0.007	17 ✓
W6	Storm manhole - south side of bldg.	LT0.005	3.2 ✓
W7	Accumulator blowdown	ND	6700 I

OWS - Oil/water separator.

LT0.5 - Not detected at 0.5 mg/l detection limit (PHC only).

LT0.005 - Trace detected below 0.005 detection limit (PCBs only).

ND - Not detected.

Samples collected on 16 October 1986 except W2 collected on 14 October 1986.

The soil adjacent to the RCRA storage (S17, S18, and S19) area contains generally low (less than 50 ug/kg for any one compound) concentrations of VOCs; 1,1,1-trichloroethane and one of its degradation products (1,1-dichloroethane) were found at trace levels in one soil sample (S17).

PCBs were detected in all water samples at or below the quantification limit except for the accumulator blowdown (W7 - none detected) and, as mentioned previously, the soil water near the new oil/water separator (0.74 mg/l).

APPENDIX A
DRILLING LOGS

LMS DRILLING LOG

Project No: 337-016
 Client: GE
 Drilling Began: 1445 10-14-86
 Drilling Completed: 1515
 Well Construction Completed: NO WELL CONSTRUCTED
 Development Method/Completed: BORING W/ SPLIT
 Yield: SPOONS ONLY. AUGERS
 Total Depth: COULD NOT BE USED
 Depth to Refusal: BECAUSE BORING WAS
 Screened Interval: LOCATED INSIDE CONTAIN-
 Aquifer: MENT WALL.

Boring No.: #3
 Permit No.:
 SWL (date):
 Elevation, Ground Surface:
 Elevation, Top of Casing:
 Latitude:
 Longitude:
 Hole Dia.:
 Monitoring Tube:

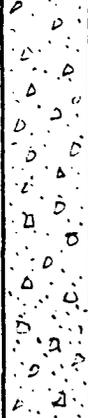
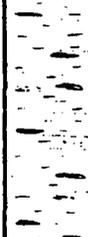
Depth in feet	Blows on Sampler				Retained Sample	Recovery (ft.)	Sample No.	Instrument Reading	Strati- graphic Column	Description
	0" 6"	6" 12"	12" 18"	18" 24"						
0	1									NO RECOVERY - STANDING WATER COVER- ING BORING LOCATION
2		1			0.0					
4					✓ 0.3	#1				MOIST RED-BROWN SILTY CLAY AND COURSE PEA GRAVEL
6					✓ 1.4'	#2				
8					✓ 1.8'	#3				BORING TERMINATED AT 8' NOTE: BLOWS ON SAMPLER WERE NOT RECORDED. SAMPLING WAS CONDUCTED ONLY TO OBTAIN SOIL FROM BELOW FRESH OIL TANKS. DEPTHS MAY NOT BE ACCURATE BECAUSE SPLIT SPOON SAMPLER WAS DRIVEN IN AT AN ANGLE

LMS DRILLING LOG

Project No: 337-016
 Client: GE
 Drilling Began: 1130 10-14-86
 Drilling Completed: 1300
 Well Construction Completed: NO WELL CONSTRUCTED
 Development Method/Completed:
 Yield:
 Total Depth:
 Depth to Refusal:
 Screened Interval:
 Aquifer:

Boring No.: # 4
 Permit No.:
 SWL (date):
 Elevation, Ground Surface:
 Elevation, Top of Casing:
 Latitude:
 Longitude:
 Hole Dia.:
 Monitoring Tube:

Depth in feet	Blows on Sampler				Retained Sample	Recovery (ft.)	Sample No.	Instrument Reading
	0" 6"	6" 12"	12" 18"	18" 24"				
0								
	3							
		3						
2			3					
				4	NO	0.0		
	5							
		6						
4			7					
				8	✓	0.6	#1	
	5							
		3						
6			3					
				2	✓	0.6	#2	
	3							
		3						
8			5					
				4	✓	0.6	#3	
	9							
		13						
10			15					
				19	✓	1.6	#4	
	7							
		8						
12			12					
				13	✓	1.6	#5	
14								

Strati- graphic Column	Description
	ASPHALT PAVEMENT - AUGERED THROUGH
	DRY GREY-BROWN CF GRAVEL AND CF SAND (FILL MATERIAL)
	WATER
	WET BROWN-GREY CF SAND AND CF GRAVEL (PEA GRAVEL FILL) OIL SHEEN ON WATER SLIGHT ODOR OF OIL
	COMPACT DRY RED-BROWN SILTY CLAY SOME LENSES OF CF SAND, CF GRAVEL
	BORING TERMINATED AT 12.5'

