

Inactive Hazardous Waste Disposal Site # 356008
Interim Remedial Measures
Volume I: Report

Rotron, Inc.
Olive Facility
Olive, New York

April, 1997



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1.0 INTRODUCTION

Rotron, Inc. (Rotron) has conducted a Remedial Investigation (RI) at its Olive facility (NYSDEC Site Number 3-56-008) in conformance to the Order on Consent entered into with The New York State Department of Environmental Conservation (NYSDEC). The RI field investigation was designed to incorporate Interim Remedial Measures (IRMs) where applicable. Work done during the RI delineated several areas of contaminated soils that were subsequently remediated by IRMs. The IRMs, described in a work plan submitted to the NYSDEC in July of 1996, focused primarily on soils excavation and active mechanical remediation systems, including dewatering and soil vapor extraction (SVE), where contaminated soils could not be removed due to structural constraints.

1.1 Site Description

The site is situated on Dubois Road in the Town of Olive, located in Ulster County, New York (Figure 1). The site consists of approximately 150 acres surrounded by vacant land to the north and west and residential dwellings to the east and south. Structures on the property consist of a single-story manufacturing facility and an attached warehouse (Figure 2).

The facility is located on the north side of an east/west trending valley containing the Ashokan Reservoir and the Esopus Creek. The site is bounded by Little Tonshi Mountain to the north and Route 28 to the south. Drainage in the vicinity of the site is controlled by a perennial stream that originates on the south side of Little Tonshi Mountain and drains into the Ashokan Reservoir. Numerous seasonal swamp areas contribute to the watershed, connected by a series of interconnected seasonal streams that flow past or into a fire pond on the Rotron property.

The site is currently listed as a Class 2 Inactive Hazardous Waste Site (NYSDEC Site Number 3-56-008). Sampling conducted during the RI indicated that industrial degreasers including trichloroethylene had impacted soils and groundwater beneath the source regions. Contaminated soils were encountered in and around a former waste solvent tank grave, beneath the pavement in the loading dock area near a former drum storage room, at a dry well (Dry Well #1) located 400 feet east of the main building, along perforated Orangeburg pipe extending to Dry Well #1 and at a dry well (Dry Well #2) connected to the floor drains in the building. The location of these areas are shown on Figure 3. Trace levels of industrial degreasers were encountered in the abandoned quarry, but were not above the site specific cleanup objectives (Figure 4).

2.0 IRM OBJECTIVES

Residual soil contamination was present at levels above the NYSDEC's soil clean-up guidance values in the loading dock area, solvent tank area, dry well areas and along the Orangeburg pipe. IRMs were implemented in these areas to remediate the soils to the soil clean-up objectives. Soils were excavated where they exceeded the site specific cleanup objectives or, if the soils could not be excavated directly due to structural constraints, a Soil Vapor Extraction (SVE) system was installed. Also, shallow groundwater in the vicinity of the loading dock and former solvent tank grave is being controlled to limit contaminant distribution via impacted shallow groundwater.

The old quarry has been regraded to promote run-off. A stream, which was entering the old quarry, has been diverted. Both activities reduce surface water infiltration through the fill material.

3.0 INTERIM REMEDIAL MEASURES

3.1 Soil Excavation

Approximately 5,620 cubic yards (roughly 6,500 tons) of soil were excavated from six different areas at the site (Figure 3). Soils were excavated until they met the site specific cleanup objectives listed in Table 1. Head space screening was used to provide the preliminary boundary conditions (Table 2 and Appendix A). Confirmatory laboratory analysis, presented in Table 3 and Appendix B, and head space screening were used to verify that the site specific clean-up objectives had been met. If soils could not be excavated due to physical constraints imposed by the building, mechanical systems were used to remediate those areas.

3.1.1 Solvent Tank

Data collected during the initial test pitting activities in this area indicated that between 900 and 1200 cubic yards of soil were impacted by waste solvents. Rotron pursued an aggressive remediation strategy and excavated impacted soils, to the extent physically possible. The approximate boundaries of the excavation and the confirmatory data are shown on Figure 5. Laboratory results are contained in Appendix B

The site specific cleanup objectives were met on all side of the excavation with the exception of small pockets of soil adjacent to the building foundation and beneath a fire suppression line (Figure 5). These soils could not be excavated without risking structural damage. An SVE system was installed to address the residual VOC

impacts against the foundation. The SVE system was conditionally approved by the NYSDEC in November of 1996. The SVE system is discussed in Section 3.3.2.

3.1.2 Dry Well # 1

The RI determined that the 2,500 gallon waste solvent tank had been periodically drained into a dry-well connected to the solvent tank by perforated Orangeburg pipe. The location of the dry well, referred to as Dry Well # 1, is shown on Figure 2. The dry well and approximately 20 cubic yards of material surrounding the dry well were excavated and stockpiled on-site for treatment and re-use.

Impacts around the dry well were limited to the permeable backfill immediately surrounding the dry well. The limited impacts resulted from the depression in the Orangeburg pipe which caused contamination to spread into the soils at these depressions rather than in the dry well.

A confirmatory laboratory sample was taken from the base of the excavation to verify that the clean-up objectives were met. The results and approximate location of the confirmatory sample are shown on Figure 6. The laboratory results are found in Appendix B.

3.1.3 Orangeburg Pipe

Field screening performed during the Remedial Investigation indicated that the bulk of the contaminated soil was concentrated immediately adjacent to the pipe with two areas where soil contamination extended beyond the pipe trench (Figure 3). One of the areas corresponded to an apparent depression in the pipe where natural damming probably occurred, resulting in slow seepage of fluids into the soils. Contaminants spread south of this depression; however, field screening and lab results indicated that contamination was concentrated in the upper few feet of the saturated zone (Figure 6) and dropped off rapidly with increasing depth.

A second VOC-impacted area was found at the junction of the Orangeburg pipe and the impermeable black iron pipe that was formerly attached to the waste solvent tank (Figure 6).

Approximately 1,200 cubic yards of soil were removed from the Orangeburg pipe area (Figure 6). Obviously impacted soils encountered directly beneath the pipe were removed and stockpiled for later treatment or disposal as warranted. Representative soil samples were obtained from the excavation for laboratory analysis to confirm that the clean-up objectives have been met (Appendix B). The sample results are posted on Figure 6.

3.1.4 Dry Well # 2

Site plans identified a dry well near the northeast corner of the plant. This dry well, (Figure 2) referred to as Dry Well # 2, was connected to floor drains inside the main plant. The floor drains were located in parts of the building where manufacturing, assembly and parts cleaning historically had occurred.

Impacted soils near the dry well were concentrated along the permeable backfill around the dry well, and extended somewhat south and east of the dry well. Approximately 1100 cubic yards of soils were excavated from around Dry Well #2.

Excavations around Dry Well #2 also showed that fill material surrounding the nearby 18-inch concrete storm drain (Figure 7) was also impacted with VOCs. The high permeability backfill material surrounding the pipe provided a preferred pathway for contaminant migration and transport away from the dry well. Approximately 200 feet of storm drain was replaced and roughly 1000 cubic yards of soil were removed.

Field screening and representative laboratory soil samples were obtained from this region (Tables 2 and 3 and Appendix A and B, respectively). The sample results (Figure 7) demonstrate that the clean-up objectives had been met.

3.1.5 Loading Dock and Drum Storage Area

The dimensions of impacted areas in the loading dock and former drum storage area are shown on Figure 8. Contaminated soils were excavated from the vicinity of test pit OL-027 where free product was observed during test pitting activities, and from beneath and around the drum storage area.

Shallow groundwater was typically encountered less than two feet below ground surface in the test pits north of the building's footing drains. A system of dewatering trenches were installed to manage this impacted shallow groundwater in the loading dock area and to limit the potential for migration elsewhere.

Once the soils were sufficiently dewatered, impacted soils were excavated in the loading dock area. Field screening during excavation confirmed that the clean-up objectives were met with the exception of the area beneath the former drum storage area adjacent to the building foundation.

Impacted soils adjacent to the buildings foundation beneath the drum storage area were not readily accessible without damaging the foundation. An SVE system was installed to remediate impacted soils adjacent to the foundation. The SVE system is discussed in Section 3.3.2.

3.1.6 Former Quarry

Soil samples taken from the former quarry area indicated that the site specific soil clean-up guidance values were met. No further soils remediation was necessary (Figure 4).

A diversion channel was installed above the quarry to redirect flow from the wetlands above the quarry around the quarry (Figure 9). The channel was excavated with a track mounted excavator to a depth of approximately three to four feet below ground surface or until the bedrock surface was encountered. The channel walls were sloped to limit channel collapses and the soils were bermed above the quarry to limit the possibility of breakthrough.

Soils from other portions of the site that passed the site specific soil clean-up guidance values were used to grade and shape the surface of the former quarry to enhance runoff. The clean soils were graded in six inch lifts and sloped towards a central drainage swale running through the center of the quarry. Discharge from the swale drains to the south side of the quarry. A vegetative cover will be established once the Spring growing season arrives.

3.2 Excavated Soils Management

Excavated soils were temporarily staged in the main parking lot east of the facility. The excavated soils were predominately glacial till, containing a significant percentage of gravel to cobble sized stones. Soils were allowed to drain and then screened to remove the large stones, cobbles and any other anthropogenic articles. The screening process separated the soil into piles of mixed cobbles, boulders and man-made objects, and piles of mixed fine to medium gravel, fine to coarse sand, silt with trace amounts of clay.

The screened soils were stockpiled in different areas based on contaminant levels. Specifically, soils from the former solvent tank area, from the region surrounding test pit OL-027 and from beneath the former drum storage area (Figure 10) were stored separately from soils taken from the Orangeburg pipe area and the two dry wells (Figure 11).

One composite sample was taken per every 100 cubic yards to determine disposal requirements. The soil test results are depicted on Figures 10 and 11. Soil from the two dry well areas and the Orangeburg pipe met the site specific cleanup values (Figure 10) and was subsequently re-used as either backfill material in the excavations or as grading material in the former quarry. Soil from the solvent tank area and around TP-027 required off-site disposal in an approved facility (Figure 11). AETS shipped approximately 1,763 tons (approximately 1100 cubic yards) of

contaminated soil to a secure chemical landfill operated by CWM Chemical Services, Inc. (EPA ID No. NYD 049 838 679) in Model City, New, York.

Stones left over from the screening process were used to backfill the solvent tank excavation and some areas of the Orangeburg pipeline. Washed gravel, stone and/or crushed shale from off-site sources was used to backfill the dewatering trenches.

3.3 Active Mechanical Remediation Systems

3.3.1 Dewatering Systems

Groundwater was encountered one to two feet below ground surface (bgs) in formerly remediated areas in the loading dock area and as high as four feet bgs in the former solvent tank excavation. Test pits near these areas of disturbed soils consistently showed high water levels. The observed high water levels represent temporary catchment of interflow which slowly recharges deeper groundwater.

Loading Dock Area

A sump pump was installed in a low spot in parking area nearby Test Pit OL-027 (Figure 12). The sump, excavated to a depth of eight feet, maintains drawdown at around seven feet below ground surface near the sump and within the area of formerly excavated soils. Water evacuated by the sump pump is routed to the primary air stripping tower.

The area drained by the sump was extended by French drains shown on Figure 12. The French drains are sloped to promote drainage to the main sump chamber. The 8 foot trenches were backfilled with six inches of crushed stone and four-inch perforated PVC drain pipe wrapped in filter fabric extending to the sump. The PVC pipe was covered with pea stone and the remainder of the trench was backfilled with either clean fill or material from the trench. Details of the French drains are shown schematically on Figure 13.

The investigation showed that soils along 125 feet of existing footing drain along the building were also impacted with VOCs. The permeable backfill material surrounding the pipe provided a preferred pathway for contaminant migration. The VOC impacted soils and 125 feet of footing drain were excavated and replaced with eight-inch perforated PVC drain pipe wrapped in filter fabric, and surrounded by clean washed stone.

Solvent Tank Area

Interflow flooded recently installed SVE lines in the solvent tank grave after a heavy rainfall. A sump pump was installed in the permeable backfill to dewater the tank grave. The location of the sump pump is shown on Figure 14.

The pump lies approximately ten feet below ground surface and water from the tank grave sump pump is routed to the primary air stripper (Figure 14). This modification has allowed successful operation of the SVE system since the dewatering well was installed.

3.3.2 SVE Systems

Structural constraints limited full excavation of VOC impacted soils adjacent to the foundation in the former solvent tank area and the former drum storage area (Figure 3). Excavating in these areas would have damaged the building, and SVE systems were therefore installed to extract residual VOCs.

The layout of Soil Vapor Extraction (SVE) systems are shown on Figure 15 and the system is shown schematically on Figure 16. These drawings were previously submitted along with an Application for a Permit to Construct and a Certificate to Operate the SVE systems and have been conditionally approved by the NYSDEC.

Most of the SVE extraction zones described below consist of perforated 4-inch PVC sewer pipe wrapped in filter fabric. The extraction points connect to a 2-inch PVC manifold pipe and are surrounded by crushed stone or gravel. The SVE zones are either paved over with blacktop or covered at grade with soils meeting the site specific soil cleanup values.

Unit A: Storm Drain Area

Confirmatory samples taken from the storm drain trench meet the site specific clean-up objectives (Figure 7). However, permeable backfill was used to in the storm drain excavation and overlaps the permeable fill in the adjacent solvent tank area. No barriers to gas migration exist between the two areas. As a precaution, a horizontal SVE collection system was installed along the storm drain to control VOC vapor migration from this residual source area. The SVE system in the storm drain trench is labeled Unit A on Figure 15.

Unit B: Solvent Tank Area

Residual VOC contamination adjacent to the foundation in the former solvent tank grave area and beneath the fire suppression line south of the tank grave could not

be excavated without damaging those structures. Vertical SVE extraction points were installed adjacent to the foundation and beneath the fire suppression line (Unit B on Figure 15). The vertical points were spaced approximately 12 to 15 feet apart and consisted of ten foot lengths of perforated PVC sewer pipe connected to short risers connecting to a common manifold.

Unit C: Sub-Slab SVE System, Solvent Tank Area

Air samples obtained from beneath the slab adjacent to the solvent tank grave had low levels of VOCs. Negative pressure is maintained to control vapor migration beneath the slab in this region. Six 1.25 inch holes were drilled horizontally through the building's foundation from approximately 2.5 feet below the top of the slab. One inch PVC pipes were inserted through the holes and driven into the permeable fill material beneath the slab. Negative pressure is maintained in these penetrations through manifolding to the SVE system. This system, labeled Unit C, is shown on Figure 15.

A pilot test determined the effective radius of influence of the Unit C sub-slab SVE system to be greater than 32 feet around the extraction points. The pilot test results are plotted in plan view on Figure 16.

Unit D: Former Drum Storage Area

Residual VOC contamination adjacent to the foundation in the former drum storage area could not be excavated without damaging the foundation. A horizontal SVE extraction line was installed along the foundation and approximately 5 feet below ground surface (Unit D on Figure 15).

An air sample from beneath the building adjacent to the former drum storage area had low levels of VOC vapors. A sub-slab negative pressure system similar to the one installed in Unit C was installed to control and remove vapors beneath the slab in this area.

A pilot test performed to determine the effective radius of influence of the sub-slab SVE system indicated that the radius of influence was greater than 40 feet (Figure 18).

4.0 TREATMENT SYSTEMS EVALUATION

4.1 Groundwater

The capacity of the air stripping tower was evaluated to determine if additional treatment capacity for water was necessary. Contaminated groundwater is

currently treated through two air stripping towers before discharging to the fire pond on site, as shown schematically on Figure 19. The primary treatment tower is located near the northeast corner of the main plant and has a rated capacity of 140 gpm. The secondary treatment system acts as a scrubber and has a rated capacity of 150 gpm. The discharge to the fire pond is regulated under a NYSDEC SPDES permit.

Current base flow to the system is estimated at between 5 and 50 gpm under non-storm conditions. Base flow incorporated flows from the two sump pump systems (0 - 20 gpm), flows from the footing drain (0 - 20 gpm) and interflow drainage to the catch basin system (5 - 10 gpm). A model of the recharge/drainage basin, described in detail in Appendix C, suggests that net average base flow to the remediation/storm drain system is approximately 8.6 gpm.

Any combined stormwater and baseflows above 140 gpm overloads the primary stripping tower capacity. Analysis of the drainage basin indicates that the system is capable of fully treating stormwater and groundwater in rainfall or snowmelt that discharge an equivalent of up to 0.5 inches per hour over a 24-hour period. Flows in excess of 0.5 inches overload the system (Appendix C).

Storms exceeding the treatment capacity of the system occur about one to five times a year base on information available in the New York Guidelines for Urban Erosion and Sediment Control (Empire State Chapter, Soil and Water Conservation Society, 1991). Rainfall events exceeding one inch per hour generate flows greater than 340 gpm; however, at that flow rate, the base flow is diluted by more than 200 percent (Appendix C). Since the treatment capacity of the system is infrequently exceeded and substantial dilution occurs during heavy rainfall events, no modifications to the groundwater treatment system are necessary.

4.2 Air Stripping Tower Efficiency

Recent influent samples taken from the primary air stripping tower had VOC levels around 183.8 ppb (Appendix D). Effluent levels were less than 6.9 ppb total and no single component exceeded the SPDES discharge limits. TCE was present at 120 ppb and, after primary treatment, was present at 4 ppb. The primary air stripping tower is approximately 96% efficient in removing VOCs from the groundwater.

After treatment by the first tower, effluent is polished in the second stripping tower (Figure 19). Samples of the effluent from the second stripping tower are all non-detect. Assuming that the secondary stripping tower is as efficient as the primary stripping tower, the combined system is capable of treating total VOC loads of between 1 and 2 ppm before effluent discharge limits might be exceeded.

4.3 Air Filtration with Granulated Activated Carbon (GAC)

Carbon filtration units on the SVE system (Figure 16) effectively filter VOCs from the discharge vent. Recent influent and effluent vapor data from the SVE lines in the drum storage area (Unit D) indicated TCE influent levels around 156.7 ppb. After carbon filtration, the output was 3.8 ppb (Table 4). The carbon filtration units typically remove greater than 97% of the VOCs. The effluent from the combined SVE systems is currently less than 0.03 pounds per hour total VOCs.

Continued monthly monitoring will determine the schedule for carbon replacement. Carbon canisters will be changed when the total VOC discharge for the system exceeds 1.0 lbs/hr.

5.0 GROUNDWATER FLOW CONTROL

Concerns raised by NYSDEC warranted further assessment of whether using PW-1 as a scavenger well was feasible and practical. Recent groundwater samples indicate that the well is still impacted with VOCs at levels above groundwater standards, and Rotron will therefore use PW-1 as a scavenger well.

The focused aquifer test performed previously determined that PW-1 could be used to limit migration of VOCs. During the test the well was pumped at approximately 20 gallons per minute (gpm) and water was discharged to the existing air stripping unit for treatment. Pumping at 20 gpm did not exceed the capacity of the stripper tower.

The aquifer test indicated that the cone of depression created by pumping PW-1 exhibited significant anisotropy, extended beneath suspect source regions and extended more than 1000 feet from the production well. Well PW-1 will be pumped continually at a rate of between 5 and 20 gpm as necessary, to maintain a cone of depression that extends to PW-3.

A schematic diagram of the proposed PW-1 scavenger well system is shown on Figure 20. Groundwater will be pumped directly from PW-1 into a air stripping tower with enough capacity to remove 95% of the VOCs. Effluent from this pretreatment tower will be discharged directly to the existing, primary air stripping tower (Figure 20).

Groundwater from PW-1 has recently had VOC levels at around one ppm or less. This suggests that the effluent from the PW-1 tower would typically contain between 10 to 50 ppb total VOCs. Recent influent data into the existing primary air stripping tower (Appendix D) contained around 150 to 180 ppb, so the total VOCs to the primary system would be around 200 to 230 ppb. Assuming that the

system continues to operate at a 96% efficiency rate, effluent levels continue to comply with the discharge requirements and will be polished further in the secondary stripping tower. Effluent will be monitored monthly through the SPDES program to ensure that discharge limits are not exceeded.

6.0 POST REMEDIATION MONITORING

6.1 Groundwater

Wells PW-1, PW-2, PW-3 and MW-4 through MW-12 will be monitored quarterly for the next two years. After this time period, sampling frequency will be re-evaluated based on sample results.

