Post-Remediation Groundwater Monitoring Plan
for the

Schreck's Scrapyard

North Tonawanda, New York

Site Number 9-32-099
Work Assignment #D002925-1.2

Prepared for:

New York State
Department of Environmental Conservation

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1.0 Introduction

This Groundwater Monitoring Plan has been developed on behalf of the New York State Department of Environmental Conservation (NYSDEC) by Camp Dresser & McKee (CDM) under contract Work Assignment No. D-002925. The overall objective of the plan is to provide for overburden groundwater monitoring over a minimum period of five years at the Schreck's Scrapyard Site in North Tonawanda, New York. It is anticipated that data generated from the sampling of these wells will be used to assess the impact of the removal of contaminated soils, which was completed during between July of 1993 and July of 1994, on local overburden groundwater quality and to monitor the potential off-site flow of site-related contaminated groundwater. At the direction of the NYSDEC, CDM has developed this plan based on the four existing monitoring wells at the site. No additional groundwater investigative activities are proposed. However, the NYSDEC may wish to consider additional investigative activities based on data generated from these monitoring activities.

This Monitoring Plan is divided into eight major sections. The site history, site hydrogeology and overall physical setting are described in Section 2.0. The Monitoring Plan objectives are outlined in Section 3.0 and the details of the groundwater sampling program are provided in Section 4.0. The analytical program is described in Section 5.0. Section 6.0 describes the groundwater monitoring system maintenance and periodic checklist. A brief discussion of the disposal of sampling waste materials is provided in Section 7.0 and all data reporting activities are described in Section 8.0

2.0 Site Description

The Schreck's Scrapyard site is located at 44 Schenck Street in North Tonawanda, New York (see Figure 2-1), in a mixed light industrial and residential area. The Scrapyard is bordered on the north by Schenck Street (see Figure 2-2). Lawless Container Corporation borders the west side of the site. Tondisco Incorporated borders the south side of the site and the Conrail railroad tracks form the east side of the site. An empty lot lies to the east of the railroad tracks. This lot was once the site of a metal fabrication shop. Although no residential property is adjacent to the site, a dense residential neighborhood lies approximately one block east.

Prior to the site remediation activities, the site contained four significant structures; a cinder block office building, a garage, the frame of an abandoned bailer machine with a concrete foundation, and an abandoned press pit. The site's soil was oily and essentially void of vegetative growth. The soil base contained miscellaneous scrap material.