LMS DRILLING LOG

Project No: 337-016
 Client: GE
 Drilling Began: 0930 10-14-86
 Drilling Completed: 1030
 Well Construction Completed: NO WELL CONSTRUCTED
 Development Method/Completed:
 Yield:
 Total Depth:
 Depth to Refusal:
 Screened Interval:
 Aquifer:

Boring No.: #5
 Permit No.:
 (date):
 Elevation, Ground Surface:
 Elevation, Top of Casing:
 Latitude:
 Longitude:
 Hole Dia.:
 Monitoring Tube:

Depth in feet	Blows on Sampler				Retained Sample	Recovery (ft.)	Sample No.	Instrument Reading
	0" 6"	6" 12"	12" 18"	18" 24"				
0	80							
		21						
			14					
2				5	✓	1.1	S#1	
	10							
		5						
			4					
4				2	✓	0.8	#2	
	3							
		2						
			2					
6				2	✓	.5	#3	
	4							
		3						
			4					
8				4	✓	.8	#4	
	12							
		18						
			24					
10				25	✓	1.3	#5	
	10							
		12						
			18					
12				20				

Strati- graphic Column	Description
	ASPHALT
	DAMP GREY-BROWN CF SAND, AND CF GRAVEL
	DAMP GREY-BROWN CF GRAVEL AND CF SAND (FILL MATERIAL - PEA GRAVEL)
	WET GREY-BROWN CF GRAVEL AND CF SAND (FILL)
	WET RED-BROWN SILTY CLAY AND CF GREY GRAVEL
	DRY COMPACT RED-BROWN SILTY CLAY LITTLE LENSES OF GREY CLAY, CF GRAVEL
	BORING TERMINATED AT 12'

PRELIMINARY DATA

LMS DRILLING LOG

Project No: 337-016

Client:

Drilling Began: 3:15 PM

Drilling Completed: 5:30 AM

Well Construction Completed:

Development Method/Completed: NO WELL CONSTRUCTED

Yield:

Total Depth: BORING TERMINATED AT 26'

Depth to Refusal:

Screened Interval:

Aquifer:

Boring No.: #7

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

Strati- graphic 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

UWS 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

Permit No.: -

Start (date): 10/15/86

Elevation, Ground Surface:

Elevation, Top of Casing:

Latitude:

Longitude:

Hole Dia.:

Monitoring Tube:

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

Strati- graphic 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

U/S DRILLING LOG

Project No: 337-016

Client: GE

Drilling Began: 0815

Drilling Completed: 0845

Well Construction Completed: NO WELL CONSTRUCTION

Development Method/Completed:

Yield:

Total Depth: 10.5

Depth to Refusal: 10.5'

Screened Interval:

Aquifer:

Boring No.: #11

Permit No.: -

(date): 10/16/86

Elevation, Ground Surface:

Elevation, Top of Casing:

Latitude:

Longitude:

Hole Dia.:

Monitoring Tube:

Depth in feet	Blows on Sampler				Retained Sample	Recovery (ft.)	Sample No.	Instrument Reading
	0" 6"	6" 12"	12" 18"	18" 24"				
0	1							
		2						
			2					
2				1	✓	.3	#1	
	2							
		3						
			3					
4				2	✓	.4	#2	
	2							
		1						
			2					
6				1	✓	.3	#3	
	1							
		2						
			2					
8				1	✓	.8	#4	
	2							
		3						
			8					
10				10	✓	1.0	#5	
	14				✓	.9	#6	
12								

Strati- graphic Column	Description
	MOIST DARK BROWN SILTY CLAY LOAM AND CF SAND CF GRAVEL LITTLE ORGANIC DETRITUS
	4' SAMPLE FOR PCB ANALYSIS WET BROWN CLAYEY SILT AND MED GREY CF SAND CF GRAVEL - FILL. [SLIGHT OIL SHEEN ON INSIDE OF SPLIT SPOON]
	LIGHT BROWN WET CF SAND
	WET LIQUID BROWN SILTY CLAY AND CF GRAVEL - FILL
	WET MED GREY CF SAND CF GRAVEL - FILL SOIL SAMPLE FOR PCB ANALYSIS SPOON REFUSAL AT 10.5'

APPENDIX B

CAMO LABORATORIES REPORT



CAMO LABORATORIES

A DIVISION OF CAMO POLLUTION CONTROL, INC.