6.2 Air

SVE system influent and effluent will be monitored monthly. The data will be evaluated yearly to determine if further vapor extraction is warranted. Conformatory soil samples will be taken to verify that the site specific cleanup objectives have been met.

7.0 REFERENCES

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TABLES

TABLES

Table 1	-----	Site Specific Cleanup Objectives
Table 2	-----	Soil Sample Head Space Screening Results
Table 3	-----	Laboratory Soil Sample Results
Table 4	-----	Groundwater And Air Influent And Effluent Sample Results

Rotron-Olive
Table 1
Soil Clean-up Objectives

Industrial Landfill				
Compounds of Concern	4046 Objective for 1% Carbon	Actual Carbon Percentage *	Adjusted Objective (ppm)	Adjusted Objective (ppb)
TCE	0.7	0.74	0.52	520
1,1,1- TCA	0.8	0.74	0.59	590
PCE	1.4	0.74	1.45	1450
Freon 113	6.0	0.74	4.44	4,444
1,1-DCA	0.2	0.74	0.15	150
CIS-1,2-DCE	0.3	0.74	0.22	222

Loading Dock				
Compounds of Concern	4046 Objective for 1% Carbon	Actual Carbon Percentage *	Adjusted Objective (ppm)	Adjusted Objective (ppb)
TCE	0.7	0.34	0.238	238
1,1,1- TCA	0.8	0.34	0.272	272
PCE	1.4	0.34	0.476	476
Freon 113	6.0	0.34	2.04	2,040
1,1-DCA	0.2	0.34	0.068	68
CIS-1,2-DCE	0.3	0.34	0.102	102

East Side of Building				
Compounds of Concern	4046 Objective for 1% Carbon	Actual Carbon Percentage *	Adjusted Objective (ppm)	Adjusted Objective (ppb)
TCE	0.7	0.29	0.203	203
1,1,1- TCA	0.8	0.29	0.232	232
PCE	1.4	0.29	0.406	406
Freon 113	6.0	0.29	1.74	1,740
1,1-DCA	0.2	0.29	0.058	58
CIS-1,2-DCE	0.3	0.29	0.087	87

* The Industrial Landfills Actual Carbon Percentage was determined using an average of two samples collected from that area

ROTRON OLIVE SITE
TABLE 2
GAS CHROMATOGRAPHY FIELD SCREENING RESULTS

SAMPLE ID	FREON-113	1,1-DCA	CIS-1,2-DCE	1,1,1-TCA	TCE	PCE	ND
000 SAMPLES IN AREA NORTH OF AND ALONG NORTHEAST EDGE OF SITE BUILDING							
000 SAMPLES							
001	19.08		4238.33		20558.81		
001 ACT					35.48		
002	12.28		268.21		1202.93		
002 ACT	10.08		184.98		1734.07		
003							ND
003 ACT							ND
004	19.14		13.25				
004 ACT	51.05		334.85		119.70		
005	43.86		427.6	40.99	2068.77		
006			10.31		198.35		
007	25.70		62.79		308.77		
008	2026.32		1738.43	12.89	6407.93		
009	6.68	8.89	265.84	14.02	1543.29		
010	93.27			8.32	635.96		
011	19.21	8.15	1797.30	106.52	12762.32		
012	23.76		34.49	28.50	1621.70		
013			12.01		401.41		
014	5.90		15.39		230.94		
015	17.50				323.07		
016		6.81	263.23		759.20		
017	21.80		39.66		220.80		ND
018							
019			721.61	30.00	3158.02		
020		28.98		53.28	62.64		
021		7.51			51.77		
022			241.92	13.95	1402.39		
023	4.82				47.20		
024 (SAMPLER DAMAGED)							
025					34.29		ND
026							
027		7.53			183.28		ND
028							
029 NO SAMPLE							
030	4205.51		43.75		108.82		
031					11.19		
032							ND
033	16.32				178.78		
034	2266.16				246.52		
035	19607.47		11761.66		14253.92		
036	4329.06		4211.19		2145.62		
037 ACT	54.80		370.54		315.42		
038 ACT	14.08		867.72		880.60		

ROTRON OLIVE SITE
TABLE 2
GAS CHROMATOGRAPHY FIELD SCREENING RESULTS

SAMPLE ID	FREON-113	1,1-DCA	CIS-1,2-DCE	1,1,1-TCA	TCE	PCE	ND
039 ACT	69.26				10.01		
040 ACT	15.54				16.96		
041 ACT							ND
042 ACT					47.89		
043 ACT	2856.50		515.54		6822.71		
044 ACT	1449.11		8865.86		19583.41		
045 ACT	9.68		64.65		1518.44		
046 ACT	26.54				643.94		
047 ACT					997.81		ND
048 ACT							
049 ACT					961.28		
100 SAMPLES BENEATH SITE BUILDING							
100							
100 ACT	7.97	13.65	30.57	12.91	365.72		
101	47.16		160.78	53.46	2079.96		
101 ACT	1083.47	6.64	160.88		1363.86		
102	9.66		74.6	28.26	7205.85		
102 ACT	5.51			38.87	31.98		
103 ACT					146.4		
104 ACT	7.84				424.78		
105 ACT	16.1				280.4		
106 ACT	95.8		23.52	32.08	211.98		
107 ACT	72.15		43.1	40.95	4521.91		
108 ACT	56.97			59.54	2935.8		
109 ACT	55.96		10.83	18.08	1955.73		
110 ACT	85.96		130.30	46.16	1243.08		
111 ACT					688.58		
112 ACT	28.95			17.95	249.18		
113 ACT							ND
114 ACT	7.12			10.38	168.13		
115 ACT	59.94			24.46	183.08		
116 ACT	259.61		385.69		6154.02		
200 SAMPLES IN AREA OF PIPE FROM BUILDING EAST TO DRYWELL							
200	38.57						
200 ACT	68.18			17.41	267.44		
201				26.48	2504.11	28.7	
202					10.41		ND
203			41.18				
204							ND
205					35.05		
206							
207					125.46		

ROTRON OLIVE SITE

TABLE 2

GAS CHROMATOGRAPHY FIELD SCREENING RESULTS

SAMPLE ID	FREON-113	1,1-DCA	CIS-1,2-DCE	1,1,1-TCA	TCE	PCE	ND
208							ND
209			118.09	19.72	960.37	106.66	
210					86.42		
211					52.08		
213					58.31	22.75	
214					37.03		
215							ND
216					30.24		
217			12.96		96.58		
218					62.23		
219					18.33		
220							ND
221							ND
300 SAMPLES IN AREA OF EASTERNMOST SITE DRYWELL							
300							ND
301		10.16					
302							ND
303							ND
304							ND
305							ND
306							ND
307							ND
308							ND
309							ND
310							ND
311							ND
312							ND
313							ND
314							ND
315							ND
315 ACT							ND
316							ND
316 ACT							ND
317							ND
318							ND
319							ND
320							ND
321							ND
322							ND
323							ND
324							ND
325							ND
326							ND

ROTRON OLIVE SITE
TABLE 2
GAS CHROMATOGRAPHY FIELD SCREENING RESULTS

SAMPLE ID	FREON-113	1,1-DCA	CIS-1,2-DCE	1,1,1-TCA	TCE	PCE	ND
327							ND
400 SAMPLES IN AREA SOUTH AND WEST OF SITE BUILDING							
400 ACT	243.69	11.43	646.17	110.01	3610.70		
401 ACT	18.15	13.28	18.51	19.70	466.65		
402 ACT							ND
403 ACT							ND
404 ACT							ND
405 ACT							ND
406 ACT							ND
407 ACT	62.93		14.74	34.98	1359.71		ND
408 ACT							ND
409 ACT							
409 PASSIVE @ LATER DATE					345.97		
410 ACT					10.87		
411					20.26		
412							ND
413							ND
414				12.5	90.10		
415					76.89		
416					227.64		
417					429.52		
418					530.27		
418 DUPLICATE					613.78		
419 (IN POND @ INLET CULVT)					405.65		
420 (IN POND EAST OF INLET)					22.26		
421 (IN POND WEST OF INLET)					25.45		ND
422 (IN POND WEST END)							ND
423							ND
424							ND
425							ND
426							ND
427							ND
428							ND
429							ND
430							ND
DRYWELL							
900 (DW SAND)			109.26		565.80		
DRYWELL SLUDG	13.31	911.83		75.13			
DRYWELL SED #2	21.05	669.43	23.72	99.41	24.35		
DRYWELL WATER	11.71	544.12	29.40	109.15	23.13	22.40	
ORANGEBURG PIPE LINE SAMPLES (200 SERIES PASSIVE SAMPLER AREA)							

ROTRON OLIVE SITE

TABLE 2

GAS CHROMATOGRAPHY FIELD SCREENING RESULTS

SAMPLE ID	FREON-113	1,1-DCA	CIS-1,2-DCE	1,1,1-TCA	TCE	PCE	ND
901 (211A)			800.95		2651.47		
902 (210A)			2074.27		8244.93		
903 (211B)			1855.83	18.56	386.92		
904 (211C)			20.95		410.29		
905 (211D) 4-5FT			16.75		587.67		
906 (OL-SG-208-004-XL) TILL			36.78		53.40		
907 (209+20 FT EAST) TILL			922.59		5598.68		
908 (SG-208 TILL DUPLICATE)			32.58		46.12		
909 (OL-SG-207-004-XL) TILL			146.14		251.97		
910 (OL-SG-209-008-XF) TILL			1760.63		2755.97		
911 (OL-SG-210-005-XF) TILL			184.62		123.59		
SOIL SAMPLES FROM DRYWELL AREA SOUTH OF GREEN STRIPPER BUILDING							
OL-TP-R40-005-XF		11.91	15.41	9.15	541.79		
OL-TP-R40-PIPE-XF	4.18			11.91	392.28		
OL-TP-R40-007-XF	155.84	93.64	79.75	10828.29	9531.99		
OL-TP-R40-007-XF		29.92	679.51		521.99		
OL-TP-R40-008-XF					354.76		
OL-TP-R40-006-XF		35.76	22.15	17.48	1244.49		
OL-TP-R40-010-XF				52.66	44.77		
OL-TP-R40-012-XF				10.67	88.47		
OL-TP-R40-006-XF							ND
OL-TP-R40-006-XF#2							ND
OL-TP-R40-012-XF	4592.23	14.13	118.27	42.74	99.48		
OL-TP-R40-012-XF	862.48			50.25	10.59		
OL-TP-R40-6-12-XF	8.19			22.10	194.10		
OL-TP-R40-013-XF	437.72	18.20		30.73	126.86		
OL-TP-R40-012-XF	173.97		54.06	12.75	780.94		
OL-TP-R40-015-XF	839.85	14.96	19.53	149.71	1229.22		
OL-TP-R40-015-XF(dup lab samp)	28.84				386.15		
OL-TP-R40-012-XF	6291.69	28.14		137.39			
OL-TP-R40-015-XF	1032.79	8.14	36.34	71.90	84.01		
OL-TP-R40-012E-XF(lab split)	998.83			85.36	112.65		
OL-TP-R40-012W-XF	35201.90	119.88	30.99	725.32	2008.96		
OL-TP-R40-009-XF	7376.04	144.49	3177.89	836.98	3794.95		
OL-TP-R40-009-XF (second sample)	7.95	13.05	48.40	40.29	5124.99		
OL-TP-R40-008-XF	8.41	52.61	126.38	20.93	1159.42		
OL-TP-R40-012-XF	688.06	9.97	11.97	42.31	419.27		
OL-TP-R40-012-XF					89.52		
OL-TP-R40-009-XF (lab split u/pipe)	347.84	51.68	833.45	103.86	3800.12		
OL-TP-R40-008-XF	81.20	1695.75	4675.26	2368.86	22774.51		
OL-TP-R40-008-XF	46.89	265.31	70.64	258.02	24.25		

ROTRON OLIVE SITE
TABLE 2
GAS CHROMATOGRAPHY FIELD SCREENING RESULTS

SAMPLE ID	FREON-113	1,1-DCA	CIS-1,2-DCE	1,1,1-TCA	TCE	PCE	ND
OL-TP-R40-008-XF (x10 dilution)	272.3			6133.1	1285.7		
OL-TP-R40-008-XF	3.98	13.58		50.20	86.6		
OL-TP-R40-011-XF	245.40	90.04	214.19	23.34	1627.70		
OL-TP-R40-009-XF	10.01	48.40	135.33	37.31	11085.42		

ROTRON OLIVE SITE

TABLE 2

GAS CHROMATOGRAPHY FIELD SCREENING RESULTS

SAMPLE ID	FREON-113	1,1-DCA	CIS-1,2-DCE	1,1,1-TCA	TCE	PCE	ND
OL-TP-R40-011a-XF	158387.45	28.98	1146.77	147.61	1391.17		
OL-TP-R40-011a-XF (dup)	159275.80		1117.81	147.02	1254.57		
OL-TP-R40-011a-XF (dilution)	293681.20	113.50	1132.70	326.70	1490.30		
OL-TP-R40-004-XF			12.22		131.26		
OL-TP-R40-004-XF			12.22		131.26		
OL-TP-R40-008-XF	14884.14	56.12	577.89	715.19	1239.94		
OL-TP-R40-004-XF	21.84	99.00	404.41	21.51	1651.94		
OL-TP-R41-009-XF (lab split)	339.88		1692.66		6202.78		
OL-TP-R41-009-XF	21456.60		8216.98		40960.43		
OL-TP-R41-009-XF (x10 dilution)	21576.7		3756.3	66.7	42652.7		
FROM TEST PIT ALONG EAST SIDE OF MAIN BUILDING (Samples collected in 8/96)							
SC-05-01 10X dilution		2014.2	1294.0	3214.2	26099.6		
SC-07-01 10X dilution	1226.3	8207.4		44328.2	311.3		
SC-08-04 10X dilution	15783.1	2315.4	3289.0	1928.0	19185.0		
SC-08-05	906.80	108.07	3314.97	88.47	8191.83		
SC-10-06 10X dilution	76863.2			1026.3	10472.6		
SC-12-03	358.56	235.24	133.84	674.53	777.04		
SC-12-07	1635.66			149.84	192.50		
SC-07-09			297.30		16.91		
SC-07-28	136.89	107.93	165.14		77.49		
SC-08-08 10X dilution	11467.0	198.1	6098.2	204.2	7886.2		
SC-08-12	13952.05		856.48		6098.99		
SC-08-13 10X dilution	344.3		1590.0		15639.4		
SC-09-15	246.81	34.61	1468.33	13.58	27185		
SC-09-20	169.81	14.62	596.11	10.64	198.41		
SC-09-21	616.63	61.64	4928.27	187.77	4890.54		
SC-10-10	916.47	181.13	831.96	55.20	4519.06		
SC-10-18	37.49		575.49		10963.62		
SC-10-27	4844.58		56.67		152.03		
SC-11-17	164.25		15284.50		4481.61		
SC-12-16			381.44		2638.23		
SC-13-22	288.69	18.50	1015.70	39.15	1284.04		
SC- 08-30			38.26	13.61	252.10		
SC-10-4	498.97	24.99	2323.73	44.48	33293.08		
SC-11-31	819.03		65.60	20.69	466.35		
SC-05-29	348.51	50.85	790.60	330.58	10493.04		
SC-06-32	521.65	150.66	4196.17	169.64	9697.35		
SC-08-11	19.16		2142.55	11.85	6855.28		
SC-09-25	27.87		601.99		630.42		
SC-10-09			38.26	13.61	252.10		
SC-09-24	99.22	59.17	3306.76		1903.76		

ROTRON OLIVE SITE

TABLE 2

GAS CHROMATOGRAPHY FIELD SCREENING RESULTS

SAMPLE ID	FREON-113	1,1-DCA	CIS-1,2-DCE	1,1,1-TCA	TCE	PCE	ND
SC-11-23	388.12		17.83	7.88	75.52		
SC-09-26			195.2		232.7		
SC-10-14	32.54		195.45		2872.33		
SAMPLES FROM SOUTH END OF NE PARKING LOT							
OL-RE-OB1-06-AF			663.95		2765.97		
OL-RE-OB1-08-AF			18.10		57.63		
OL-RE-OB1-10-AF			17.36		362.78		
OL-RE-OB1-06-CF			1866.09		7291.10		
OL-RE-OB1-11-DF					254.98		
OL-RE-OB2-06-AF					1761.60		
OL-RE-OB1-12-BF			34.42		881.79		
OL-RE-OB1-05-EF			1438.91		644.04		
OL-RE-OB1-08-FF			1161.98		5542.21		
OL-RE-OB1-07-EF			634.84		1886.69		
OL-RE-OB1-12-GF					177.62		
OL-RE-OB1-N10-EF				19.08	62.94		
OL-RE-OB1-N06-FF			761.61	22.66	1227.04		
OL-RE-OB1-N06-EF			857.98	27.56	1296.13		
OL-RE-OB1-N10-FF			93.48		1265.67		
OL-RE-OB2-08-AF					572.34		
OL-RE-OB1-N06-HF			171.98	31.52	388.91		
OL-RE-OB2-10-AF					123.36		
OL-RE-OB1-N10-GF					123.40		
OL-RE-OB1-N10-HF				29.87	14.78		
OL-RE-OB1-N06-GF			10.62	21.71	179.56		
OL-RE-OB1-NE6-JF			655.71	15.60	426.16		
OL-RE-OB1-NE6-JF			107.64	13.41	281.93		
OL-RE-OB1-N10-KF					78.77		
OL-RE-OB1-N06-KF			14.296		27.159		
OL-RE-OB1-N06-LF			13.68		16.15		
OL-RE-OB1-N10-LF				14.23	752.04		
OL-RE-OB1-N08-DF					895.36		
OL-RE-OB1-T05-AF			182.55		61.93		
OL-RE-OB1-T05-BF			180.94	9.41	129.05		
OL-RE-OB1-T05-DF			65.55		163.72		
OL-RE-OB1-T05-EF			87.02		302.78		
OL-RE-OB1-ECO-XF			831.48		1179.38		
OL-RE-OB1-T06-IF					516.08		
OL-RE-OB1-T04-FF south			1675.49		291.97		
OL-RE-OB1-T06-HF					105.00		
OL-RE-OB1-T06-GF			535.07		489.90		
OL-RE-OB1-T05-CF	23.25		1176.11		1818.85		

ROTRON OLIVE SITE

TABLE 2

GAS CHROMATOGRAPHY FIELD SCREENING RESULTS

SAMPLE ID	FREON-113	1,1-DCA	CIS-1,2-DCE	1,1,1-TCA	TCE	PCE	ND
OL-RE-OB1-WCO-XF	9.94		1363.39	14.36	4258.98		
OL-RE-OB1-SCO-XF	28.08		439.45		3045.23		
OL-RE-OB1-T04-FF north			162.55		42.09		
OL-RE-OB1-EGR-XL			768.67		2037.99		
OL-RE-OB1-NCO-XF					2209.08		
OL-RE-OB1-TOB-KL					236.79		
OL-RE-OB1-TOS-KL							ND
OL-RE-OB1-TOS-JL					46.07		
OL-RE-OB1-TOB-ML			110.45		234.39		
OL-RE-OB1-TOS-LL					179.07		
OL-RE-OB1-TOB-JL					87.99		
OL-RE-OB1-TOB-LL					596.12		
OL-RE-OB1-8CO-XL	93.93		28.94		905.80		
OL-RE-OB1-TOS-ML					357.38		
OL-RE-OB1-WGR-XL			1575.47		4776.40		
OL-RE-OB2-12-AF							ND
OL-RE-OB1-08-FF (trial #2)			950.21		5029.22		
OL-RE-OB1E-08-CF			220.82		1076.59		
OL-RE-OB1S-06-EF			153.93		831.89		
OL-RE-OB1E-08B-CF							
OL-RE-OB1W-08-AF			47.72	9.21	259.45		
OL-RE-OB1W-07-BF			104.21		629.74		
OL-RE-OB1W-08-CF					213.28		
OL-RE-OB1W-08-CF #2 (repeat)					241.69		
OL-RE-OB1-N08-AF					233.96		
OL-RE-OB1-N08-BF							
OL-RE-OB1-N08-CF					395.28		
OL-RE-OB1-T05-FF					755.94		
			111.51		1050.37		
							ND
ALONG DRAIN LINE THAT FLOWS INTO OB1							
OL-SG-209-008-XL TILL	5.56		181.43		1068.2		
OL-SG-209-012-XL TILL					257.97		
OL-SG-209-017-XL TILL					21.58		
OL-SG-209-006-XL TILL			757.90		1125.08		
OL-SG-209-BW6-XF			331.56		1185.70		
OL-SG-209-BW6-A-XF-5ft			740.17		1090.45		
OL-SG-209-BO6-XF-15ft			14.75		221.64		
OL-SG-209-BO6-A-XF-15ft			223.07		745.74		
OL-SG-209-BW6-B-XF-5ft			724.02		1736.54		
OL-SG-209-006-E-XF-10ft			378.85		1622.09		
OL-SG-209-006-XL 9FT SO			253.94		1259.93		
OL-SG-209-006-XL 12FT SO	5.72		6798.43		13992.20		
OL-SG-205-005-XF		486.93		60.61			
OL-SG-204-008-XF	6.58	71.00	21.99	220.21			