2.1 Site History

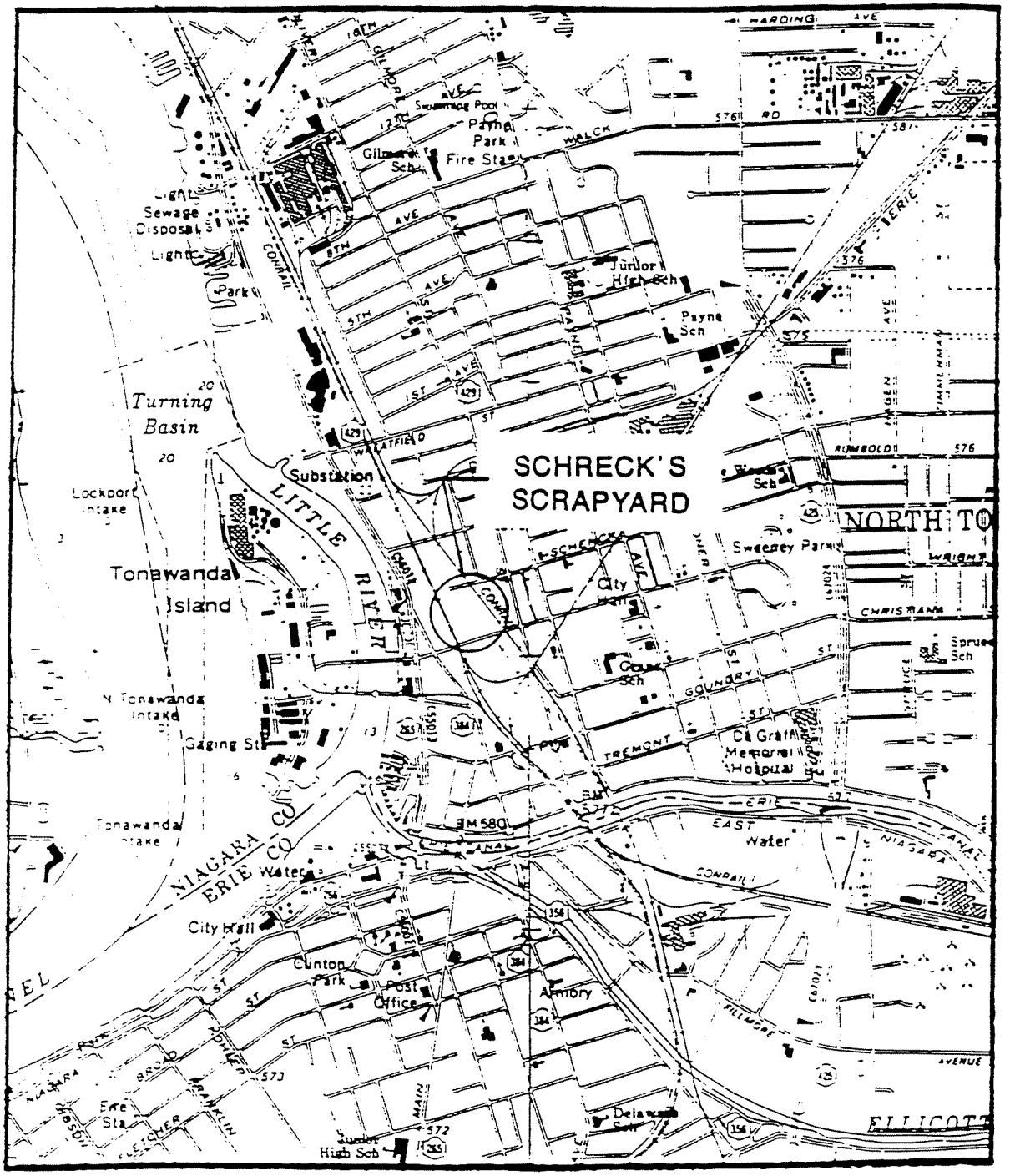
Schreck's Iron and Metal Company operated a scrap iron business at this site from 1951 to 1953. The site operations prior to this time are unknown. In 1953, the business was sold to Bengart and Menel, Inc., who reportedly continued the same operation until 1977. From 1951 until 1975, while the metal salvage business was still in operation, drums of phenolic waste from Occidental-Durez were reportedly brought to the site and were subsequently hauled by the facility's trucks to local waste disposal facilities. In 1965, 50 to 60 drums of phenolic wastes were reportedly landfilled in an abandoned press pit located at the south end of the property. The pit was approximately 18 to 20 feet deep and also contained building debris. The pit was then covered with approximately two feet of soil.

From 1960 to 1975, transformers from Niagara Mohawk Power Corporation were routinely brought to the site for salvage. The metal exterior was sheared and the oil was then allowed to spill onto the ground. Reportedly, the oil-soaked soils were periodically excavated by a bulldozer and pushed toward the eastern property boundary.

In 1983, the Lawless Container Corporation retained RECRA Research, Inc. (RECRA) to conduct a prepurchase environmental audit of the property. Analysis of two composite soil samples revealed the presence of PCBs, metals, cyanide, phenolics and volatile organic compounds (VOCs). In 1986, The New York State Department of Environmental Conservation (NYSDEC) retained RECRA to conduct a Phase I environmental assessment in order to score this site for possible inclusion on the state and federal priority list of uncontrolled hazardous waste sites. The site scored high enough for inclusion on both priority lists. In addition, drums of waste from the Occidental Chemical Corporation's Durez plant were found to have been buried in an abandoned press pit in the rear of the scrapyard. Subsequently, the NYSDEC has had these drums and the related contaminated soils removed and disposed of off-site.