POUGHKEEPSIE AREA FACILITY:
CAMO LABORATORY
367 VIOLET AVENUE
POUGHKEEPSIE, N.Y. 12601
(914) 473-9200

LAWLER, MATUSKY & SKFLIM
ENGINEERS

NOV - 4 1986

October 31, 1986

Dear Client:

Enclosed please find your sample results and our invoice for services rendered.

All analytical methods comply with those specified in APHA "Standard Methods" and/or EPA "Approved Methods".

If you have any questions, please do not hesitate to contact us.

We hope our services are to your satisfaction and, we look forward to doing future business with you.

Very truly yours,

CAMO Laboratories

(John F. Eisenhardt
Director of
Measurement Services

JFE/sam

CAMD LABORATORIES
367 VIDLEY AVENUE
POUGHKEEPSIE, NEW YORK 12601
(914) 473-9200
FED. I.D. #14-1514539

Lawler, Matusky & Skelly Engineers
One Blue Hill Plaza
Pearl River, New York 10965

Date of Invoice: 10-30-86
P.O. #: 22085
Job #:
Invoice #: 86-10-2207

Analytical Report

Sample Identification

Date Samples Collected: 10-12-86
Date Samples Received: 10-12-86
Samples Collected By: Client
Samples Delivered By: Client
Matrix: Soil

A. 55556-RCRA #1
B. 55558-RCRA #2
C. 55567-RCRA #3

Parameters	Unit/ Measure	A	B	C
Method 624 + 10	ug/kg	*	*	*

Analysis Comments: Results corrected for % moisture.
* See Attached Table and Invoice.

Analytical Methods: All analytical methods comply with those specified in APHA "Standard Methods" and/or EPA approved methods.

VOLATILES

PARAMETERS	SAMPLE IDENTIFICATIONS		
	A 55556- RCRA #1	B 55558- RCRA #2	C 55567- RCRA #3
Chloromethane	<1	<1	<1
Bromomethane	<1	<1	<1
Vinyl Chloride	<1	<1	<1
Chloroethane	<1	<1	<1
Methylene Chloride	<1	<1	<1
Xylenes	<3	<3	<3
1,1-Dichloroethylene	<1	<1	<1
1,1-Dichloroethane	3	<1	<1
Trans-1,2-dichloroethylene	<1	<1	<1
Dichlorodifluoromethane	<1	<1	<1
Chloroform	<1	<1	<1
1,2-Dichloroethane	<1	<1	<1
1,1,1-Trichloroethane	20	<1	<1
Carbon Tetrachloride	<1	<1	<1
Bromodichloromethane	<1	<1	<1
1,2-Dichloropropane	<1	<1	<1

NOTE: All results expressed in ug/L unless noted otherwise.

VOLATILES

PARAMETERS	SAMPLE IDENTIFICATIONS		
	A 55556- RCRA #1	B 55558- RCRA #2	C 55567- RCRA #3
Trans-1,3-dichloropropene	<1	<1	<1
Trichloroethylene	<1	<1	<1
Dibromochloromethane	<1	<1	<1
Cis-1,3-dichloropropene	<1	<1	<1
1,1,2-Trichloroethane	<1	<1	<1
Benzene	<1	<1	<1
2-Chloroethylvinyl Ether	<10	<10	<10
Bromoform	<5	<5	<5
Tetrachloroethylene	<1	<1	<1
1,1,2,2-Tetrachloroethane	<1	<1	<1
Toluene	<1	<1	<1
Chlorobenzene	<1	<1	<1
Ethylbenzene	<1	<1	<1
Acrolein	<100	<100	<100
Acrylonitrile	<100	<100	<100
Ethyl Ether *	18	13	9
1,2 Dichlorobenzene		28	
2 Propanol	9		
1 Propanol	36		

NOTE: All results expressed in ug/L unless noted otherwise.

* RF = 1 to nearest Internal Standard.