ROTRON OLIVE SITE
TABLE 2
GAS CHROMATOGRAPHY FIELD SCREENING RESULTS

SAMPLE ID	FREON-113	1,1-DCA	CIS-1,2-DCE	1,1,1-TCA	TCE	PCE	ND
OL-SG-204-012-XF	10.66	110.91		643.21			
OL-SG-204-015-XF				65.67			
OL-SG-202-003-XF		129.20		810.01			
OL-SG-202-003-XF REPLICATE				442.13			
OL-SG-203-012-XF		58.96		587.45			
SOUTHERNMOST TEST PIT ALONG EAST SIDE OF MAIN BUILDING ON THE WESTERN EDGE OF THE NE PARKING LOT							
OL-RE-SOT-006-AF 10 X dilution	6697.93	421.02	10165.26	2691.18	111341.84		
OL-RE-SOT-006-AF 100X dilution	22157	1182	9916	5374	440850		
OL-RE-SOT-006-BF 100X dilution	11916		30395	2683	265019		
OL-RE-SOT-012-CF 100X dilution	107343	8280	356075	21870	1511751		
OL-RE-SOT-W08-DF 100X dilution	1571		306984	3888	172890		
OL-RE-SOT-S08-EF 100X dilution	20477	3962	999570	8060	7653		
OL-RE-SOT-M15-GF 100X dilution	882		9927	10415	709339		
OL-RE-SOT-E08-FF 100X dilution	11746	2680	42250	11396	683825		
OL-RE-SOT-M20-HF 100X dilution			1705		4596		
OL-RE-SOT-S17-JF 100X dilution					736		
OL-RE-SOT-S15-JF 10X dilution			120.2	76.0	109.9		
OL-RE-SOT-S10-JF 10X dilution	6544.8				316.2		
OL-RE-SOT-S04-IF no dilution		16.21			182.64		
OL-RE-SOT-S06-IF no dilution			37.50	9.38	829.13		
OL-RE-SOT-W09-AF			62.10		106.80		
OL-RE-SOT-W12-BF			20.35		62.87		
OL-RE-SOT-W10-CF	17496.64	1245.71	111198.37	14438.43	173858.54		
OL-RE-SOT-E08-DF	5160.45	611.91	45838.81	3569.70	103472.70		
OL-RE-SOT-S06-FF	18047.08	1651.65	142474.01	11774.10	203470.40		
OL-RE-SOT-E14-HF	3941.24	276.45	38895.36	1669.30	60923.89		
OL-RE-SOT-E10-IF	494.73	89.44	1776.09	349.79	4787.91		
OL-RE-SOT-W11-EF	29260.30	2318.66	251417.50	23945.34	133858.01		
OL-RE-SOT-E15-JF	838.42			366.53	1045.26		
OL-RE-SOT-E11-GF	2669.95	133.88	11318.95	529.16	58282.38		
OL-RE-SOT-E11-GF 10X dilution	2582.80		8161.50	624.70	83307.00		
OL-RE-SOT-W10-KF	330.35	264.02	13634.82	229.36	12400.34		
OL-RE-SOT-N11-MF	2212.72	97.97	7797.17	960.91	44960.05		
OL-RE-SOT-M16-OF					6801.5		
OL-RE-SOT-W15-NF			506.9		1492.7		
OL-RE-SOT-N10-TF			186.0		638.0		
OL-RE-SOT-E11-YF	34.90	10.03	393.00		291.93		
OL-RE-SOT-E11-PF	447.80		9081.30		26070.70		
OL-RE-SOT-N11-RF	447.6		1534.8		449.0		
OL-RE-SOT-E14-SF			465.21		686.22		
OL-RE-SOT-M16-QF	1902.5			661.0	34163.3		
OL-RE-SOT-M15-UF				116.0	3115.4		
OL-RE-SOT-N16-XF	37.33		386.76	24.23	793.13		

ROTRON OLIVE SITE
TABLE 2
GAS CHROMATOGRAPHY FIELD SCREENING RESULTS

SAMPLE ID	FREON-113	1,1-DCA	CIS-1,2-DCE	1,1,1-TCA	TCE	PCE	ND
OL-RE-SOT-W11-VF				72.3	107.7		
OL-RE-SOT-N14-WF	22.62		249.17	14.82	567.50		
OL-RE-SOT-M15-ZF					727.26		
OL-RE-SOT-B17-CF	153.86				1308.72		
OL-RE-SOT-W16-LF	86.36		368.47	31.79	6897.62		
DRUM STORAGE AREA							
DS-04-01	1144.51		253.28	87.30	389.35		
DS-04-02	482.81			44.01	54.32		
DS-08-04	49.48			76.34	132.91		
DS-04-05	30.85	193.15	377.12	124.05	1352.66		
DS-04-06							
DS-08-07 10X dilution	4168.0	3367.3	1853.6	5487.0	291642.7		
DS-08-08	90.25	108.48	57.81	222.77	5393.34		
DS-04-09 100X dilution	115789	7175	115694	314580	999606		
DS-08-10 10X dilution	1110.9	385.2	27722.6	1591.6	496967.5		
DS-04-11 10X dilution	66.8	936.9		152.6	12474.7		
DS-08-12 10X dilution			3623.0		712561.0		
DS-01-13 10X dilution			994.2		2860.1		
DRAIN LINE AREA, NORTH-NW PARKING LOT							
DL-06-01					282.11		
DL-04-02	967.79		11552.63		10673.83		
DL-05-03	25.17		9334.30	53.80	4008.13		
DL-05-04	27.47	61.67	3130.66	552.85	6117.44		
DL-04-05		37.87		54.44	723.75		
DL-05-07	142.33		309.86		108.33		
DL-10-08			472.26	16.22	204.23		
DL-02-09		10.62	2474.40	18.92	11787.44		
DL-02-10	48.07		28188.27		37021.53		
DL-04-11					84.74		
DL-03-12	14.53		117.75		2014.20		
DL-04-13	61.22		1818.64		8481.51		
DL-04-14	49.78		4711.29		13324.94		
DL-05-15	28.20		58.17	35.59	661.31		
INSIDE MAIN BUILDING							
OL-TP-100-002-XF	63.76	14.30	287.37	34.39	1091.36		
OL-TP-100-004-XF	98.79			296.63	30.57		
OL-TP-101-002-XF	4.84				334.13		
OL-TP-101-006-XF							
OL-TP-102-002-XF	2791.41	723.76	32406.14	1293.25	222505.94		
OL-TP-102-002-XF DILUTION 10X	698.60	263.40	17809.6	814.70	418317.3		

ROTRON OLIVE SITE

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SOIL SAMPLE RESULTS
 DRY WELL # 2
 TABLE 3

Client ID	OL-R40-12E-XL 7/2/96	OL-R40-015-XL 7/2/96	OL-R40-009-XL 7/2/96
Date Sampled	ug/kg		
Chloromethane	ND@10	U	ND@10
Bromomethane	ND@10	U	ND@10
Vinyl Chloride	ND@10	U	ND@10
Chloroethane	ND@10	U	ND@10
Methylene Chloride	5	J	4
Acetone	14	U	12
Carbon Disulfide	ND@5.0	U	.5
Vinyl Acetate	ND@10	U	ND@10
1,1-Dichloroethene	ND@5.0	U	ND@5.0
1,1-Dichloroethane	ND@5.0	U	1
1,2-Dichloroethene (total)	ND@5.0	U	14
Chloroform	ND@5.0	U	9
1,2-Dichloroethane	ND@5.0	U	ND@5.0
2-Butanone	ND@10	U	ND@10
1,1,1-Trichloroethane	ND@5.0	U	3
Carbon Tetrachloride	ND@5.0	U	ND@5.0
Bromodichloromethane	ND@5.0	U	1
1,2-Dichloropropane	ND@5.0	U	ND@5.0
cis-1,3-Dichloropropene	ND@5.0	U	ND@5.0
Trichloroethene	ND@5.0	U	44
Dibromochloromethane	ND@5.0	U	ND@5.0
1,1,2-Trichloroethane	ND@5.0	U	ND@5.0
Benzene	ND@5.0	U	ND@5.0
trans-1,3-Dichloropropene	ND@5.0	U	ND@5.0
Bromoform	ND@5.0	U	ND@5.0
4-Methyl-2-Pentanone	ND@10	U	ND@10
2-Hexanone	ND@10	U	ND@10
Tetrachloroethene	ND@5.0	U	ND@5.0
Toluene	ND@5.0	U	ND@5.0
1,1,2,2-Tetrachloroethane	ND@5.0	U	ND@5.0
Chlorobenzene	ND@5.0	U	ND@5.0
Ethylbenzene	ND@5.0	U	ND@5.0
Styrene	ND@5.0	U	ND@5.0
Xylene (total)	ND@5.0	U	ND@5.0
1,1,2-Trichlorotrifluoroethane	ND@5.0	U	ND@5.0

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SOIL SAMPLE RESULTS
SOLVENT TANK
TABLE 3

Client ID	OLRESOTS06FL 07/22/96	OLRESOTW11EL 07/29/96	OLRESOTB17CL 07/29/96	OLRESOTE15JL 07/30/96	OLRESOTN14WL 08/02/96
Date Sampled ug/kg					
Chloromethane	ND@10 U	ND@10 U	ND@10 U	ND@10 U	ND@10 U
Bromomethane	ND@10 U	ND@10 U	ND@10 U	ND@10 U	ND@10 U
Vinyl Chloride	ND@10 U	ND@10 U	ND@10 U	ND@10 U	ND@10 U
Chloroethane	ND@10 U	ND@10 U	ND@10 U	ND@10 U	ND@10 U
Methylene Chloride	ND@5.0 U	10 U	ND@5.0 U	14 U	6 U
Acetone	ND@10 U	16 U	ND@10 U	42 U	15 U
Carbon Disulfide	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U
Vinyl Acetate	ND@10 U	ND@10 U	ND@10 U	ND@10 U	ND@10 U
1,1-Dichloroethene	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U
1,1-Dichloroethane	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U
1,2-Dichloroethene (total)	140	41	7	ND@5.0 U	ND@5.0 U
Chloroform	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U
1,2-Dichloroethane	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U
2-Butanone	ND@10 U	ND@10 U	ND@10 U	ND@10 U	ND@10 U
1,1,1-Trichloroethane	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U
Carbon Tetrachloride	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U
Bromodichloromethane	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U
1,2-Dichloropropane	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U
cis-1,3-Dichloropropene	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U
Trichloroethene	440	18	12	2	.6
Dibromochloromethane	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U
1,1,2-Trichloroethane	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U
Benzene	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U
trans-1,3-Dichloropropene	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U
Bromoform	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U
4-Methyl-2-Pentanone	ND@10 U	ND@10 U	ND@10 U	ND@10 U	ND@10 U
2-Hexanone	ND@10 U	ND@10 U	ND@10 U	ND@10 U	ND@10 U
Tetrachloroethene	ND@5.0 J	ND@5.0 U	ND@5.0 J	ND@5.0 U	ND@5.0 U
Toluene	ND@5.0 U	ND@5.0 U	ND@5.0 U	2	ND@5.0 U
1,1,2,2-Tetrachloroethane	ND@5.0 J	ND@5.0 U	ND@5.0 J	ND@5.0 U	ND@5.0 U
Chlorobenzene	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U
Ethylbenzene	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U
Styrene	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U
Xylene (total)	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U
1,1,2-Trichlorotrifluoroethane	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U	ND@5.0 U

SOIL SAMPLE RESULTS
SOLVENT TANK
TABLE 3

Client ID	OLRESOTE11XL	OLRESOTW11VL	OLRESOTN16XL
Date Sampled	08/02/96	08/02/96	08/01/96
ug/kg			
Chloromethane	ND@10	U	ND@10
Bromomethane	ND@10	U	ND@10
Vinyl Chloride	ND@10	U	ND@10
Chloroethane	ND@10	U	ND@10
Methylene Chloride	6	U	ND@5.0
Acetone	28	U	28
Carbon Disulfide	ND@5.0	U	ND@5.0
Vinyl Acetate	ND@10	U	ND@10
1,1-Dichloroethene	ND@5.0	U	ND@5.0
1,1-Dichloroethane	ND@5.0	U	ND@5.0
1,2-Dichloroethene (total)	U	U	U
Chloroform	ND@5.0	U	ND@5.0
1,2-Dichloroethane	ND@5.0	U	ND@5.0
2-Butanone	ND@10	U	ND@10
1,1,1-Trichloroethane	ND@5.0	U	ND@5.0
Carbon Tetrachloride	ND@5.0	U	ND@5.0
Bromodichloromethane	ND@5.0	U	ND@5.0
1,2-Dichloropropane	ND@5.0	U	ND@5.0
cis-1,3-Dichloropropene	ND@5.0	U	ND@5.0
Trichloroethene	ND@5.0	U	ND@5.0
Dibromochloromethane	ND@5.0	U	ND@5.0
1,1,2-Trichloroethane	ND@5.0	U	ND@5.0
Benzene	ND@5.0	U	ND@5.0
trans-1,3-Dichloropropene	ND@5.0	U	ND@5.0
Bromoform	ND@5.0	U	ND@5.0
4-Methyl-2-Pentanone	ND@10	U	ND@10
2-Hexanone	ND@10	U	ND@10
Tetrachloroethene	ND@5.0	U	ND@5.0
Toluene	ND@5.0	U	ND@5.0
1,1,2,2-Tetrachloroethane	ND@5.0	U	ND@5.0
Chlorobenzene	ND@5.0	U	ND@5.0
Ethylbenzene	ND@5.0	U	ND@5.0
Styrene	ND@5.0	U	ND@5.0
Xylene (total)	ND@5.0	U	ND@5.0
1,1,2-Trichlorotrifluoroethane	ND@5.0	U	ND@5.0

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SOIL SAMPLE RESULTS
ORANGEBURG PIPE
TABLE 3

Client ID Date Sampled	ug/kg	OLREOB1SCOXL 07/23/96	OLREOB1NCOXL 07/23/96	OLREOB1WCOXL 07/23/96	OLREOB1WGRXL 07/23/96	OLREOB1ECOXL 07/23/96
Chloromethane	ND@10	U	ND@10	U	ND@10	U
Bromomethane	ND@10	U	ND@10	U	ND@10	U
Vinyl Chloride	ND@10	U	ND@10	U	ND@10	U
Chloroethane	ND@10	U	ND@10	U	ND@10	U
Methylene Chloride	6	U	5	5	5	U
Acetone	27	U	44	42	11	18
Carbon Disulfide	ND@5	U	ND@5	U	ND@5	U
Vinyl Acetate	ND@10	U	ND@10	U	ND@10	U
1,1-Dichloroethene	ND@5	U	ND@5	U	ND@5	U
1,1-Dichloroethane	ND@5	U	ND@5	U	ND@5	U
1,2-Dichloroethene (total)	ND@5	U	ND@5	U	ND@5	U
Chloroform	ND@5	U	ND@5	U	ND@5	U
1,2-Dichloroethane	ND@5	U	ND@5	U	ND@5	U
2-Butanone	ND@10	U	ND@10	U	ND@10	U
1,1,1-Trichloroethane	ND@5	U	ND@5	U	ND@5	U
Carbon Tetrachloride	ND@5	U	ND@5	U	ND@5	U
Bromodichloromethane	ND@5	U	ND@5	U	ND@5	U
1,2-Dichloropropane	ND@5	U	ND@5	U	ND@5	U
cis-1,3-Dichloropropene	ND@5	U	ND@5	U	ND@5	U
Trichloroethene	ND@5	U	.6	2	ND@5	U
Dibromochloromethane	ND@5	U	ND@5	U	ND@5	U
1,1,2-Trichloroethane	ND@5	U	ND@5	U	ND@5	U
Benzene	ND@5	U	ND@5	U	ND@5	U
trans-1,3-Dichloropropene	ND@5	U	ND@5	U	ND@5	U
Bromoform	ND@5	U	ND@5	U	ND@5	U
4-Methyl-2-Pentanone	ND@10	U	ND@10	U	ND@10	U
2-Hexanone	ND@10	U	ND@10	U	ND@10	U
Tetrachloroethene	ND@5	U	ND@5	U	ND@5	U
Toluene	ND@5	U	ND@5	U	ND@5	U
1,1,2,2-Tetrachloroethane	ND@5	U	ND@5	U	ND@5	U
Chlorobenzene	ND@5	U	ND@5	U	ND@5	U
Ethylbenzene	ND@5	U	ND@5	U	ND@5	U
Styrene	ND@5	U	ND@5	U	ND@5	U
Xylene (total)	ND@5	U	ND@5	U	ND@5	U
1,1,2-Trichlorotrifluoroethane	ND@5	U	ND@5	U	ND@5	U

SOIL SAMPLE RESULTS
ORANGEBURG PIPE
TABLE 3

Client ID	OLREOB1EGRXL 07/23/96	OLREOB1BCOXL 07/23/96	OLREOB1TOBJL 07/24/96	OLREOB1TOSJL 07/24/96	OLREOB1TOBKL 07/24/96
Date Sampled	ug/kg				
Chloromethane	ND@10	U	ND@10	U	ND@10
Bromomethane	ND@10	U	ND@10	U	ND@10
Vinyl Chloride	ND@10	U	ND@10	U	ND@10
Chloroethane	ND@10	U	ND@10	U	ND@10
Methylene Chloride	ND@5	U	5	U	5
Acetone	11	U	10	U	12
Carbon Disulfide	ND@5	U	ND@5	U	ND@5
Vinyl Acetate	ND@10	U	ND@10	U	ND@10
1,1-Dichloroethene	ND@5	U	ND@5	U	ND@5
1,1-Dichloroethane	ND@5	U	ND@5	U	ND@5
1,2-Dichloroethene (total)	ND@5	U	ND@5	U	ND@5
Chloroform	ND@5	U	ND@5	U	ND@5
1,2-Dichloroethane	ND@5	U	ND@5	U	ND@5
2-Butanone	ND@10	U	ND@10	U	ND@10
1,1,1-Trichloroethane	ND@5	U	ND@5	U	ND@5
Carbon Tetrachloride	ND@5	U	ND@5	U	ND@5
Bromodichloromethane	ND@5	U	ND@5	U	ND@5
1,2-Dichloropropane	ND@5	U	ND@5	U	ND@5
cis-1,3-Dichloropropene	ND@5	U	ND@5	U	ND@5
Trichloroethene	1	U	ND@5	U	ND@5
Dibromochloromethane	ND@5	U	ND@5	U	ND@5
1,1,2-Trichloroethane	ND@5	U	ND@5	U	ND@5
Benzene	ND@5	U	ND@5	U	ND@5
trans-1,3-Dichloropropene	ND@5	U	ND@5	U	ND@5
Bromoform	ND@5	U	ND@5	U	ND@5
4-Methyl-2-Pentanone	ND@10	U	ND@10	U	ND@10
2-Hexanone	ND@10	U	ND@10	U	ND@10
Tetrachloroethene	ND@5	U	ND@5	U	ND@5
Toluene	ND@5	U	ND@5	U	ND@5
1,1,2,2-Tetrachloroethane	ND@5	U	ND@5	U	ND@5
Chlorobenzene	ND@5	U	ND@5	U	ND@5
Ethylbenzene	ND@5	U	ND@5	U	ND@5
Styrene	ND@5	U	ND@5	U	ND@5
Xylene (total)	ND@5	U	ND@5	U	ND@5
1,1,2-Trichlorotrifluoroethane	ND@5	U	ND@5	U	ND@5