A remedial investigation was conducted was conducted on behalf of NYSDEC by Eder Associates in 1989 and 1990 (see Eder, 1990). The remedial investigation report delineated the extent of polychlorinated biphenyl (PCB) contaminated soils. Remediation activities were

SCHRECK'S SCRAPYARD SITE
NORTH TONAWANDA, NEW YORK



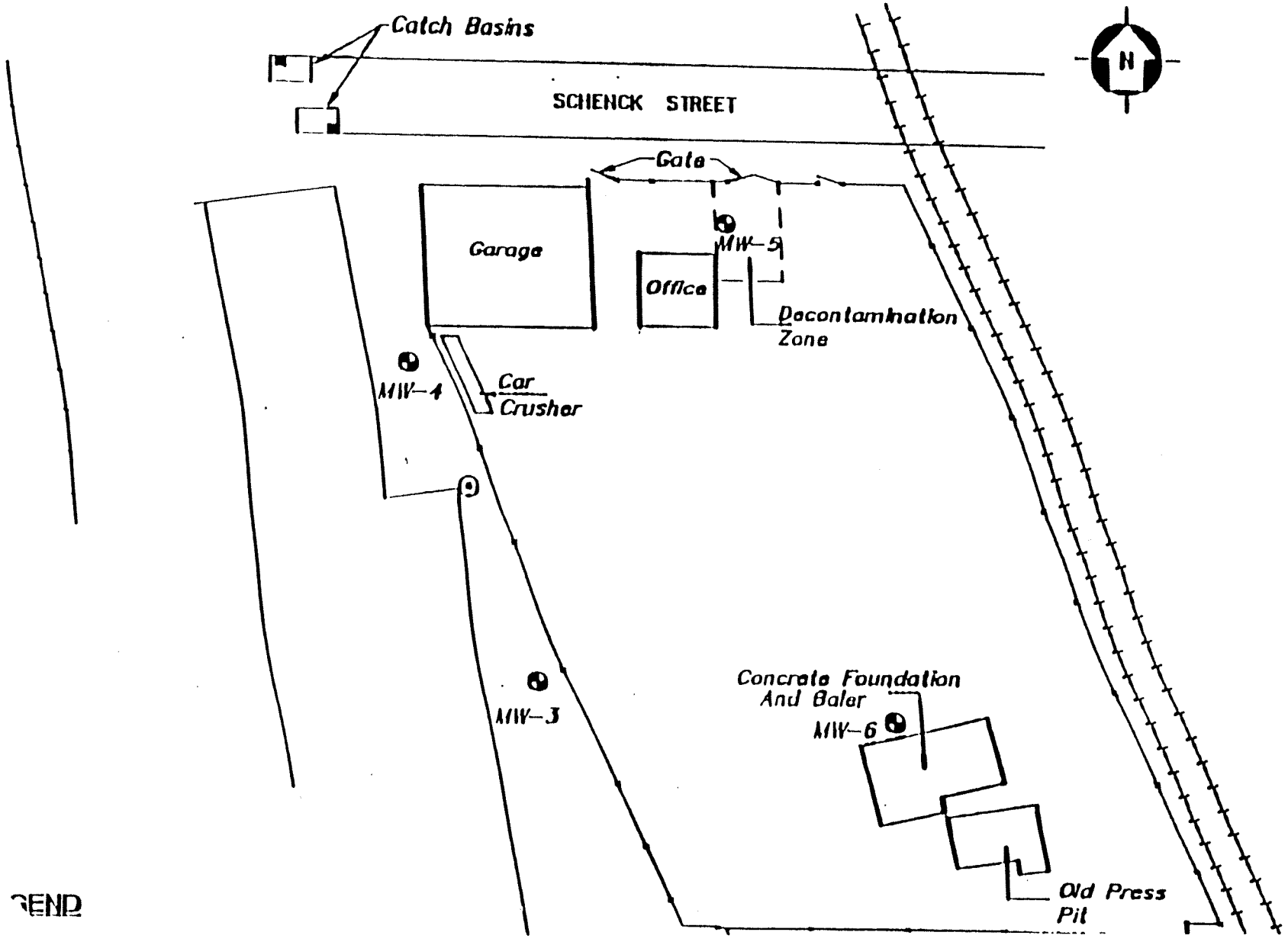
SCALE : 1"=2000'