CARD LOG NO.: 86-10-2207

SURROGATES
% recoveries

SAMPLE IDENTIFICATIONS

	2207	2207	2207
	A	B	C

VOLATILES (Method 624):

1,2 Dichloroethane D4	91%	89%	89%
Toluene D8	102%	110%	109%
Bromofluorobenzene	95%	83%	83%

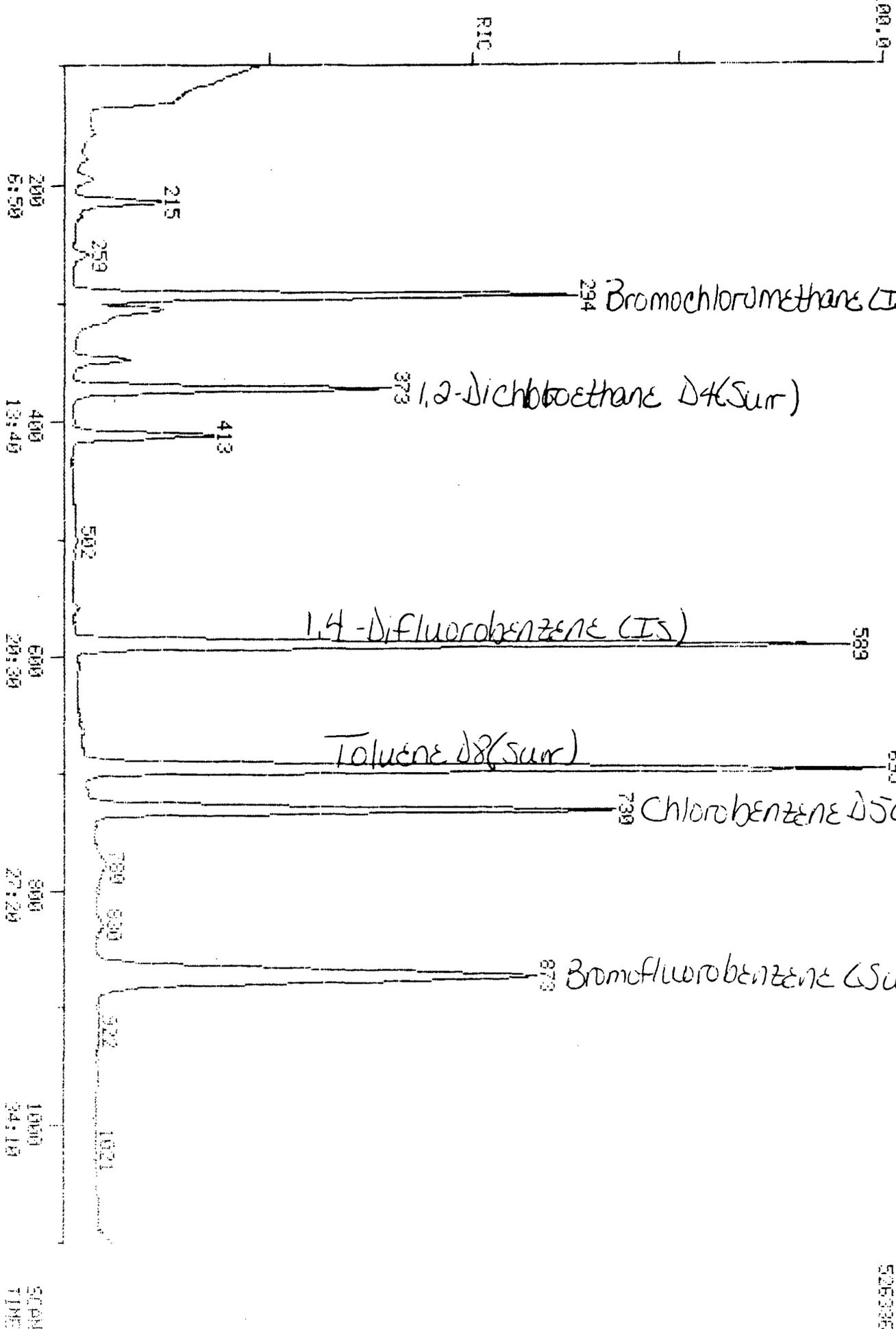
NOTE: All results expressed in ug/L unless noted otherwise.

RIC
10/27/86 14:27:00
SAMPLE: 2207A (5 GMS.) +IS/SURR

DATA: 2207A

SCANS 100 TO 1100

526396.