SOIL SAMPLE RESULTS
ORANGEBURG PIPE
TABLE 3

Client ID Date Sampled	ug/kg	OLREOB1TOSKL 07/24/96	OLREOB1TOBLL 07/24/96	OLREOB1TOSLL 07/24/96	OLREOB1TOBML 07/24/96	OLREOB1TOSML 07/24/96
Chloromethane	ND@10	U	ND@10	U	ND@10	U
Bromomethane	ND@10	U	ND@10	U	ND@10	U
Vinyl Chloride	ND@10	U	ND@10	U	ND@10	U
Chloroethane	ND@10	U	ND@10	U	ND@10	U
Methylene Chloride	5	U	6	U	6	U
Acetone	15	U	11	U	120	U
Carbon Disulfide	ND@5	U	ND@5	U	ND@5	U
Vinyl Acetate	ND@10	U	ND@10	U	ND@10	U
1,1-Dichloroethene	ND@5	U	ND@5	U	ND@5	U
1,1-Dichloroethane	ND@5	U	ND@5	U	ND@5	U
1,2-Dichloroethene (total)	ND@5	U	ND@5	U	ND@5	U
Chloroform	ND@5	U	ND@5	U	ND@5	U
1,2-Dichloroethane	ND@5	U	ND@5	U	ND@5	U
2-Butanone	ND@10	U	ND@10	U	ND@10	U
1,1,1-Trichloroethane	ND@5	U	ND@5	U	ND@5	U
Carbon Tetrachloride	ND@5	U	ND@5	U	ND@5	U
Bromodichloromethane	ND@5	U	ND@5	U	ND@5	U
1,2-Dichloropropane	ND@5	U	ND@5	U	ND@5	U
cis-1,3-Dichloropropene	ND@5	U	ND@5	U	ND@5	U
Trichloroethene	ND@5	U	ND@5	U	ND@5	U
Dibromochloromethane	ND@5	U	ND@5	U	ND@5	U
1,1,2-Trichloroethane	ND@5	U	ND@5	U	ND@5	U
Benzene	ND@5	U	ND@5	U	ND@5	U
trans-1,3-Dichloropropene	ND@5	U	ND@5	U	ND@5	U
Bromoform	ND@5	U	ND@5	U	ND@5	U
4-Methyl-2-Pentanone	ND@10	U	ND@10	U	ND@10	U
2-Hexanone	ND@10	U	ND@10	U	ND@10	U
Tetrachloroethene	ND@5	U	ND@5	U	ND@5	U
Toluene	ND@5	U	ND@5	U	ND@5	U
1,1,2,2-Tetrachloroethane	ND@5	U	ND@5	U	ND@5	U
Chlorobenzene	ND@5	U	ND@5	U	ND@5	U
Ethylbenzene	ND@5	U	ND@5	U	ND@5	U
Styrene	ND@5	U	1	J	ND@5	U
Xylene (total)	ND@5	U	ND@5	U	ND@5	U
1,1,2-Trichlorotrifluoroethane	ND@5	U	ND@5	U	ND@5	U

ROTRON OLIVE
SOIL SAMPLE RESULTS
SOIL PILE
TABLE 3

Client ID Date Sampled	OLSPG01N20XL 08/20/96	OLSPG02N60XL 08/20/96	OLSPG03N14XL 08/20/96	OLSPG04S40XL 08/20/96	OLSPC01N50XL 08/20/96	OLSPG05S80XL 08/20/96
Arsenic	7 B	6 B	4 B	6 B	5 B	6 B
Barium	270 B	97 B	139 B	149 B	223 B	131 B
Cadmium	3 B	1 B	1 B	3 B	3 B	2 B
Chromium	ND@1 U	ND@1 U	ND@1 U	ND@1 U	ND@1 U	ND@1 U
Lead	4 U	3 B	4 B	3 B	3 B	2 B
Mercury	ND@2 U	ND@2 U	ND@2 U	ND@2 U	ND@2 U	ND@2 U
Selenium	7 J	ND@4 U	ND@4 U	1 U	ND@4 U	ND@4 J
Silver	ND@1 U	ND@1 U	ND@1 U	ND@1 U	ND@1 U	ND@1 U

ug/kg

ROTRON OLIVE
SOIL SAMPLE RESULTS
SOIL PILE
TABLE 3

Client ID Date Sampled	OLSPG06S14XL 08/20/96	OLSPC02S14XL 08/20/96	OLSPG07E10XL 08/20/96	OLSPG08E30XL 08/20/96	OLSPG09E50XL 08/20/96	OLSPG10E70XL 08/20/96
Arsenic	6 U	5 B	4 B	8 B	3 B	8 B
Barium	136 U	152 B	140 B	197 B	327 B	162 B
Cadmium	2 U	2 B	2 B	2 B	2 B	1 B
Chromium	ND@1 U	ND@1 U	ND@1 U	ND@1 U	ND@1 U	ND@1 U
Lead	3 B	3 B	4 B	3 B	3 B	2 B
Mercury	5 B	ND@2 U	ND@2 U	ND@2 U	ND@2 U	ND@2 U
Selenium	6 U	6 U	ND@4 U	ND@4 U	6 U	10 U
Silver	ND@1 U	ND@1 U	ND@1 U	ND@1 U	ND@1 U	ND@1 U

ug/kg

ROTRON OLIVE
SOIL SAMPLE RESULTS
SOIL PILE
TABLE 3

Client ID Date Sampled	OLSPG11W20XL 08/20/96	OLSPG12W40XL 08/20/96	OLSPG13W60XL 08/20/96	OLSPC03E80XL 08/20/96	OLSPCO4W80XL 08/20/96
Arsenic	9 B	3 U	4 B	5 B	6 B
Barium	154 B	198 B	171 B	163 B	186 B
Cadmium	2 B	1 B	1 B	2 B	3 B
Chromium	ND@1 U	ND@1 U	ND@1 U	ND@1 U	ND@1 U
Lead	4 U	ND@2 U	3 U	3 B	4 U
Mercury	ND@2 U	ND@2 U	ND@2 U	ND@2 U	ND@2 U
Selenium	7 U	ND@4 J	ND@4 U	ND@4 U	ND@4 J
Silver	ND@1 U	ND@1 U	ND@1 U	ND@1 U	ND@1 U

ug/kg

Table 4
SVE System Influent and Effluent Sampling Results, Portable Gas
Chromatograph Analysis

January, 1997

Unit	Compound	Influent (ppb)	Effluent (ppb)
A	Freon-113	10.3	ND
	1,2-DCE	14.2	ND
	1,1,1-TCA	15.2	ND
	TCE	19.0	ND
B	Freon-113	10.5	ND
	1,2-DCE	9.3	ND
	1,1,1-TCA	6.7	ND
	TCE	198.6	ND
C	Freon-113	ND	ND
	1,2-DCE	9.7	ND
	1,1,1-TCA	ND	ND
	TCE	105.7	4.1
D*	Freon-113	ND	ND
	1,2-DCE	7.4	ND
	1,1,1-TCA	ND	ND
	TCE	159.7	ND

*1,1-DCA was detected at 3.8 ppb in the effluent sample but was ND in the influent sample

ROTRON OLIVE
AIR SAMPLES
TABLE 4

Client ID	Line 1 Pre	Line 1 Post	Line 2 Pre	Line 2 Post	Line 3 Pre	Line 3 Post	Line 4 Pre	Line 4 Post
Chloromethane	4 B	12 B	10 B	35 B	ND@9.7	ND@9.7	340 E	ND@9.7
Bromomethane	.9 JB	1 JB	1 JB	1 JB	8 B	1 JB	210 EB	.5 JB
Vinyl Chloride	ND@7.8	ND@7.8	ND@7.8	ND@7.8	ND@7.8	ND@7.8	ND@7.8	ND@7.8
Cholorethane	ND@7.6	ND@7.6	ND@7.6	ND@7.6	ND@7.6	ND@7.6	ND@7.6	ND@7.6
Methylene Chloride	.6 J	1	.4 J	4	ND@2.9	ND@2.9	ND@2.9	ND@2.9
Carbon Disulfide	ND@3.2	ND@3.2	ND@3.2	ND@3.2	ND@3.2	ND@3.2	ND@3.2	ND@3.2
1,1 - Dichloroethene	4	ND@2.5	4	ND@2.5	ND@2.5	ND@2.5	ND@2.5	ND@2.5
1,1 - Dichloroethane	4	ND@2.5	1	ND@2.5	.5 J	ND@2.5	ND@2.5	ND@2.5
1,2 - Dichloroethene (trans)	0.6	ND@2.5	4	ND@2.5	1	ND@2.5	ND@2.5	ND@2.5
1,2 - Dichloroethene (cis)	10	ND@2.5	150 E	ND@2.5	27	ND@2.5	ND@2.5	ND@2.5
Chloroform	ND@2.0	ND@2.0	ND@2.0	ND@2.0	.4 J	ND@2.0	ND@2.0	ND@2.0
1,2 - Dichloroethane	ND@2.5	ND@2.5	ND@2.5	ND@2.5	ND@2.5	ND@2.5	ND@2.5	ND@2.5
1,1,1 - Trichloroethane	14	ND@1.8	2	ND@1.8	1	ND@1.8	ND@1.8	ND@1.8
Carbon Tetrachloride	ND@1.6	ND@1.6	ND@1.6	ND@1.6	ND@1.6	ND@1.6	ND@1.6	ND@1.6
Bromodichloromethane	ND@1.5	ND@1.5	ND@1.5	ND@1.5	ND@1.5	ND@1.5	ND@1.5	ND@1.5
1,2 - Dichloropropane	ND@2.2	ND@2.2	ND@2.2	ND@2.2	ND@2.2	ND@2.2	ND@2.2	ND@2.2
cis - 1, 3 - Dichloropropene	ND@2.2	ND@2.2	ND@2.2	ND@2.2	ND@2.2	ND@2.2	ND@2.2	ND@2.2
Trichloroethene	36	0.6	230 E	0.6	200 E	0.5	460 E	ND@1.9
Dibromochloromethane	ND@1.2	ND@1.2	ND@1.2	ND@1.2	ND@1.2	ND@1.2	ND@1.2	ND@1.2
1,1, 2 - Trichloroethane	ND@1.8	ND@1.8	ND@1.8	ND@1.8	ND@1.8	ND@1.8	ND@1.8	ND@1.8
Benzene	ND@3.1	ND@3.1	0.8	ND@3.1	.6 J	ND@3.1	ND@3.1	ND@3.1
trans - 1, 3 - Dichloropropene	ND@2.2	ND@2.2	ND@2.2	ND@2.2	ND@2.2	ND@2.2	ND@2.2	.3 J
Bromoform	ND@0.98	ND@0.98	ND@0.98	ND@0.98	ND@0.98	ND@0.98	ND@0.98	ND@0.98
Tetrachloroethene	6	ND@1.5	1	ND@1.5	ND@1.5	ND@1.5	ND@1.5	ND@1.5
1, 1, 2, 2 - Tetrachloroethane	ND@1.4	ND@1.4	ND@1.4	ND@1.4	ND@1.4	ND@1.4	ND@1.4	ND@1.4
Toluene	.2 J	.2 J	.4 J	ND@2.6	0.9	5	2 J	ND@2.6
Chlorobenzene	ND@2.2	ND@2.2	ND@2.2	ND@2.2	ND@2.2	ND@2.2	ND@2.2	ND@2.2
Ethylbenzene	.1 J	.2 J	.2 J	.2 J	.3 J	.1 J	.5 J	.1 J
Styrene	ND@2.3	ND@2.3	ND@2.3	ND@2.3	.3 J	ND@2.3	.8 J	ND@2.3
m&p - xylene	ND@2.3	.3 J	0.7	ND@2.3	1	1	2 J	ND@2.3
o - xylene	ND@2.3	ND@2.3	.4 J	ND@2.3	0.6	1	ND@2.3	ND@2.3
Freon 113	41 E	0.6	48 E	0.7	6	ND@1.3	ND@1.3	ND@1.3

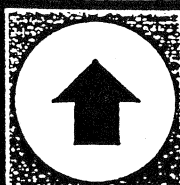
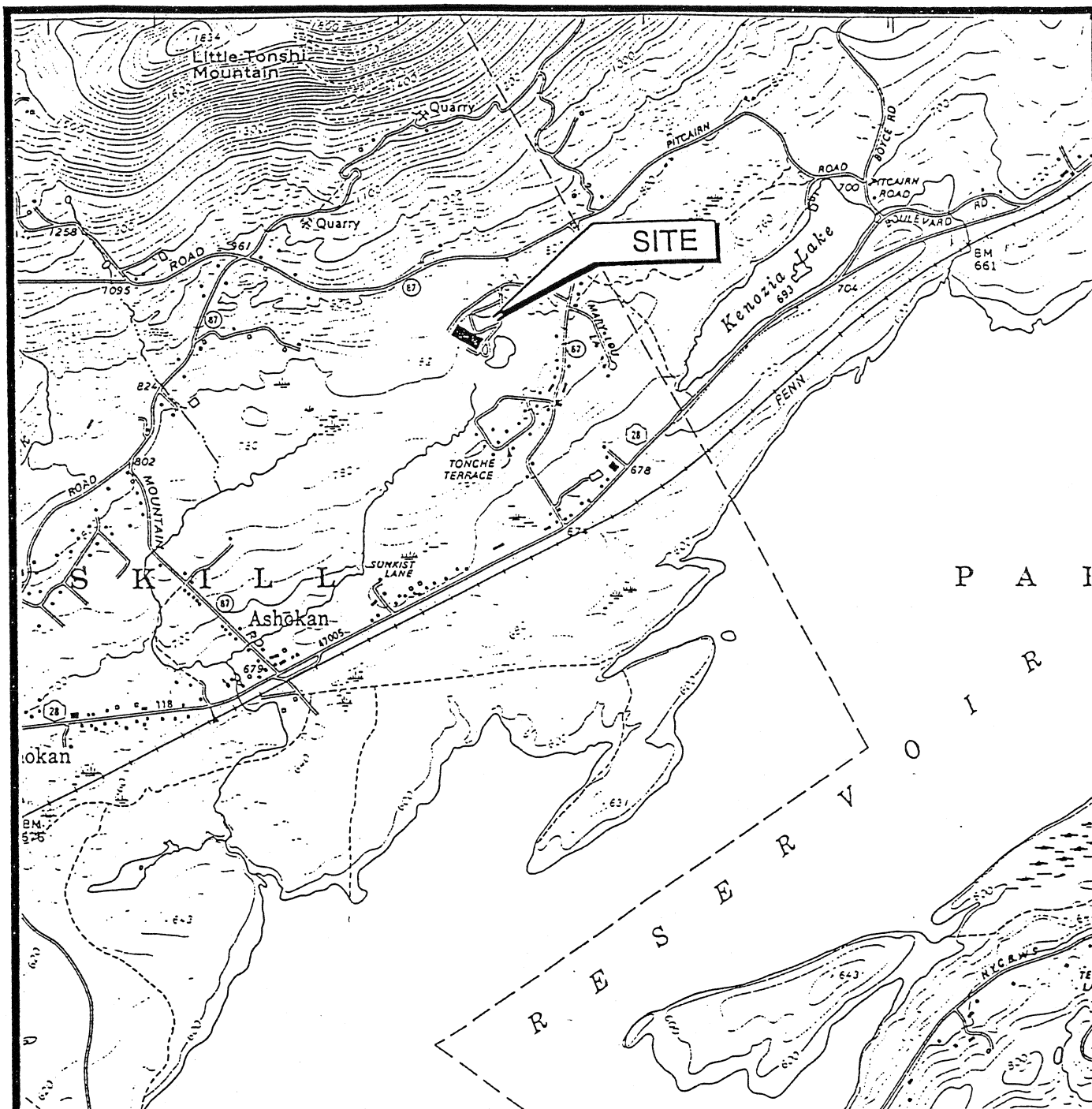
Method T01/T02 nL/L

FIGURES

FIGURES

FIGURES:

Figure 1	-----	Location Map
Figure 2	-----	Site Map
Figure 3	-----	Impacted Soil Zones
Figure 4	-----	Former Quarry Area Soil Sample Results
Figure 5	-----	Former Solvent Tank Area Soil Sample Results
Figure 6	-----	Dry Well No. 1 And Orangeburg Pipe Soil Sample Results
Figure 7	-----	Dry Well No. 2 And Storm Drain Soil Sample Results
Figure 8	-----	Loading Dock Soil Sample Results
Figure 9	-----	Former Quarry Diversion Channel
Figure 10	-----	Excavated Soil Sample Results, Solvent Tank, Loading Dock And Drum Storage Area
Figure 11	-----	Excavated Soil Sample Results, Dry Wells And Orangeburg Pipe
Figure 12	-----	Loading Dock Area Sump Pump System
Figure 13	-----	Schematic Detail (Typical), Sump Pump And French Drain Systems
Figure 14	-----	Solvent Tank Area Sump Pump System
Figure 15	-----	Layout Of The Sve Systems
Figure 16	-----	Schematic Detail Of The Sve Systems
Figure 17	-----	Solvent Tank Area Pilot Test Results
Figure 18	-----	Former Drum Storage Area Pilot Test Results
Figure 19	-----	Schematic Diagram Of The Air Stripping Tower Systems
Figure 20	-----	Schematic Diagram Of The Proposed Pw-1 Scavenger Well System

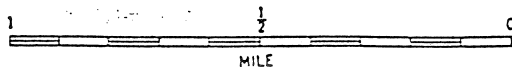


North

SOURCE

NYSDOT Quadrangle;

SCALE



MILE

NOTES:

Map base from:
U.S. Geological Survey
7.5 Minute Quadrangle

DATE:

June, 1995

Prepared By:

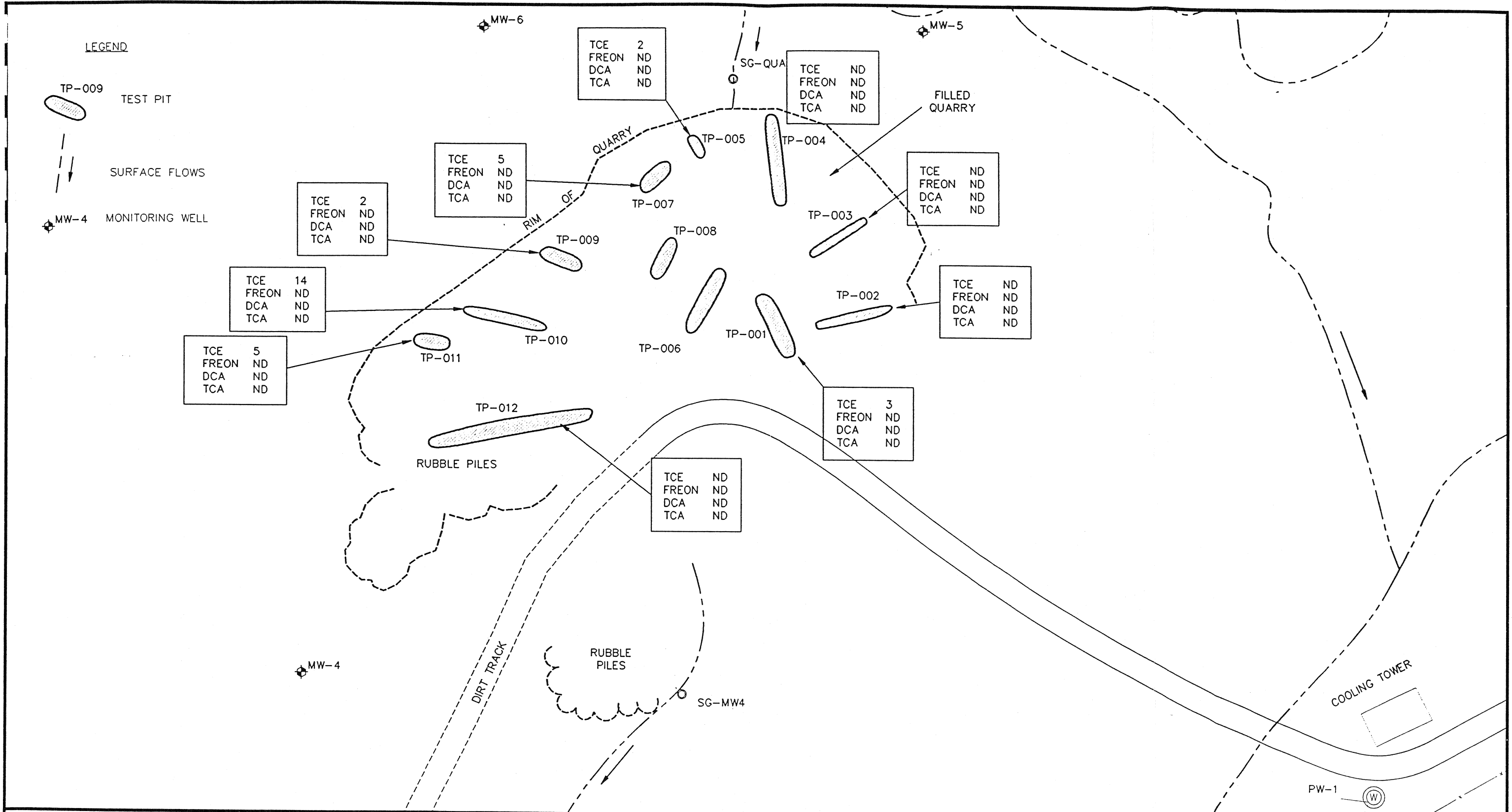
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Figure 1