LOCATION MAP

Figure 2-2
Schreck's Scrapyard Site
North Tonawanda, New York

Site Layout and Locations of Existing Monitoring Wells

(October 1994)



an abandoned press pit in the rear of the scrapyard. Subsequently, the NYSDEC has had these drums and the related contaminated soils removed and disposed of off-site.

A remedial investigation was conducted was conducted on behalf of NYSDEC by Eder Associates in 1989 and 1990 (see Eder, 1990). The remedial investigation report delineated the extent of polychlorinated biphenyl (PCB) contaminated soils. Remediation activities were conducted between July of 1993 and July of 1994. This work included the demolition and removal of two PCB and asbestos contaminated structures, the decommissioning of two monitoring wells and the removal and off-site disposal of PCB contaminated soil and debris from the Schrecks Scrapyard and the adjacent Conrail property.

Soil excavation was accompanied by field screening of soils for PCBs via immunoassay testing and CLP laboratory confirmatory analysis. Approximately 16,328 tons of soil and debris was excavated from the site. All excavated areas were backfilled and compacted with clean, imported fill material. Three underground storage tanks (USTs) were discovered during the soil excavation activities. Upon inspection, it was observed that all three tanks were badly deteriorated and no identification labels could be found. The soil beneath the tanks appeared to be saturated with fuel oil. The oil appeared to flow into the groundwater at a depth of approximately 10 feet (ft.) below grade. The NYSDEC directed the remediation contractor to cease excavation at the 10 ft. depth and backfill with clean soil.

Originally, six existing monitoring wells were specified to be decommissioned. However, due to the evidence of fuel oil throughout the site at the water table, the NYSDEC decided to decommission only wells MW-1 and MW-2, located just east of the eastern property boundary. The well decommissioning was performed by Buffalo Drilling Company on December 28 and 29, 1993. During excavation activities, the remediation contractor damaged wells MW-5 and MW-6. These wells were replaced during the summer of 1994. The locations of the currently existing monitoring wells are depicted in Figure 2-2.

2.2 Site Hydrogeology

Lacustrine deposits of silt, fine sand and clay interbedded with stringers of gravel and sand and gravel were revealed by test drilling during the Remedial Investigations which were completed at the Site (Eder, 1990). Typical subsoils consist of clayey silts and sands, fine to medium sands and gravel, which overlie clay. Unified soil classifications for these soils are ML, GW, CL and CH, respectively. A deep boring drilled adjacent to monitoring well MW-1 encountered the bedrock surface at approximately 40 feet (ft.) below grade (Eder, 1990).

Groundwater is monitored at four locations (see Figure 2-2). Monitoring well MW-3 is located along the southwestern property boundary adjacent to Lawless Container. MW-4 is located in the northwestern area of the property, just southwest of the former garage location and down-gradient of the former underground storage tank (UST) number 3. MW-5R is located in the northeast area of the site and MW-6R is located in the southeast area of the

site in the vicinity of the former bailer location. Shallow groundwater at the site occurs in the surficial deposits of silty clay which contains lenses of saturated sand and gravel as well as fill materials. This surficial zone is 10 to 14 ft. thick except in the vicinity of MW-6, where it is at least 21 ft. thick (Eder, 1990).

The general direction of groundwater flow, based on data generated during the Remedial Investigation (RI) (Eder, 1990), is northward (see Figure 2-3). It should be noted that these data were obtained prior to the decommissioning of MW-1 and MW-2 and the installation, and subsequent destruction, of MW-5 and MW-6. Therefore, the distribution of wells shown in Figure 2-3 is slightly different than that shown in Figure 2-2. The overall direction of groundwater flow is to the north, but considerable variations in the flow directions have been observed at the site (Eder, 1990). This may indicate a poorly connected groundwater system. The relatively thin saturated zones may not be areally extensive and also may be under varying degrees of confinement by the overlying silty clay zones (Eder, 1990).