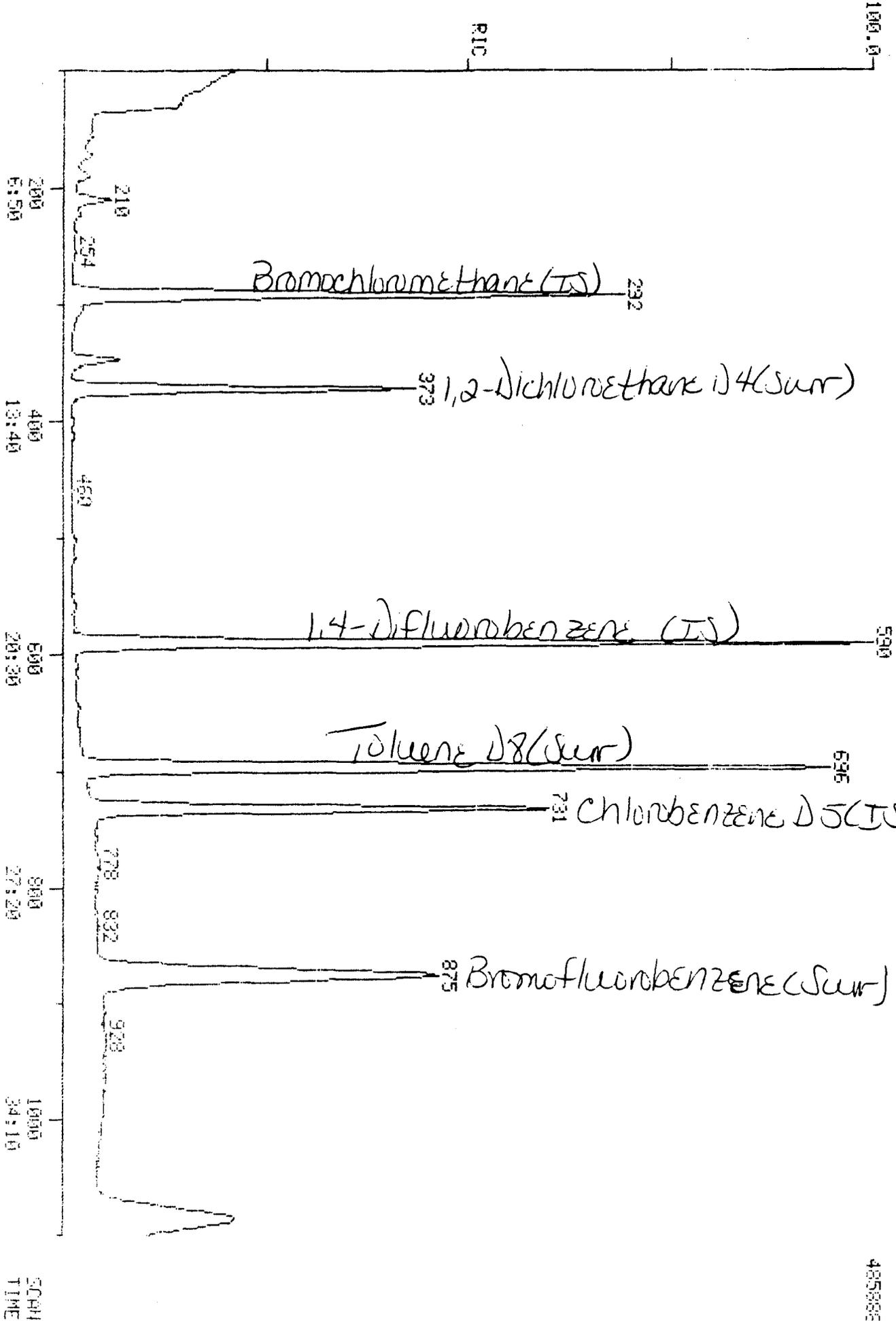


RIC
10/27/86 15:45:00
SAMPLE: 22078 05 GM. PURGED AT 40 DEG C

DATA: 22078

SCANS 100 TO 1100

485888.