Site Location Map

Rotron, Inc.
Remedial Investigation
Olive, New York



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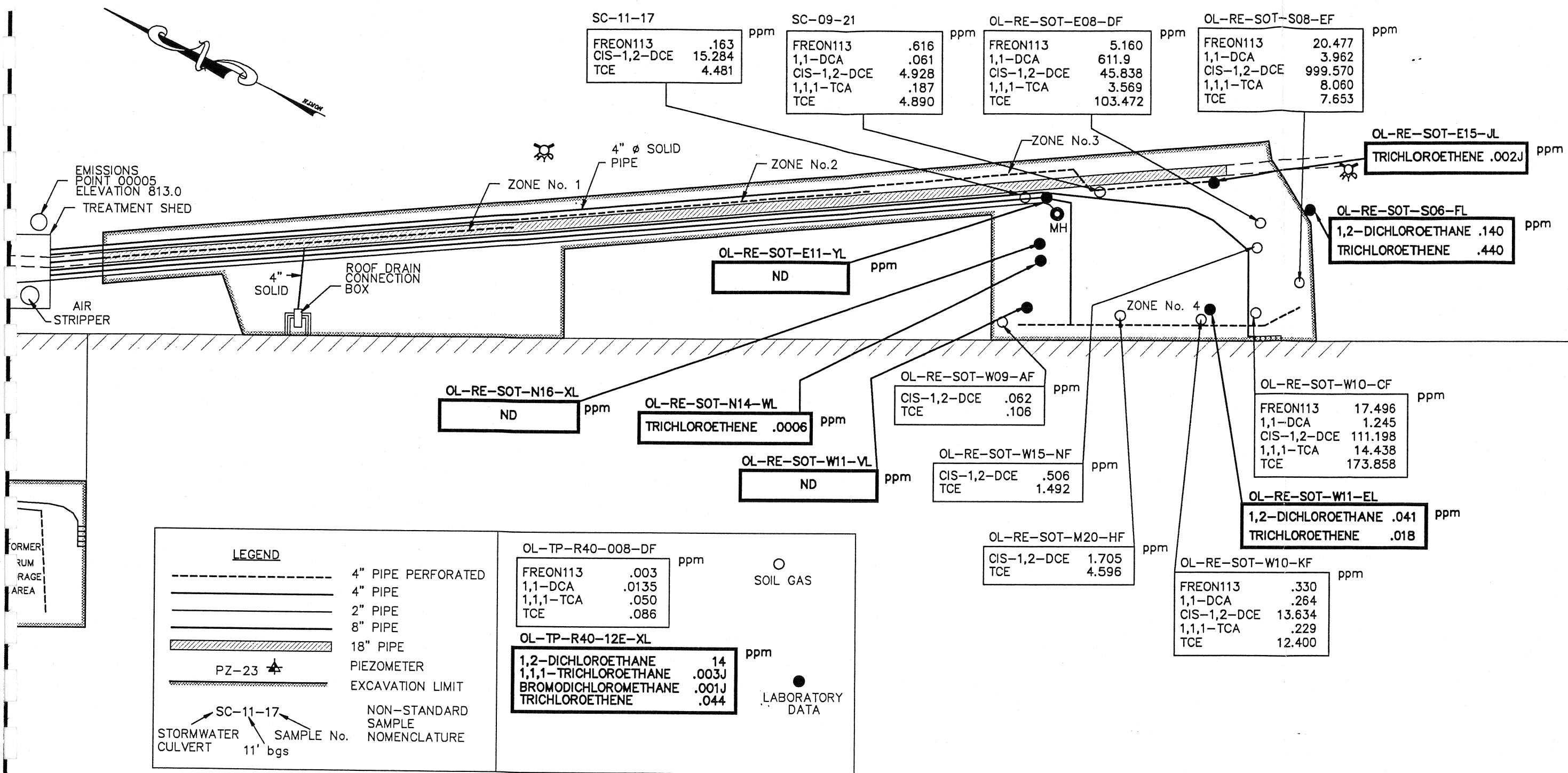
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ROTRON - OLIVE
INTERIM REMEDIAL MEASURES

**LABORATORY SOIL SAMPLE RESULTS,
FORMER QUARRY AREA**

T/O OLIVE, ULSTER COUNTY, NEW YORK

sheet no.		
FIGURE 4		
name:	J.D.M.	3/11/96
date:	J.D.M.	3/10/97
design:	J.D.M.	3/10/97
check:	M.L.M.	3/10/97
drawn:	scale	
scale:	1" = 50'	
project no.	49531.01	



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ROTRON - OLIVE
INTERIM REMEDIAL MEASURES

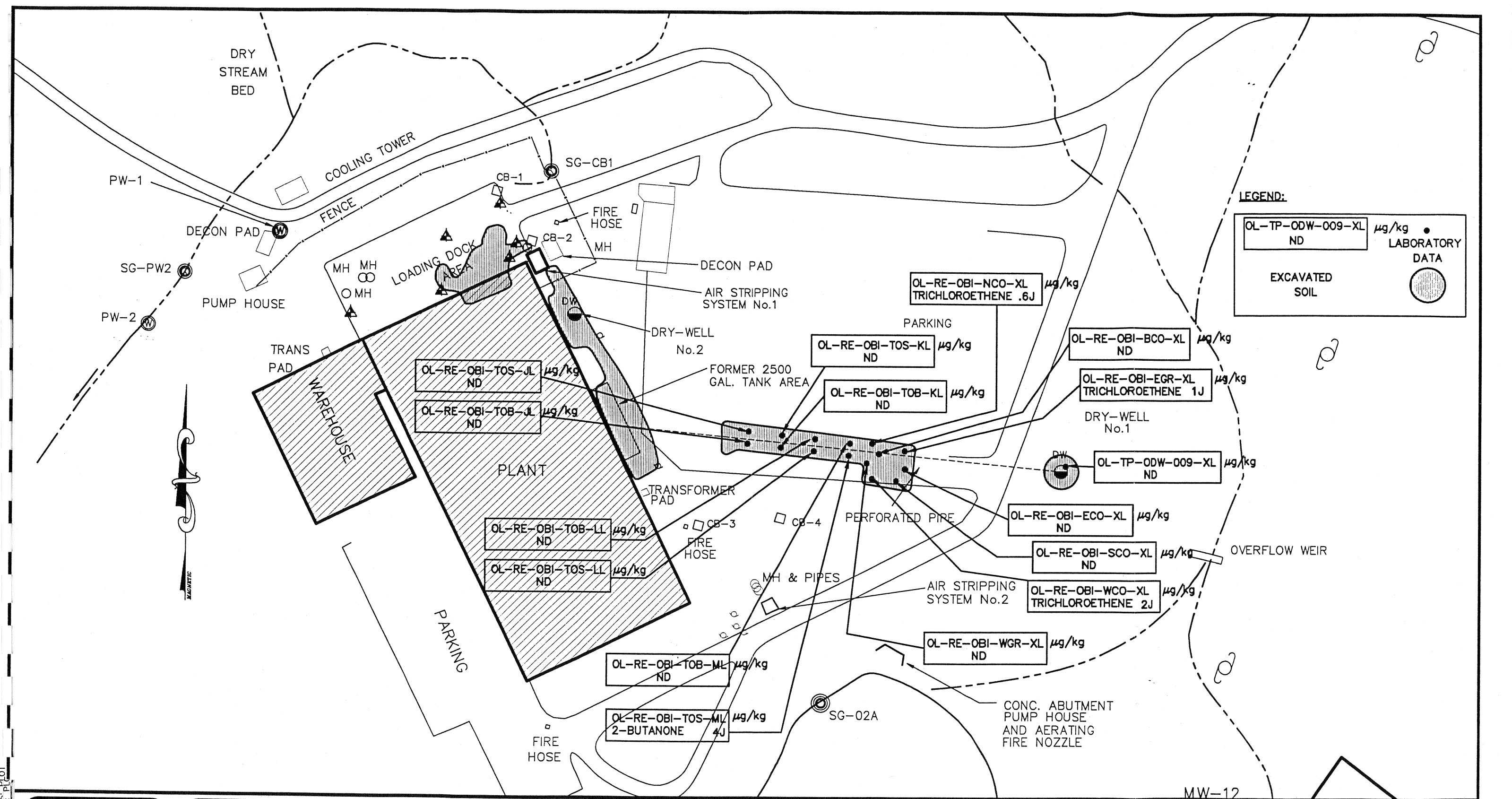
SOLVENT TANK SAMPLE RESULTS

T/O OLIVE, ULSTER COUNTY, NEW YORK

sheet no. **FIGURE 5**

name:		date:	
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check	LZ.	4/4/97	
drawn	M.L.M.	4/4/97	
scale	1"=20'		
project no.	49531.01		

Plot Scale: 1"=1' - SAVED UCS: PLOT



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ROTRON - OLIVE
INTERIM REMEDIAL MEASURES

**DRY WELL No.1 AND
ORANGEBURG PIPE
SAMPLE RESULTS**

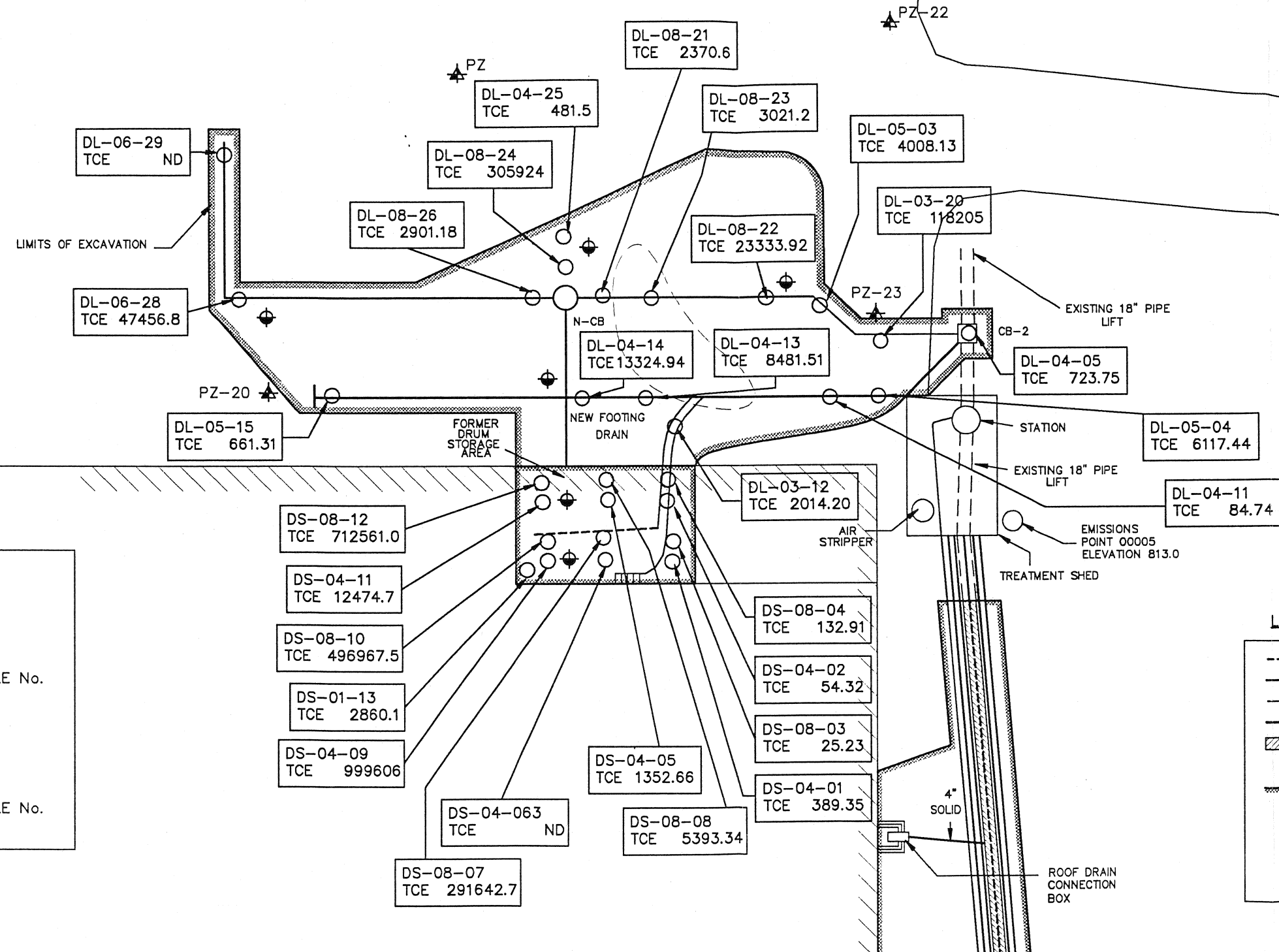
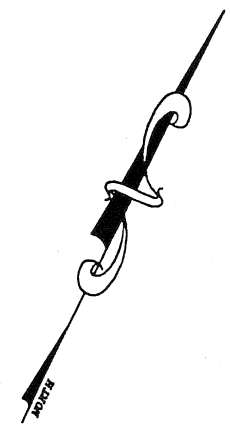
T/O OLIVE, ULSTER COUNTY, NEW YORK

sheet no. **FIGURE 6**

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check	L.Z.	4/7/97
drawn	M.L.M.	4/7/97

scale 1"=100'

project no. 49531.01



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ROTRON - OLIVE
INTERIM REMEDIAL MEASURES

T C E

FIELD SCREENING RESULTS

LOADING DOCK AREA

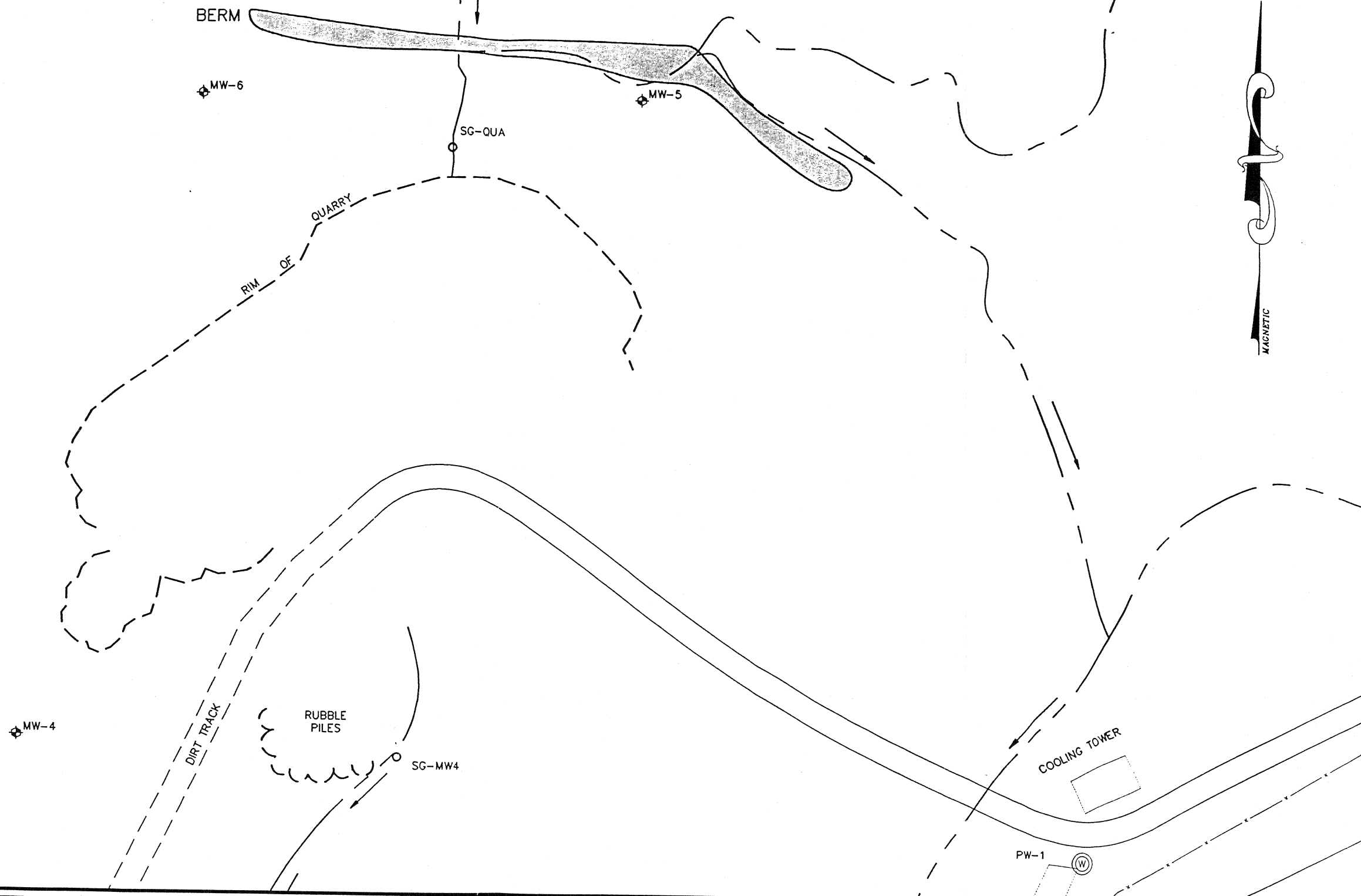
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sheet no.		
FIGURE 8		
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check	L.Z.	4/8/97
drawn	M.L.M.	4/8/97
scale		
1"=20'		
project no.		
49531.01		

LEGEND

--- SURFACE FLOWS

⊕ MW-4 MONITORING WELL



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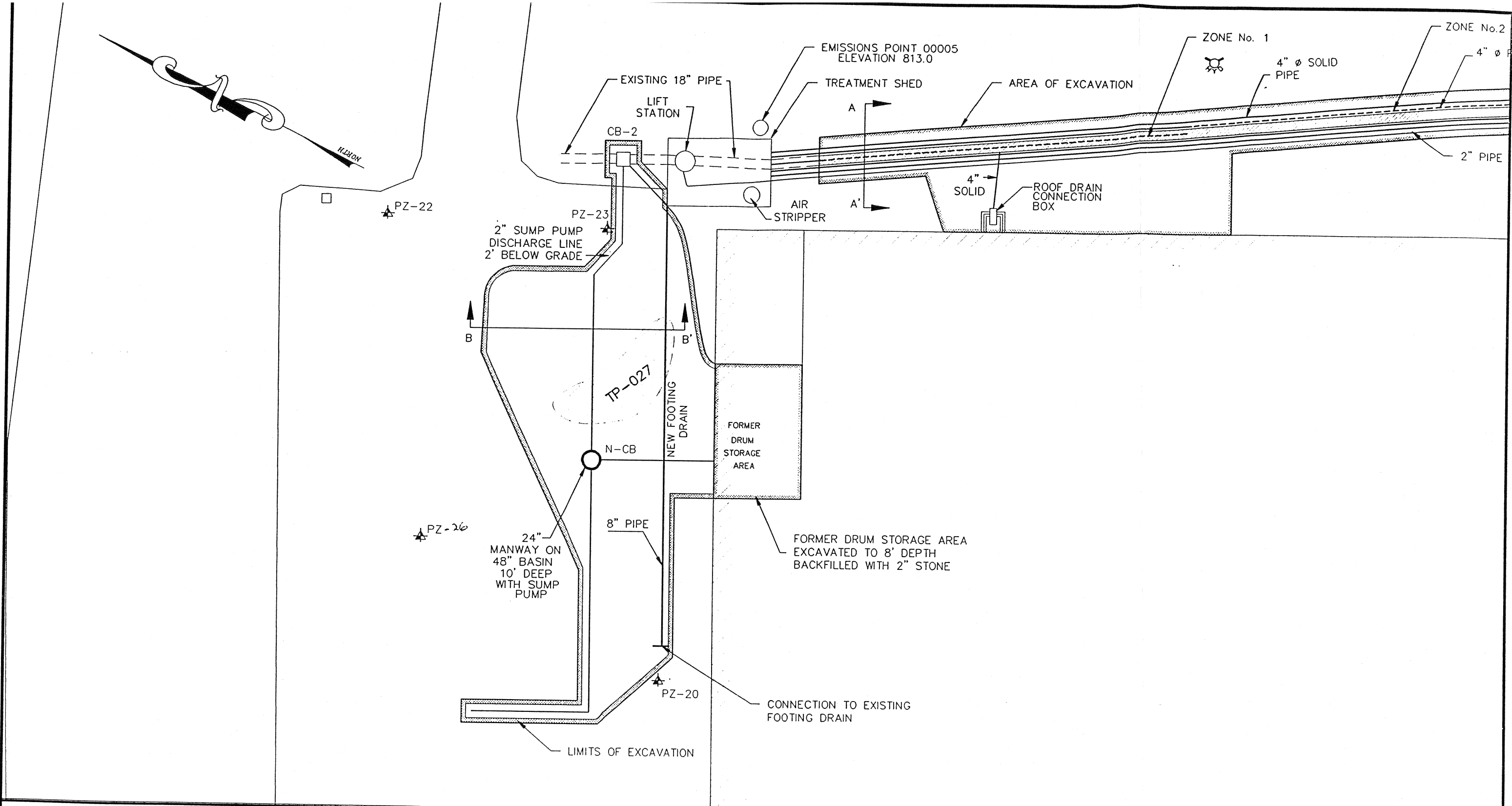
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ROTRON - OLIVE
INTERIM REMEDIAL MEASURES