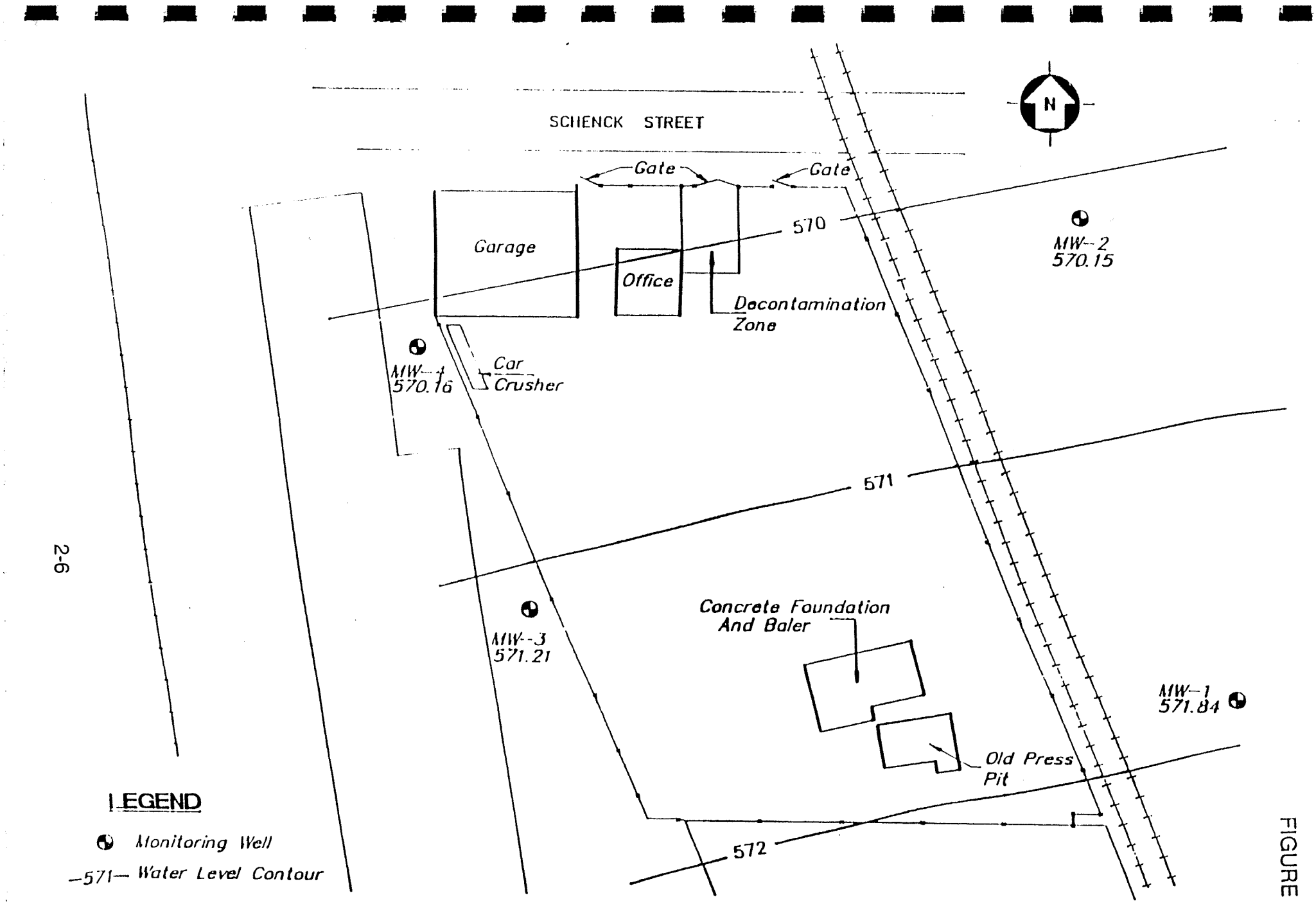
Two sets of groundwater quality data are available for the site; the RI Phase I data and the RI Phase II data. These data are described below and summarized in Tables 2-1 through 2-6.