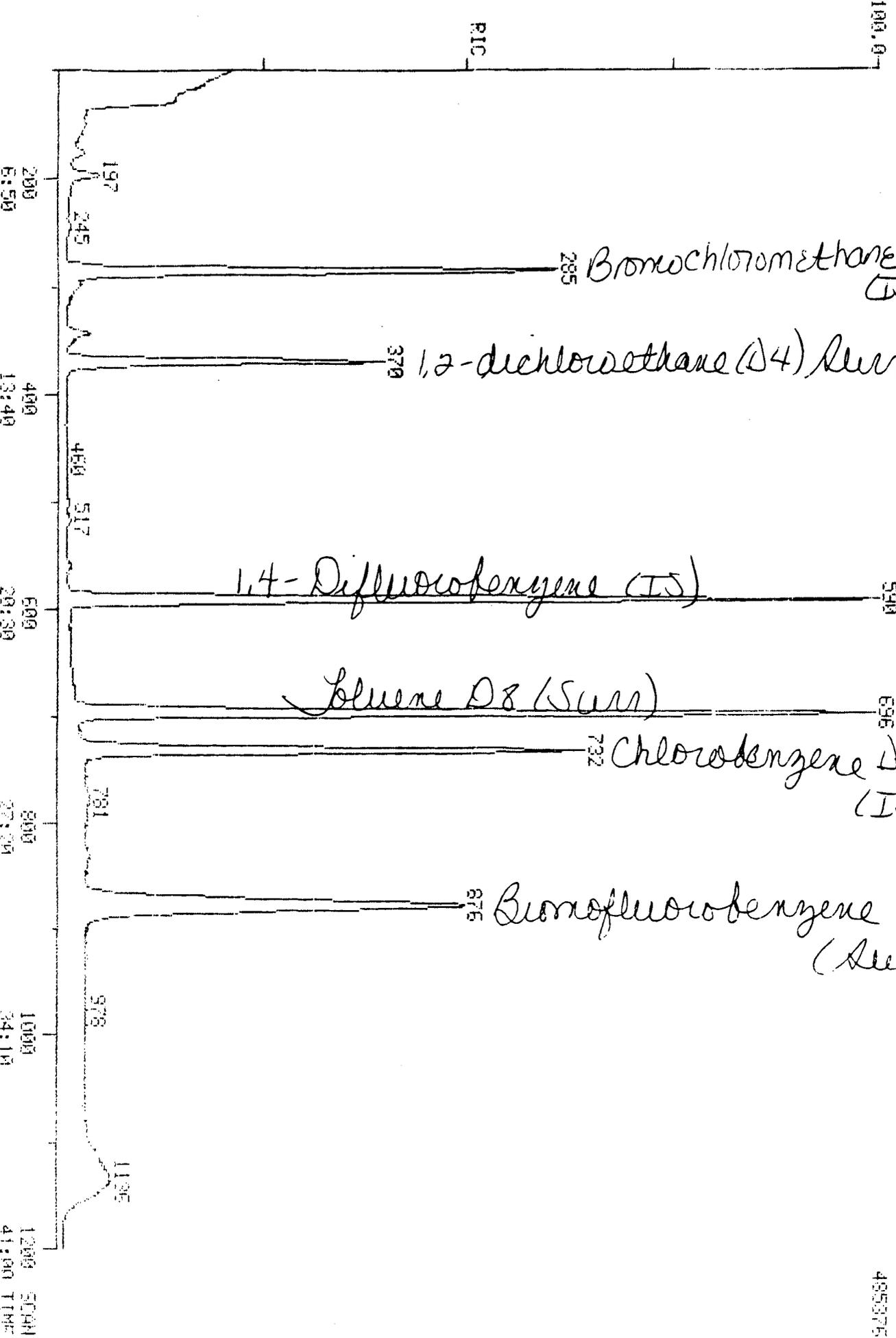


RIC
10/27/86 17:21:00
SAMPLE: 220705GM PURGED AT 40 DEG. C

DATA: 220705GM

SCANS 100 TO 1200

485376.



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
River/Ocean
Other _____

Soil

Monitoring wells
Treatment Facility
Leachate
Stream/Pond

SAMPLE ID NUMBER	DATE	TIME	STATION	PARAMETERS	REMARKS
55556	10/16/86	0950	RCRA #1	VOCs	624 + 10
55558	↓	↓	#2	↓	↓
55567	↓	↓	#3	↓	↓
SAMPLES ARE TAKEN FROM 12" DEPTH					
Relinquished By:		Date/Time:	Received By:	Comments:	
Stephen Kudlinski		10/20/86			
Relinquished By:		Date/Time:	Received By:	Comments:	
Relinquished By:		Date/Time:	Received By:	Comments:	
Method of Shipment:		Shipped By:	Received By:		
FED Ex		SLK 10/20/86			
Received at Laboratory By:			Date/Time:	Comments:	

APPENDIX C

CHYUN LABORATORIES REPORT



CHYUN ASSOCIATES
Architectural, Engineering & Laboratory

Research Park, 429 Wall Street
Princeton, New Jersey 08540
609-924-5151

November 24, 1986

LMS Engineers
QA Department
53 Hudson Avenue
Nyack, New York 10960

Attention: Mr. Stephen Knollmeyer

Re: Test Reports: L86157A, L861170A, L861170B

Dear Mr. Knollmeyer:

This correspondence is to confirm conversations with your office concerning PCB data submitted to LMS.

All samples for the above referenced test reports are reported as Arochlor 1260.