DIVERSION CHANNEL
FORMER QUARRY AREA

T/O OLIVE, ULSTER COUNTY, NEW YORK

sheet no. FIGURE 9		
	name:	date
design	J.D.M.	4/4/97
check	J.D.M.	4/4/97
drawn	M.L.M.	4/4/97
scale	1" = 50'	
project no.	49531.01	



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ROTRON — OLIVE
INTERIM REMEDIAL MEASURES

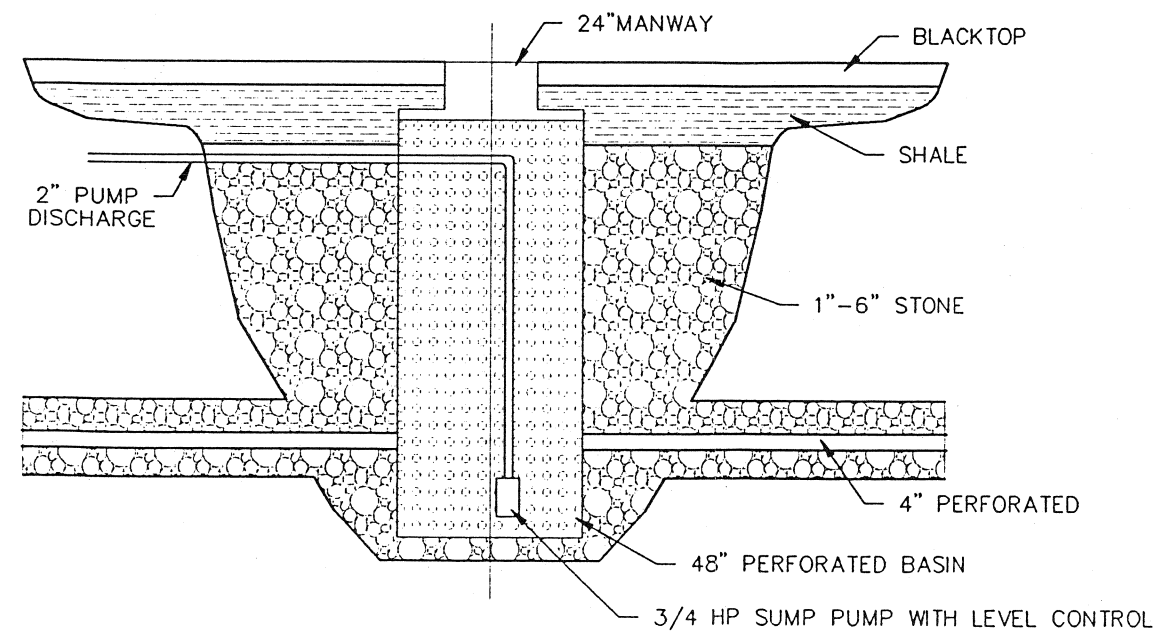
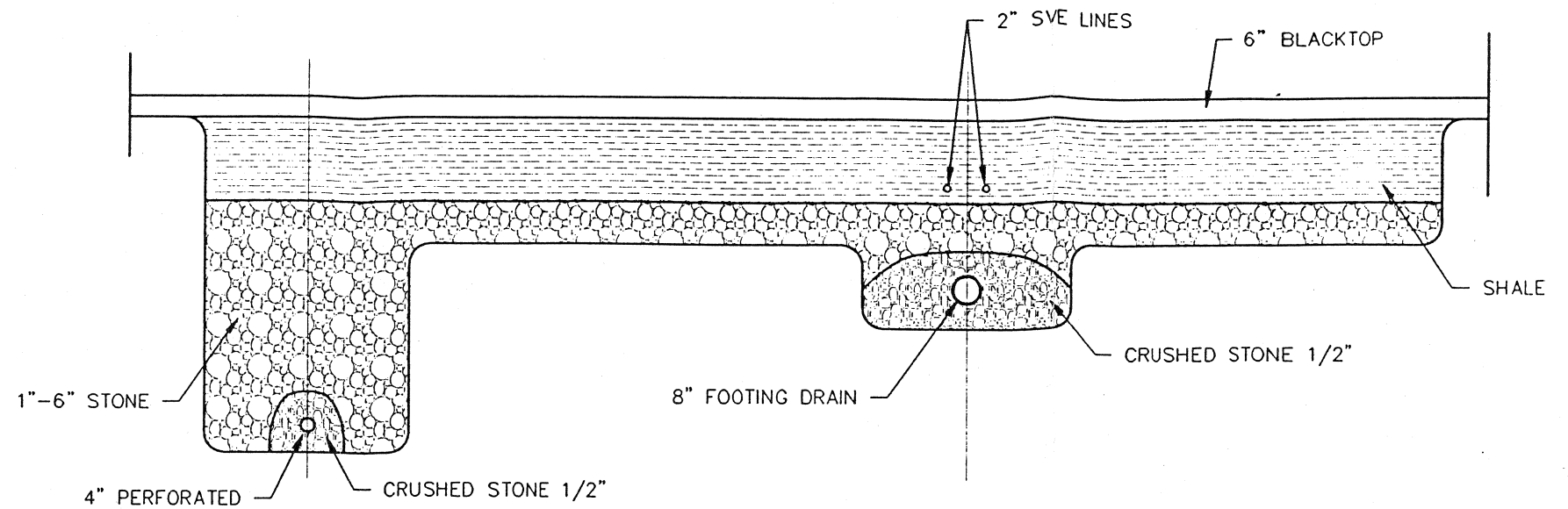
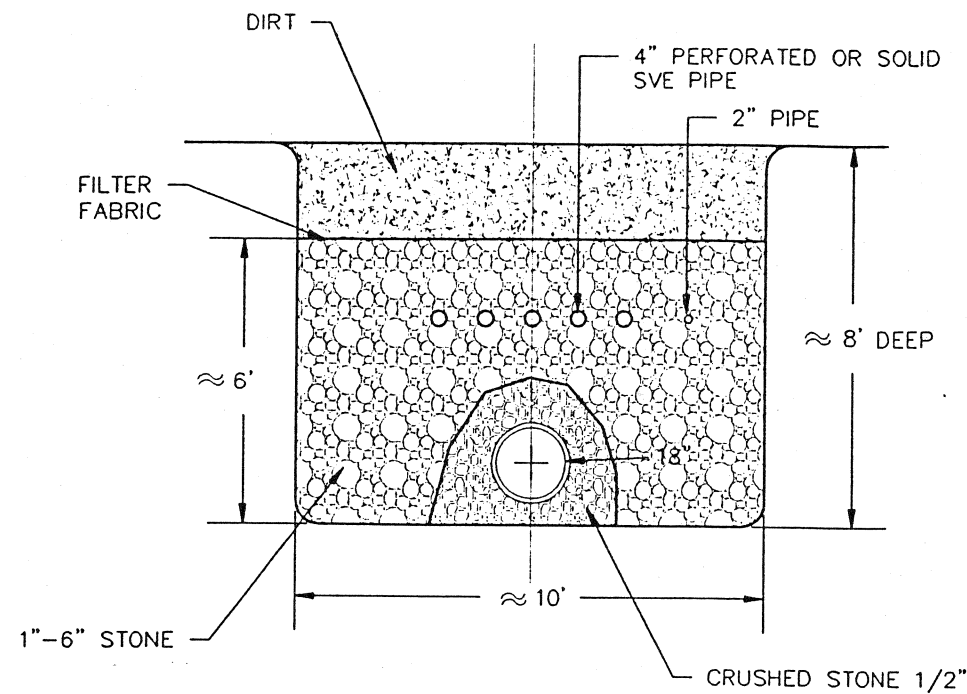
**SUMP LOCATION AND
PIPING DETAIL,
LOADING DOCK AREA**

T/O OLIVE, ULSTER COUNTY, NEW YORK

sheet no.

FIGURE 12

name:		date
design	J.M.	4/4/97
check	J.M.	4/4/97
drawn	M.L.M.	4/4/97
scale		
1"=20'		
project no.		
49531.01		



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ROTRON - OLIVE
INTERIM REMEDIAL MEASURES

SCHEMATIC DETAIL,
SUMP PUMP, FOOTING DRAIN
AND TRENCH DRAIN

T/O OLIVE, ULSTER COUNTY, NEW YORK

sheet no.

FIGURE 13

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design	T.S.	10/16/96
check	T.S.	3/10/97
drawn	M.L.M.	3/10/97

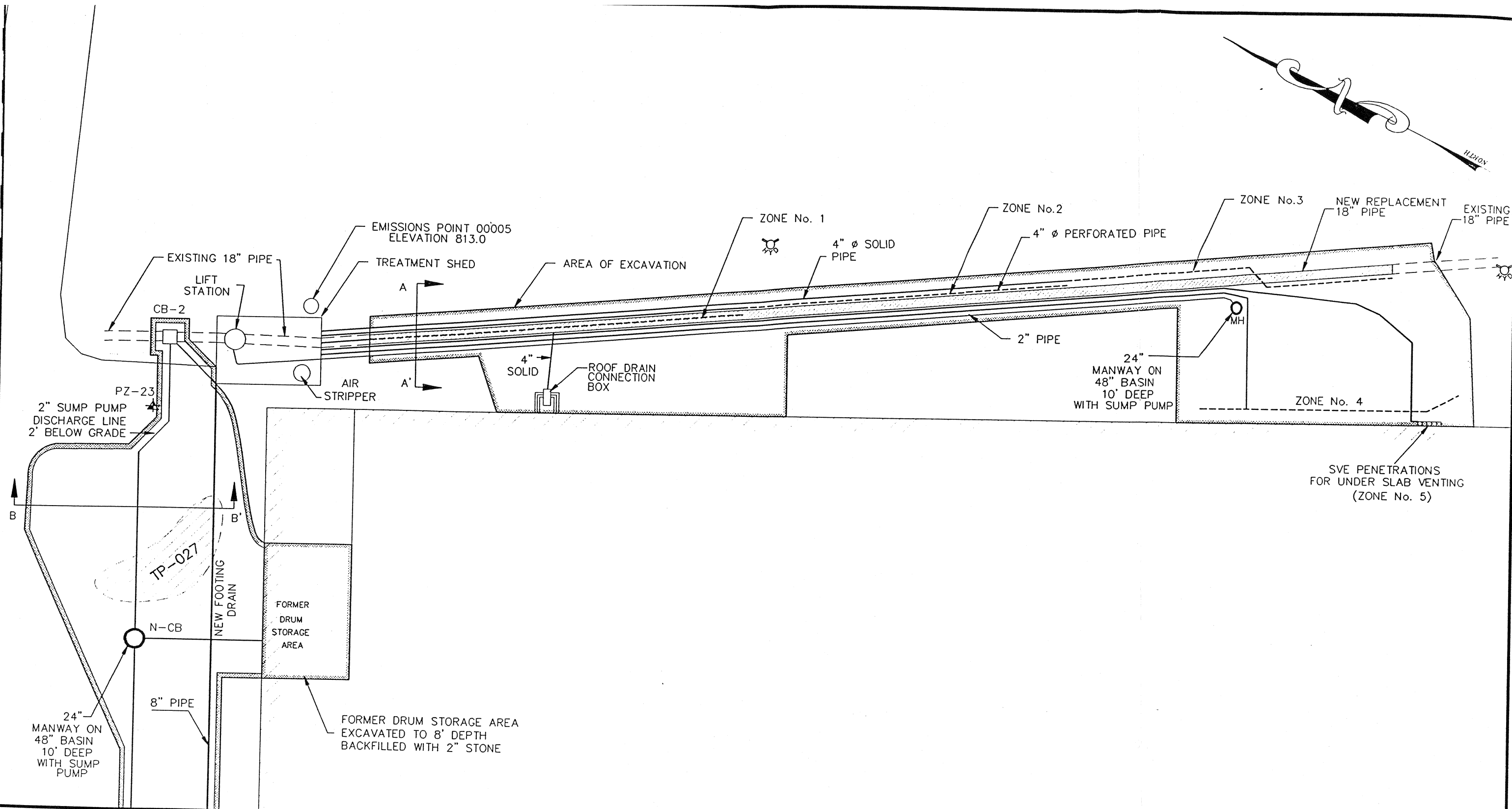
scale

1" = 4'

project no.

49531.01

ALLOT SCALE: 1"=1' - SAVED UCS: PLOT



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ROTRON - OLIVE
INTERIM REMEDIAL MEASURES

**DETAIL - SUMP PUMP LOCATION
AND PIPING, FORMER SOLVENT
TANK AREA**

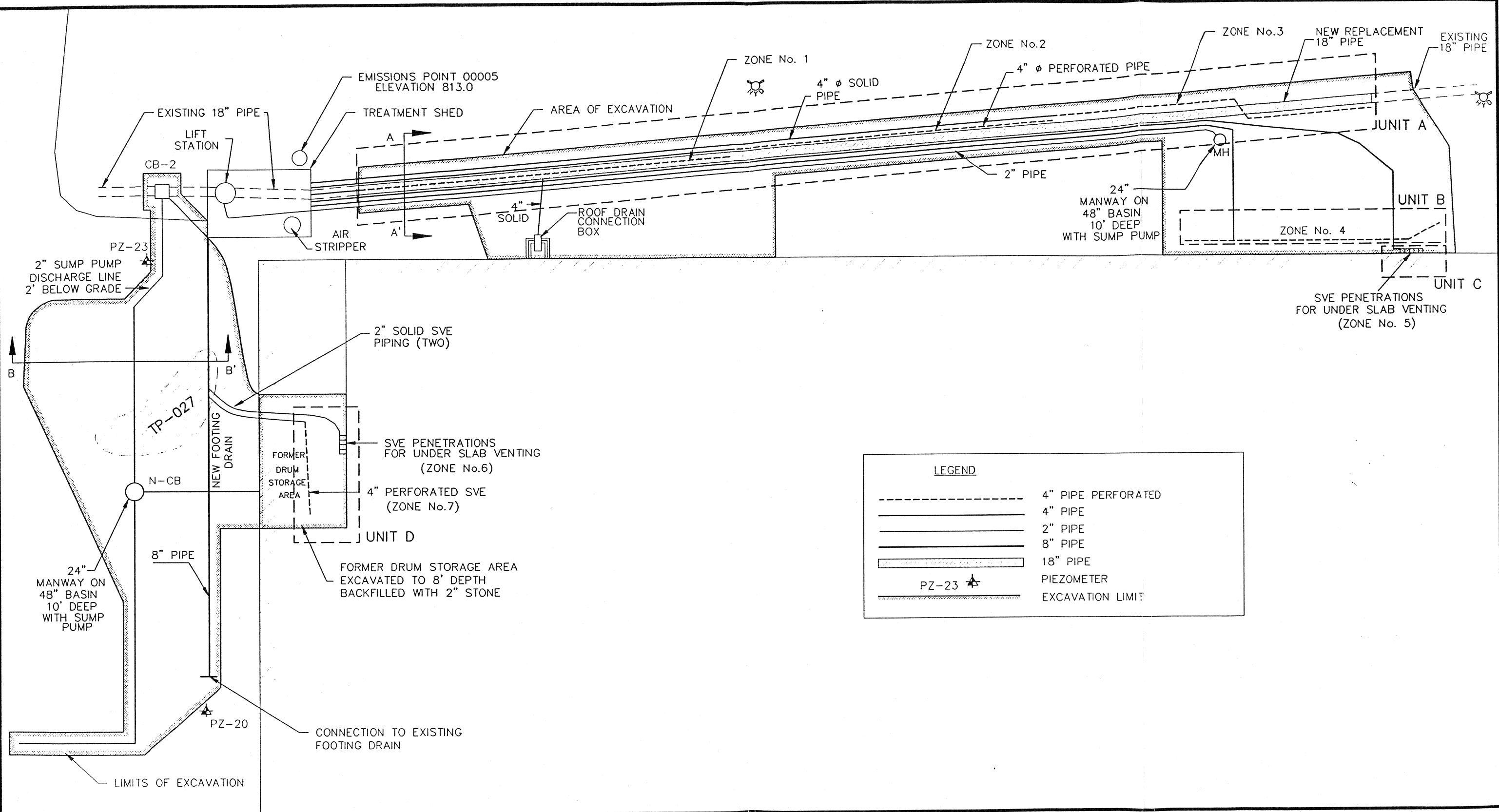
T/O OLIVE, ULSTER COUNTY, NEW YORK

sheet no. **FIGURE 14**

name:	date:
design J.M.	4/4/97
check J.M.	4/4/97
drawn M.L.M.	4/4/97

scale 1"=20'

project no. 49531.01



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ROTRON - OLIVE
INTERIM REMEDIAL MEASURES

PLAN VIEW OF
THE SVE SYSTEMS

T/O OLIVE, ULSTER COUNTY, NEW YORK

sheet no.

FIGURE 15

	name:	date
design	T.S.	10/3/96
check	T.S.	3/10/97
drawn	M.L.M.	3/10/97

scale
1"=20'
project no.

49531.01

EMISSIONS
POINT
00005
ELEVATION
813.0

6' EXHAUST STACK

SAMPLE
PORT

SAMPLE
PORT

A1

CARBON

SAMPLE
PORT

B1

CARBON

SAMPLE
PORT

C1

CARBON

SAMPLE
PORT

D1

CARBON

SAMPLE
PORT

SAMPLE
PORT

SAMPLE
PORT

SAMPLE
PORT

SAMPLE
PORT

120 CFM
BLOWER

FLOW
CONTROL
VALVES

WATER
TRAP

120 CFM
BLOWER

FLOW
CONTROL
VALVES

WATER
TRAP

120 CFM
BLOWER

FLOW
CONTROL
VALVES

120 CFM
BLOWER

FLOW
CONTROL
VALVES

FLOW
CONTROL
VALVES

FLOW
CONTROL
VALVES

THE NEED FOR CONTINUED
CARBON USE WILL BE
EVALUATED MONTHLY

TRENCH ZONE No.1

TRENCH ZONE No.2

TRENCH ZONE No.3

UNIT A

UNIT B

UNIT C

UNIT D

EAST SIDE
SOLVENT TANK
AREA
ZONE No.4

FOUNDATION WALL
PENETRATION FOR
SLAB VENT EAST
SIDE OF BUILDING
ZONE No.5

FOUNDATION WALL
PENETRATION FOR
SLAB VENT NORTH
SIDE OF BUILDING
ZONE No.6

NORTH SIDE
DRUM STORAGE
AREA
ZONE No.7

TREATMENT CENTER

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ROTRON - OLIVE
INTERIM REMEDIAL MEASURES

SCHEMATIC DIAGRAM
OF THE
SVE SYSTEMS

T/O OLIVE, ULSTER COUNTY, NEW YORK

sheet no.

FIGURE 16

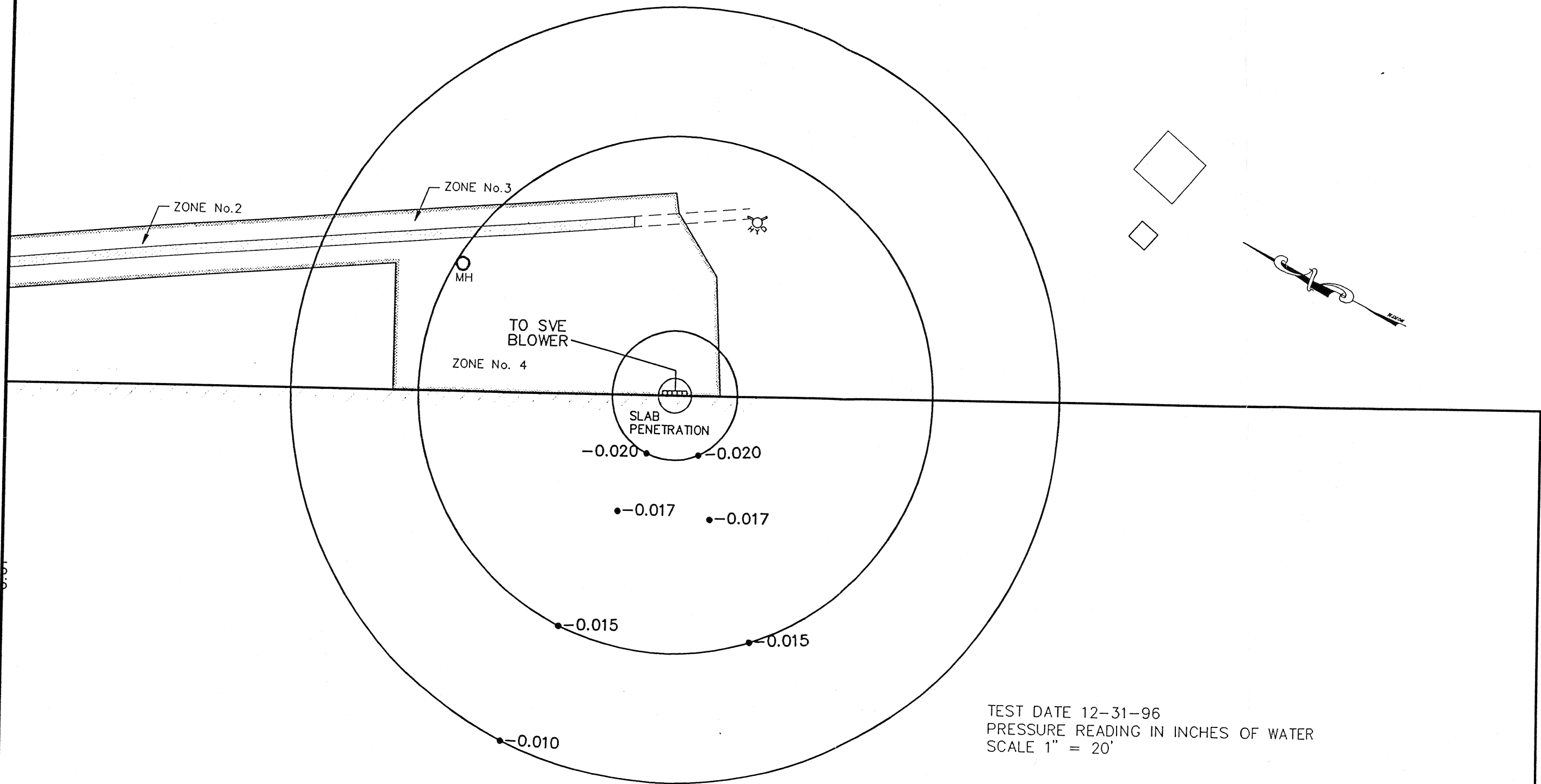
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design	T. S.	10/14/94
check	T.S.	3/10/97
drawn	M.L.M.	3/10/97
scale		

NOT TO SCALE

project no.

49531.01

X:\4149531-01\16\16.DWG
PLOT SCALE: 1"=1' - SAVED UCS: PLT



X:\49531\CHAZEN\CHAZEN\DATA\10-11-97\10-11-97.DWG.
ONE
PLOT SCALE: 1" = 20' - SAVED UCS: PLT

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COMPANIES

Engineers/Surveyors
Planners
Environmental Scientists

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--	---	---

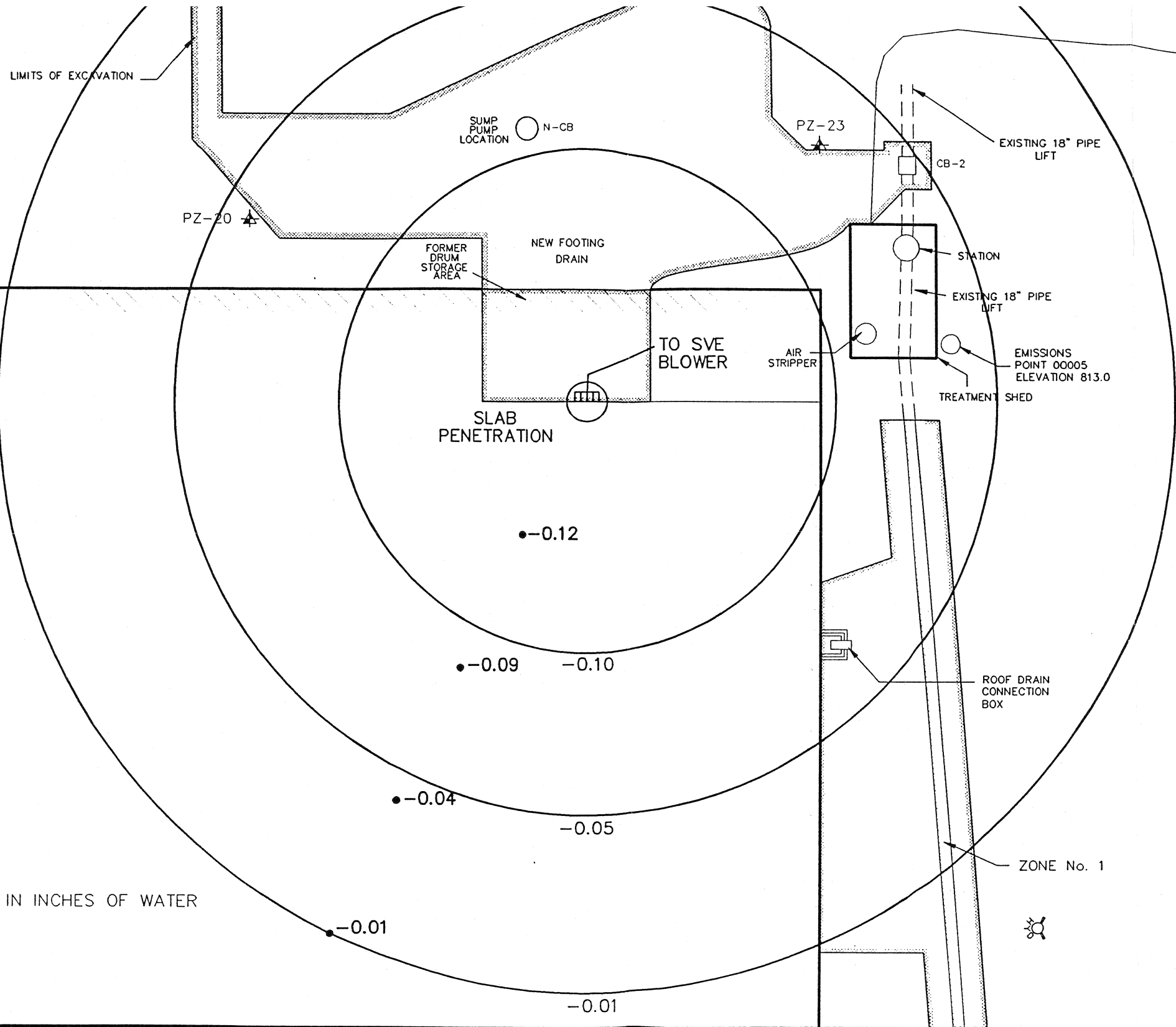
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ROIRON - OLIVE
INTERIM REMEDIAL MEASURES

**PILOT TEST RESULTS,
FORMER TANK SUB-SLAB
SVE SYSTEM**

T/O OLIVE, ULSTER COUNTY, NEW YORK

sheet no.		
FIGURE 17		
	name:	date:
design	J.M.	4/4/97
check	J.M.	4/4/97
drawn	M.L.M.	4/4/97
scale		
1" = 20'		
project no.		
49531.01		



TEST DATE 1-2-97
PRESSURE READING IN INCHES OF WATER
SCALE 1" = 20'

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ROTRON - OLIVE
INTERIM REMEDIAL MEASURES

**PILOT TEST RESULTS,
LOADING DOCK SUB-SLAB
SVE SYSTEM**

T/O OLIVE, ULSTER COUNTY, NEW YORK

sheet no.

FIGURE 18

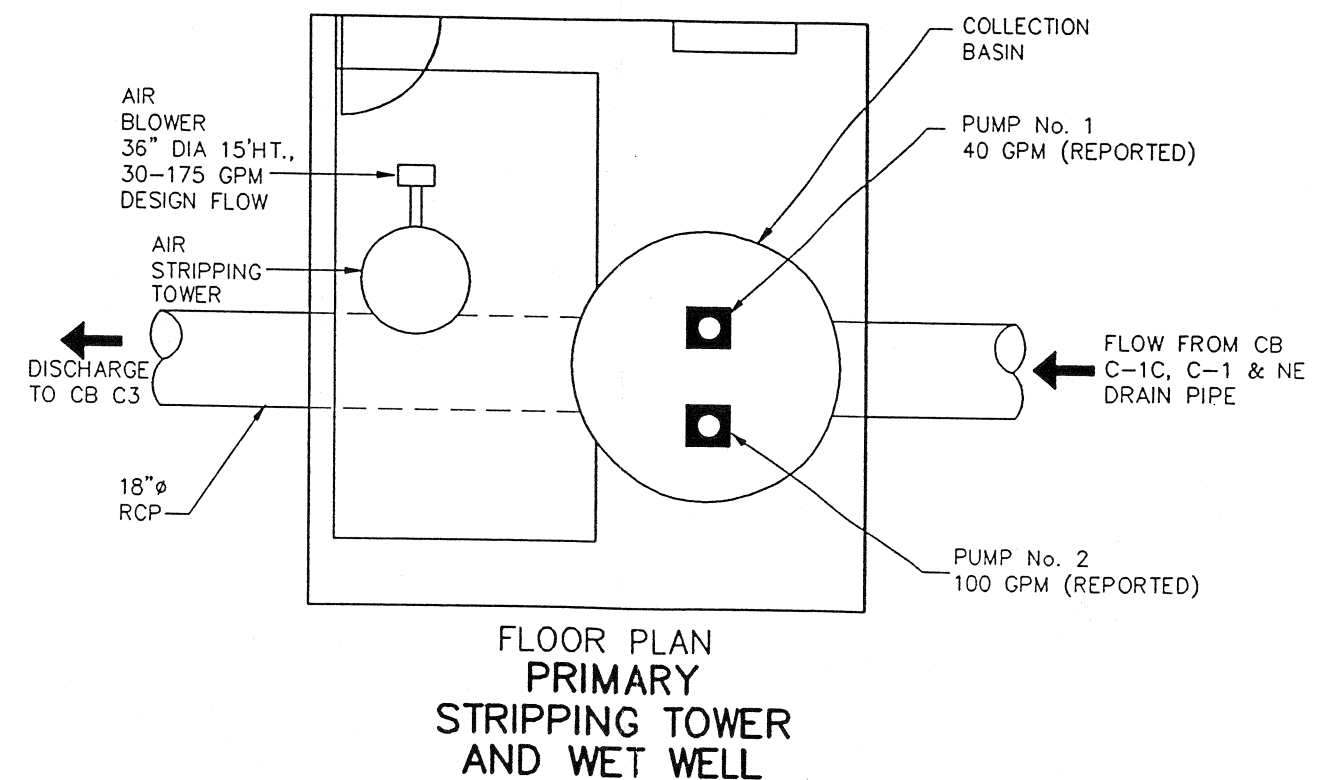
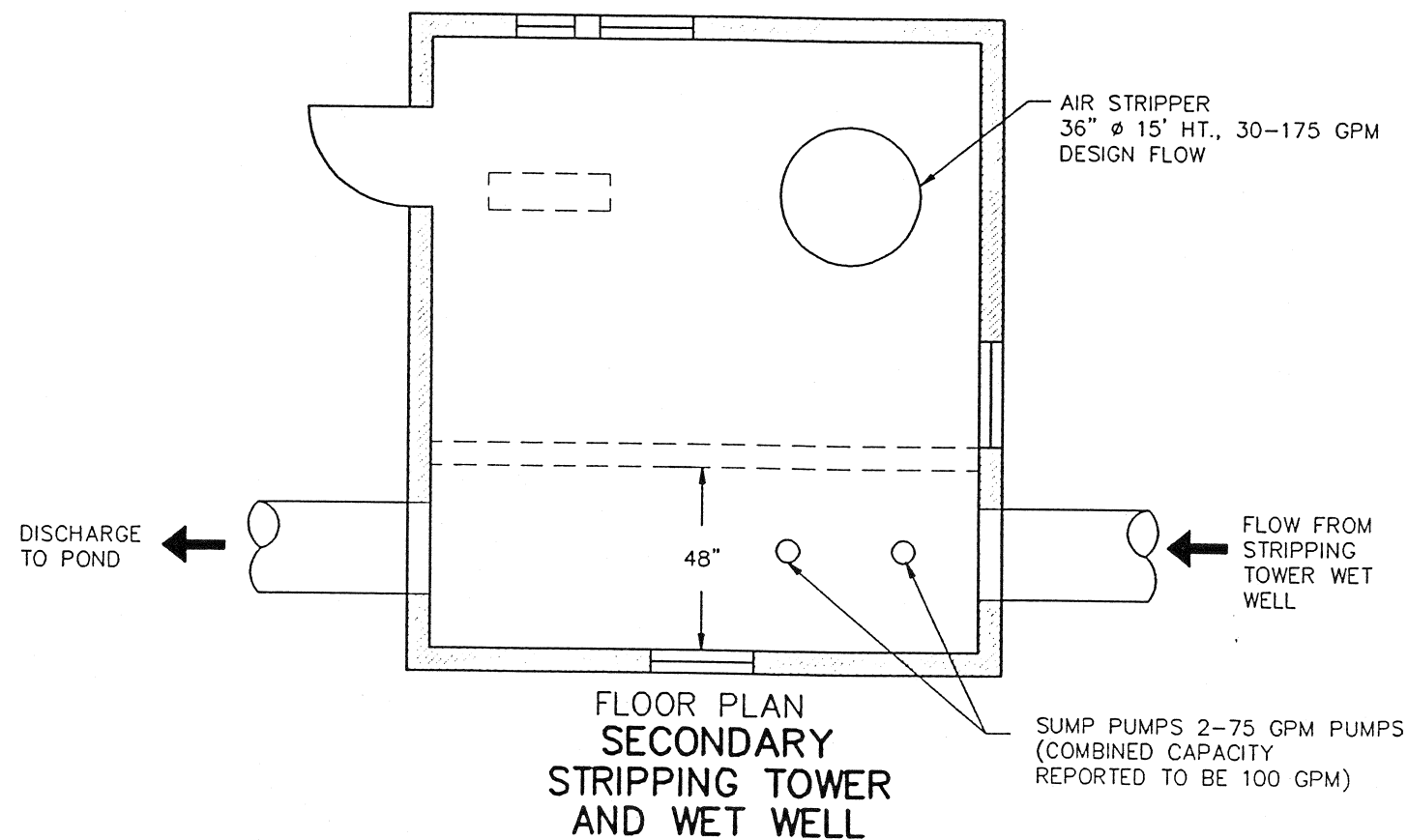
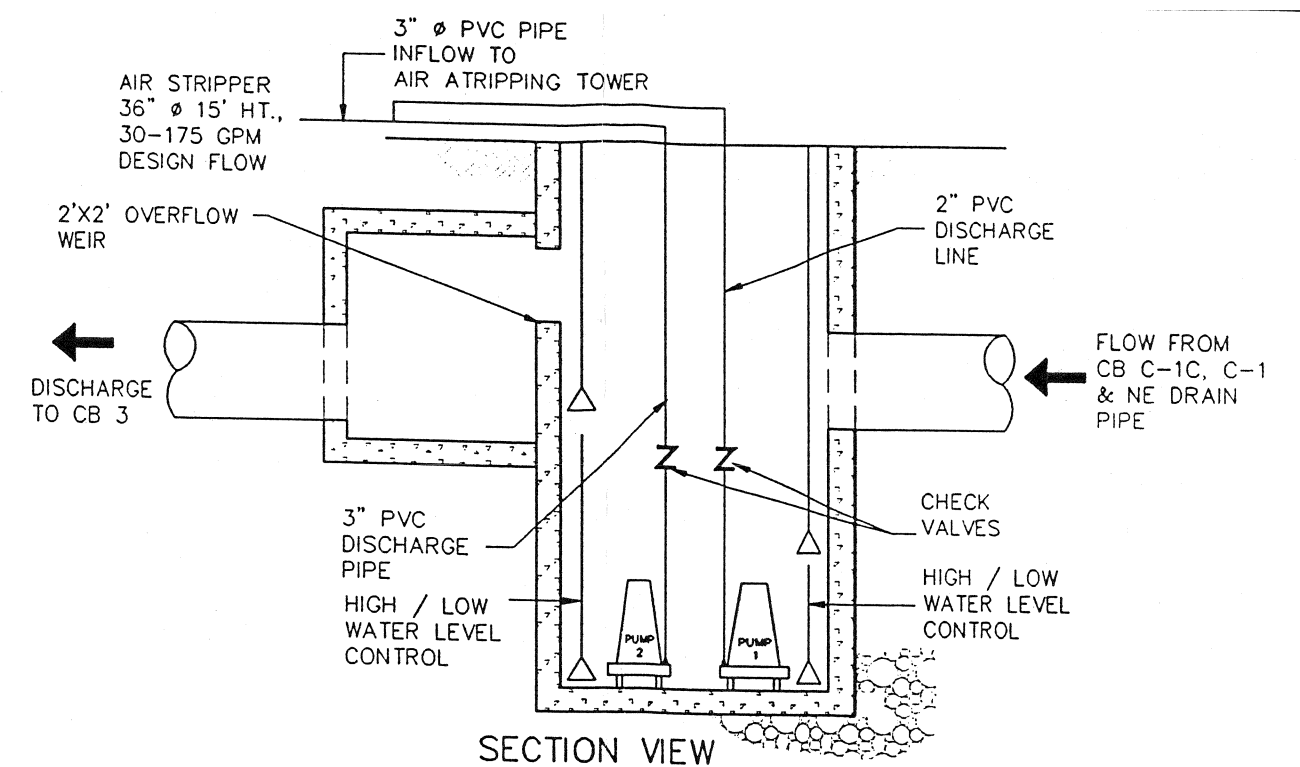
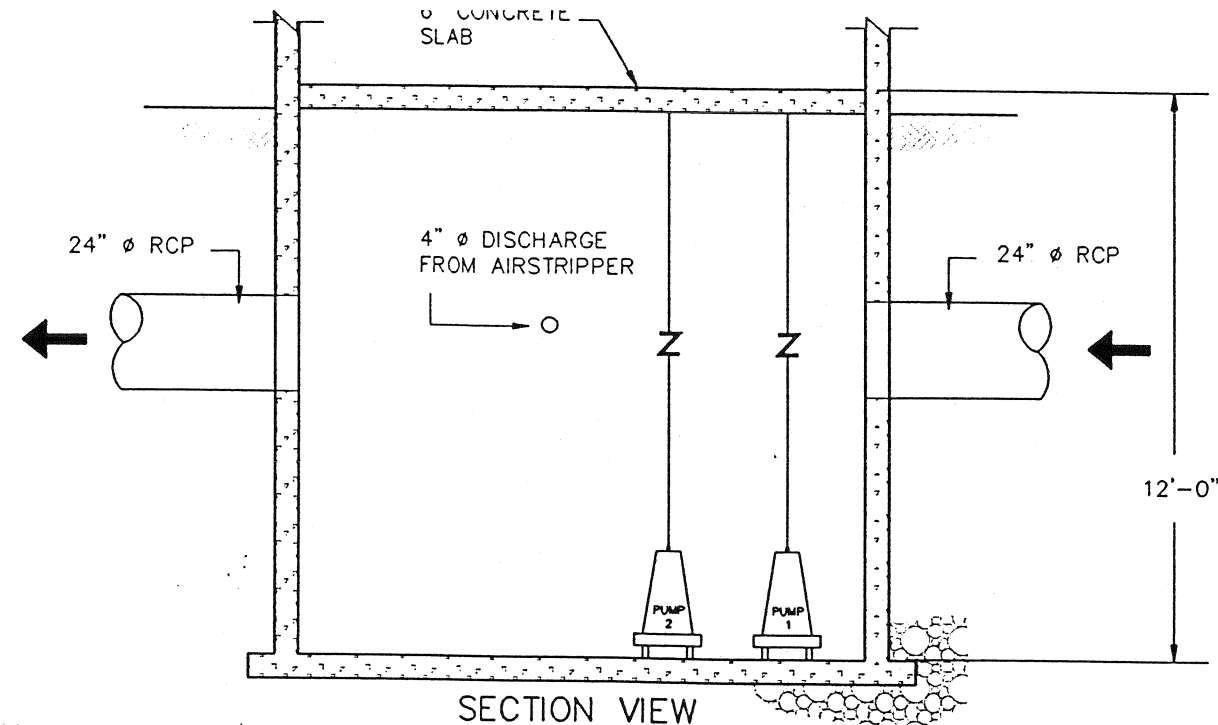
	name:	date:
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check	J.M.	4/4/97
drawn	M.L.M.	4/4/97

scale

1"=20'

project no.