If you have any questions concerning this matter, please feel free to contact me at this office.

Very truly yours,

CHYUN ASSOCIATES

Michael Wright
Technical Director

MW/nak



CHYUN ASSOCIATES
 Environmental, Occupational & Industrial Hygiene

100 West 17th Street
 New York, New York 10011-3521
 (212) 693-1100

LABORATORY ANALYSIS REPORT

Client: LMS QA Department
 Address: 53 Hudson Avenue
Nyack, New York 10960
 Analyzed by: Mr. Stephen Knollmeyer

Job Number: L861170A
 Date Received: October 23, 1986
 Date Reported: October 16, 1986
 Lab Number: 03287-23A

SAMPLE NUMBER	SAMPLE DESIGNATION / DESCRIPTION
1	52507/52510 1830 Comp. Acc. Blowdown

PARAMETER CONSTITUENT	SAMPLE NUMBER				
	1				
Petroleum Hydrocarbons	6,700				
Polychlorinated biphenyls total as Arochlor	ND				

Sampled by Client

ND - None Detected, less than 0.01 mg/liter

All results in mg/l (ppm) except where noted. Laboratory ID No. 11198

November 10, 1986
 Date

Michael Wright
 Technical Director



CHIYUN ASSOCIATES

ANALYTICAL CHEMISTRY & ENVIRONMENTAL SCIENCE

25 South Park, 429 Wall Street
Princeton, New Jersey 08540
609-924-5151

Laboratory Quality Assurance Report

CLIENT: LMS QA Department TEST NUMBER: L861170A
ADDRESS: 53 Hudson Avenue DATE RECEIVED: October 23, 1986
Nyack, New York 10960 PHC's spiked at 1.45ppm
ATTENTION: Mr. Stephen Knollmeyer

<u>Sample Number</u>	<u>Parameter</u>	<u>Original Value</u>	<u>Duplicate Value</u>	<u>Spike Recovery</u>
Batch	PHC	< 0.5	< 0.5	---
Batch	PHC	< 0.5	---	99%
Blank Spike	PHC	< 0.5	---	183%
52507/52510	PCB	ND	ND	---

Remaining PCB QA data is reported with L861157B

ND - None Detected, less than 0.01 mg/liter

* - May have been spiked twice by mistake



CHYUN ASSOCIATES
ANalytical CHEMISTRY LABORATORY

Research Park, 429 Wall Street
Princeton, New Jersey 08540
609-924-5151

Laboratory Quality Assurance Report

CLIENT: LMS QA Department

TEST NUMBER: L861170

ADDRESS: 53 Hudson Avenue
Nyack, New York 10960

DATE RECEIVED: October 23, 1986

ATTENTION: Mr. Stephen Knollmeyer

<u>Sample Number</u>	<u>Parameter</u>	<u>Original Value</u>	<u>Duplicate Value</u>	<u>Spike Recovery</u>
55518 B #11	PHC	494.0	119.7	Beyond Range
Blank Spike	PHC	---	---	84.2%

See L861157A for PCB QA



CHYUN ASSOCIATES
Architectural, Engineering & Laboratory

Research Park, 429 Wall Street
Princeton, New Jersey 08540
609-924-5151

November 10, 1986

QA Department
LMS Engineers
53 Hudson Avenue
Nyack, New York 10960

Attention: Mr. Stephen Knollmeyer

Re: Test Report: L861157A
Job Number : 03287-22A

Dear Mr. Knollmeyer:

This report details the analysis of thirty four (34) soil samples submitted to Chyun Associates on October 17, 1986. The sample designations, parameters analyzed and results obtained are displayed on the enclosed table.

If you have any questions concerning this report, please feel free to contact me at this office.

Very truly yours,

CHYUN ASSOCIATES

Michael Wright
Laboratory Supervisor

MW/nak

<u>Sample Number</u>	<u>Petroleum Hydrocarbons</u>	<u>Polychlorinated biphenyls total as Arochlor</u>
55512	< 5	ND
55524	28	17
55525	17	6.1
55527	< 5	ND
55528	410	ND
55530	5,100	ND
55531	2,100	ND
55532	28	ND
55534	8	ND
55535	71	1.4
55536	17	< 0.5
55537	< 5	ND
55538	40,800	1.7
55539	33	ND
55540	27	ND
55541	670	2.3
55542	14	< 0.5T
55543	10	1.6
55545	< 5	ND
55557	920	16
55559	460	8.1
55560	120	4.5
55561	15	ND
55562	26	2.0
55565	2,890	51
55566	640	7.5
55572	53	3.3
55573	11,100	120
55574	760	370
55575	5,600	160
55576	1,200	51
55577	140	2.3
55578	17	ND
55564	80,100	NR

All results are expressed in mg/kg (ppm)

NR - Not required for this sample

ND - None Detected, less than 0.5 mg/kg. T - Trace Detected

Sampled by Client.



CITYUN ASSOCIATES

Environmental Laboratory Services

15 South Park 420 Wall Street
Limonick, New Jersey 08540
609-924-5151

Laboratory Quality Assurance Report

CLIENT: LMS QA Department

TEST NUMBER: L861157

ADDRESS: 53 Hudson Avenue

DATE RECEIVED: October 17, 1986

Nyack, New York 10960

ATTENTION: Mr. Stephen Knollmeyer

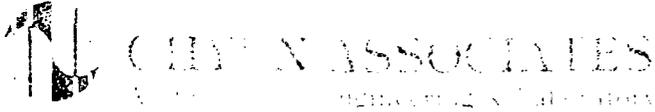
<u>Sample Number</u>	<u>Parameter</u>	<u>Original Value</u>	<u>Duplicate Value</u>	<u>Spike Recovery</u>
Blank Spike #1	PCB	---	---	103%
Batch	PCB	ND	---	80%
55531	PCB	ND	ND	---
55524	PCB	16.8	---	BLR
Blank Spike #2	PCB	---	---	89%
55535	PCB	1.4	---	101%
55541 ⁺	PCB	2.1	6.9	---
55545	PCB	ND	---	98%
55572	PCB	3.9	2.7	---
55574	PCB	370	---	BLR
55577	PCB	2.0	2.6	---
55518	PCB	28.5	23.3	---
Blank Spike #3	PCB	---	---	108%
Batch	PCB	ND	---	105%

BLR - Beyond Linear Range

*All PHC's spiked to 28.9 ppm

*All PCB's spiked to 0.5 ppm Arochlor 1260

⁺Rerun (3rd extract) value of 2.6 ppm Arochlor 1260



Seaside Park, 429 Wall Street
Princeton, New Jersey 08540
609-924-5151

Laboratory Quality Assurance Report

CLIENT: LMS QA Department

TEST NUMBER: L861157

ADDRESS: 53 Hudson Avenue
Nyack, New York 10960

DATE RECEIVED: October 17, 1986

ATTENTION: Mr. Stephen Knollmeyer

<u>Sample Number</u>	<u>Parameter</u>	<u>Original Value</u>	<u>Duplicate Value</u>	<u>Spike Recovery*</u>
Blank Spike #1	PHC	---	---	85%
55532	PHC	16.2	39	93%
Blank Spike #2	PHC	---	---	67%
55543	PHC	13.0	< 5	51%
Blank Spike #3	PHC	---	---	81%
55565	PHC	3,070	2,710	BLR
Blank Spike #4	PHC	---	---	79%
55574	PHC	1,084	429	BLR
55512	PHC	< 5	---	92%
55545	PHC	< 5	< 5	---
Blank Spike #5	PHC	---	---	97%

BLR - Beyond Linear Range

*All PHC's spiked to 28.9 ppm

*All PCB's spiked to 0.5 ppm Arochlor 1260



CIBUYN ASSOCIATES

ANALYTICAL CHEMISTS

120 Wall Street
New York, New Jersey 08540
609-924-5151

Laboratory Quality Assurance Report

CLIENT: LMS OA Department TEST NUMBER: L861157B/C
ADDRESS: 53 Hudson Avenue DATE RECEIVED: October 17, 1986
Nyack, New York, 10960
ATTENTION: Mr. Stephen Knollmeyer

<u>Sample Number</u>	<u>Parameter</u>	<u>Original Value</u>	<u>Duplicate Value</u>	<u>Spike Recovery *</u>
Blank Spike	Petroleum Hydrocarbons	---	---	93%
52505	Petroleum Hydrocarbons	3.06	3.26	---
55899	Petroleum Hydrocarbons	0.5	---	63%
Blank Spike	PCB's	---	---	73%
Batch	PCB's	ND	ND	---
52515	PCB's	0.005	---	80%
52511	PCB's	0.003	0.007	---

*All PHC's spiked to 1.45ppm, All PCB's spiked to 0.01 mg/liter Arochlor 1260
ND - None Detected, less than 0.005 mg/liter