49531.01



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ROTRON - OLIVE
INTERIM REMEDIAL MEASURES

STRIPPING TOWER AND WET WELL
DETAILS

T/O OLIVE, ULSTER COUNTY, NEW YORK

Sheet no.

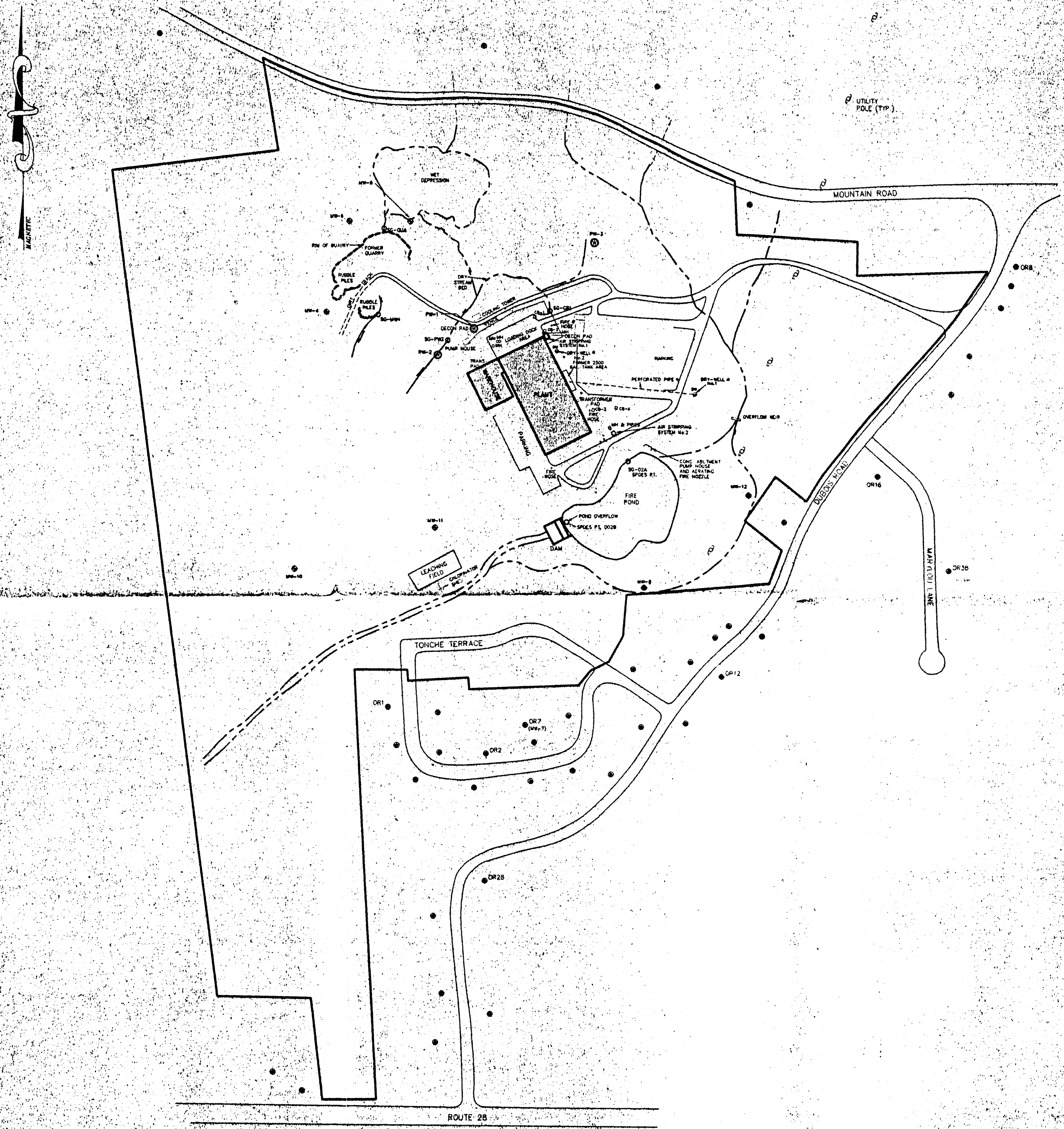
FIGURE 19

name:	date:
design	
check J.M.B.	3/10/97
drawn M.L.M.	3/10/97
scale	

NOT TO SCALE
project no.

49531.01

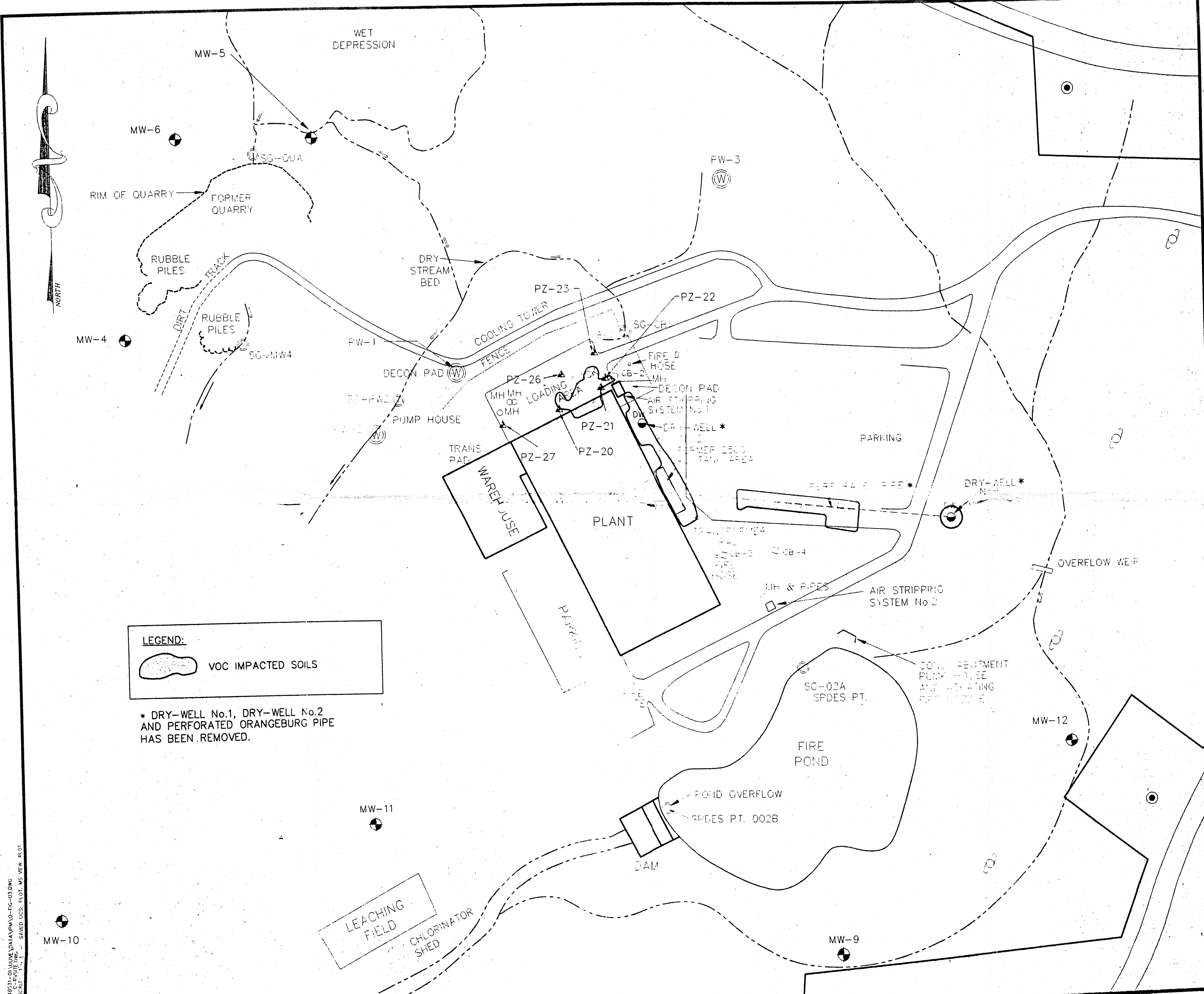
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- LEGEND:
- MW-3 MONITORING WELL
 - OR12 RESIDENTIAL WELL
 - UTILITY POLE LOCATIONS
 - MWRI-12 PROPOSED MONITORING WELL REMEDIATION INVESTIGATION WORK PLAN
 - PW-3 PRODUCTION WELL AND DRY-WELL No. 1
 - SURFACE DRAINAGE OR STREAM INCLUDING FLOW DIRECTION
 - SURFACE DRAINAGE OR STREAM INCLUDING FLOW DIRECTION
 - SC-QUA SURFACE WATER SAMPLE LOCATION

NOTES:
THIS MAP REPRESENTS A COMPILATION OF MONITORING WELL AND OTHER SURVEY DATA PROVIDED BY BRUCE LAMONDA, L.P.S. AND A PREVIOUS SITE MAP GENERATED BY GERAHTY AND MILLER.
* DRY-WELL No.1, DRY-WELL No.2 AND PERFORATED ORANGEBURG PIPE HAS BEEN REMOVED.

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ROTRON - OLIVE INTERIM REMEDIAL MEASURES SITE PLAN	
Y/O OLIVE, ULSTER COUNTY, NEW YORK	
Project:	49531.01
Drawn:	M.L.M.
Checked:	M.L.M.
Date:	9/7/96
Scale:	1" = 300'
Project No.:	49531.01
Sheet No.:	FIGURE 2
REVISED ONTO REVISED SITE PLAN	



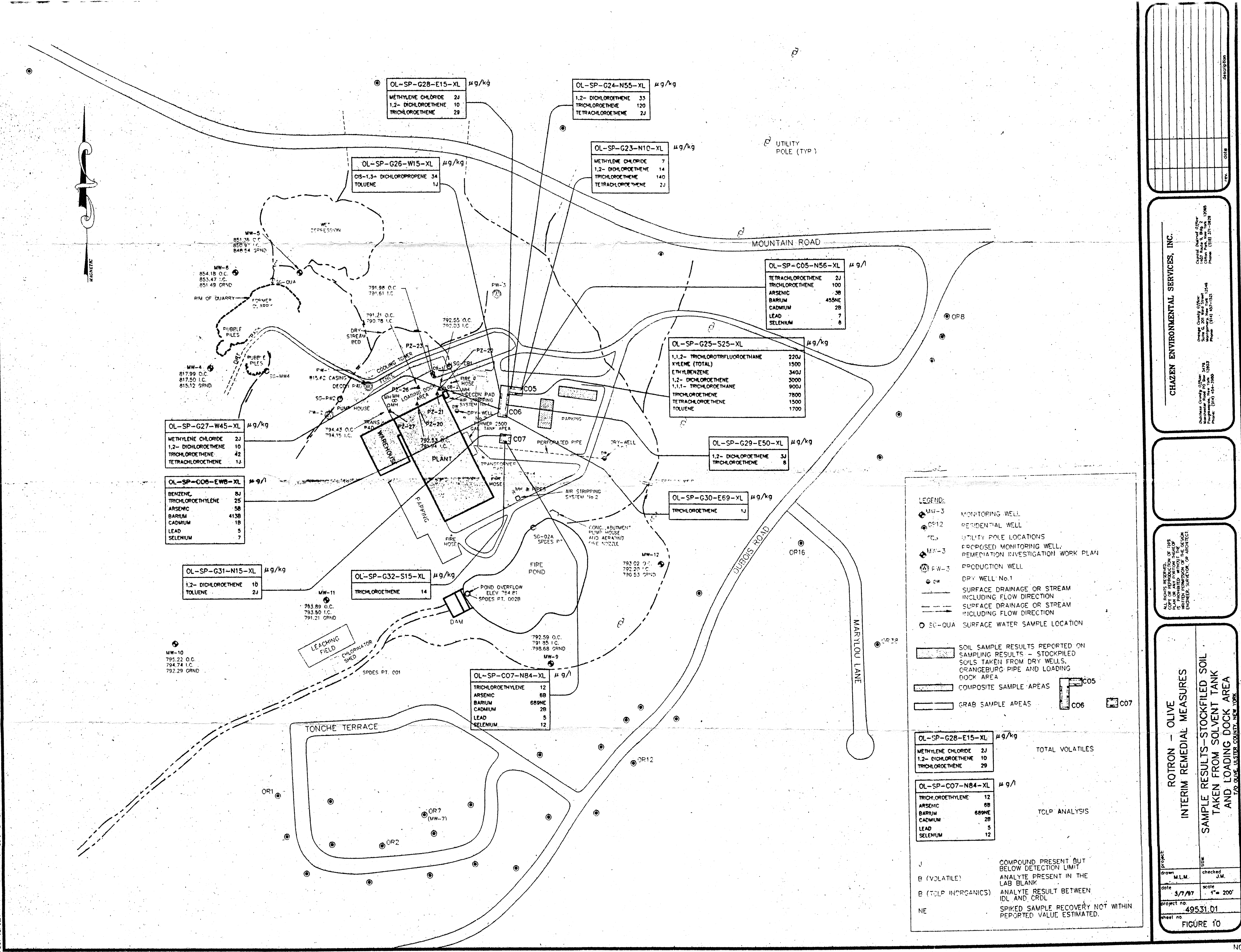
LEGEND:

VOC IMPACTED SOILS

* DRY-WELL No.1, DRY-WELL No.2
AND PERFORATED ORANGEBURG PIPE
HAS BEEN REMOVED.

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ROTRON - OLIVE INTERIM REMEDIAL MEASURES LIMITS OF THE VOC IMPACTED SOILS	
T/O OLIVE, ULSTER COUNTY, NEW YORK	
Project: _____ Title: _____ Drawn: M.L.M. Checked: J.M. Date: 3/7/97 Scale: 1" = 100' Project No.: 49531.01 Sheet No.: FIGURE 3	

Y:\49531-OLIVE\DATA\PM\10-FIG-03.DWG
 REF: C-POSTE.DWG
 PLOT: 11-11 - SAVED UCS: PLOT: MS VIEW: PLOT



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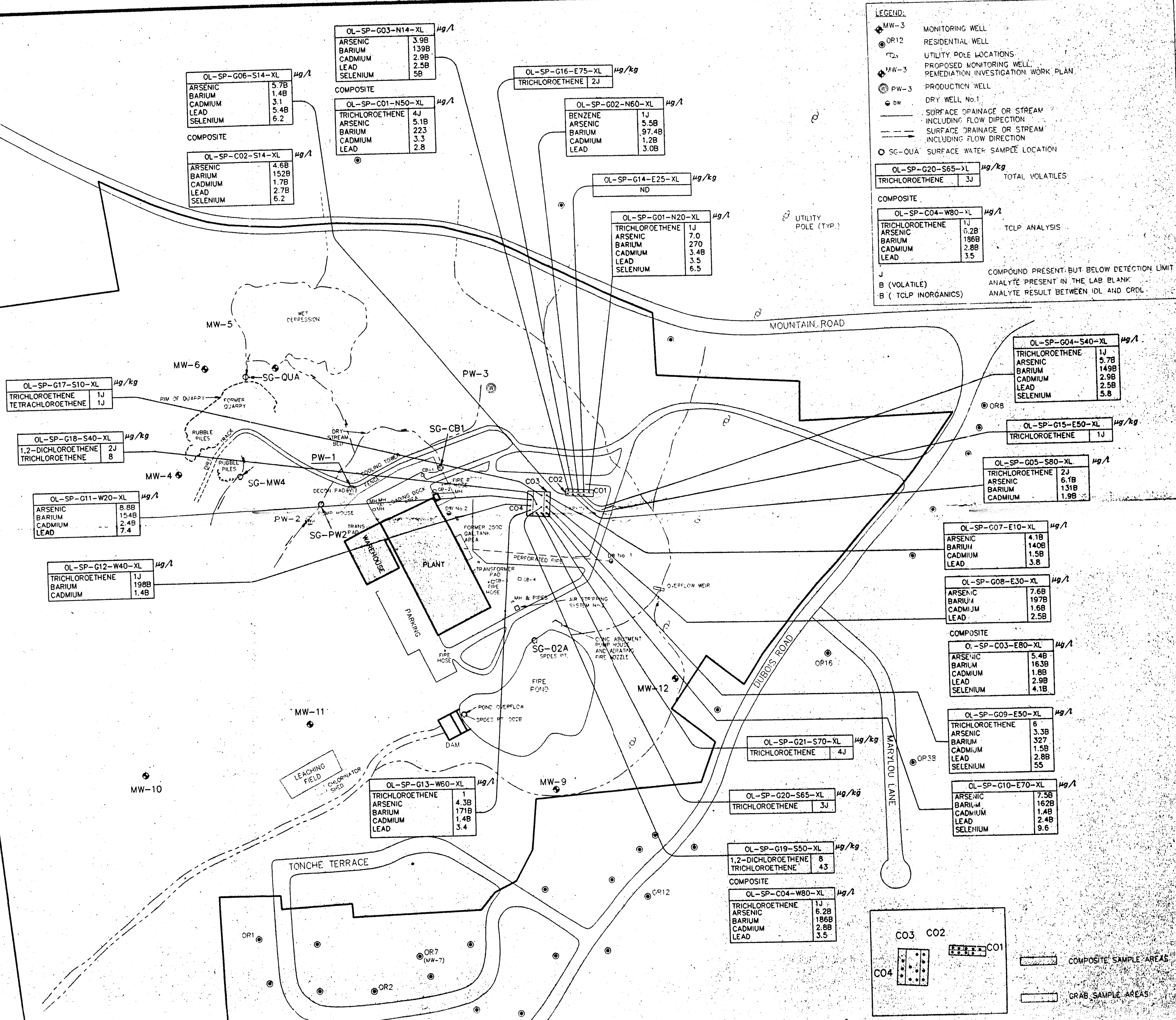
Capital District Office
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 Albany, NY 12205
 Phone: (518) 371-0828

Orange County Office
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 Poughkeepsie, NY 12601
 Phone: (845) 437-1531

ROTRON - OLIVE
 INTERIM REMEDIAL MEASURES
 SAMPLE RESULTS-STOCKPILED SOIL
 TAKEN FROM SOLVENT TANK
 AND LOADING DOCK AREA
 1/9 SOIL, WATER COUNTY, NEW YORK

drawn M.L.M. checked J.M.
 date 3/7/97 scale 1" = 200'
 project no. 49531.01
 sheet no. FIGURE 10

0531-01 OLIVE DATA (P&G)-RQ-11.DWG
0-RV3-1.DWG
SCALE: 1"=100'
DATE: 3/7/97
BY: [signature]
CHECKED: [signature]
APPROVED: [signature]



CHAZEN ENVIRONMENTAL SERVICES, INC.

1001 Olive Street, Suite 200, St. Louis, MO 63101
Phone: (314) 433-1234
Fax: (314) 433-1235

ROTRON - OLIVE INTERIM REMEDIAL MEASURES

SAMPLING RESULTS-STOCKPILED SOILS TAKEN FROM DRY WELLS, ORANGEBURG PIPE AND LOADING DOCK AREA

FIGURE 11