2.2.1 RI Phase I Groundwater Quality Data

Four shallow groundwater monitoring wells were installed and sampled during the RI Phase I study. The groundwater samples were analyzed for TCL parameters. No PCBs were detected in the groundwater samples. Low levels (up to 1.4 ppb) of beta-BHC were detected. Gamma-BHC (lindane) was detected in monitoring well 4 at 0.13 parts per billion (ppb). 4,4'-DDD and 4,4-DDT were detected in MW-2 at 4.7 and 0.81 ppb, respectively (see Table 2-1). Low levels of toluene (5.4 ppb) and xylenes (17 ppb) were detected in MW-4. Other volatile organic compounds (VOCs) identified in the groundwater samples were also identified in the blank analysis: methylene chloride ranged from non-detectible (ND) to 3.7 ppb and 1,1,1-trichloroethane ranged from 1.4 to 1.5 ppb (see Table 2-2). Relatively high concentrations of inorganic compounds were detected in all monitoring wells (see Table 2-3).

2.2.2 RI Phase II Groundwater Quality Data

Groundwater samples were collected from six shallow monitoring wells during the RI Phase II study. These samples were analyzed for TCL parameters. Pesticides were not detected in samples from MW-1, MW-2, MW-3 and MW-5. Low levels of pesticides were detected in MW-4 and MW-6 (see Table 2-4). VOCs were not detected in samples from wells MW-1, MW-2 and MW-4 (see Table 2-5). These are perimeter wells screened in the upper 10 feet of the water table. Toluene was detected at 5.4 ppb in the sample from well MW-3, which is also a perimeter well. Acetone was detected at 5 ppb in samples from well MW-5.



WATER TABLE MAP

SCHRECKS SCRAPYARD

NORTH TONAWANDA NEW YORK

FIGURE 2-3

2-6

SI.611-1S

Table 2-1

Summary of Pesticide Compound Analytical Results, Remedial Investigation (RI) Phase I Groundwater Sampling Event, Schreck's Scrapyard Site, North Tonawanda, New York.

COMPOUND	MW-1	MW-2	MW-3	MW-4	MW-4D	MW-OFF
alpha-BHC	ND	ND	ND	ND	ND	ND
beta-BHC	0.18	ND	1.4	0.051 J	0.038 J	ND
delta-BHC	ND	ND	ND	ND	ND	ND
gamma-BHC (Lindane)	ND	ND	ND	0.13	0.13	ND
HEPTACHLOR	ND	ND	ND	ND	ND	ND
ALDRIN	ND	ND	ND	ND	ND	ND
HEPTACHLOR EPOXIDE	ND	ND	ND	ND	ND	ND
ENDOSULFAN I	ND	ND	ND	ND	ND	ND
DIELDRIN	ND	ND	ND	ND	ND	ND
4,4'-DDE	ND	ND	ND	ND	ND	ND
ENDRIN	ND	ND	ND	ND	ND	ND
ENDOSULFAN II	ND	ND	ND	ND	ND	ND
4,4'-DDD	ND	4.7	ND	ND	ND	ND
ENDOSULFAN SULFATE	ND	ND	ND	ND	ND	ND
4,4'-DDT	ND	0.81	ND	ND	ND	ND
METHOXYCHLOR	ND	ND	ND	ND	ND	ND
ENDRIN KETONE	ND	ND	ND	ND	ND	ND
alpha-CHLORDANE	ND	ND	ND	ND	ND	ND
gamma-CHLORDANE	ND	ND	ND	ND	ND	ND
TOXAPHENE	ND	ND	ND	ND	ND	ND

(a) BURIED DRUM
(b) SOIL FROM DRUM EXCAVATION
CONCENTRATION UNITS ppb
ND NOT DETECTABLE
C NO CALIBRATION DATA

Table 2-2

Summary of Volatile Organic Compound Analytical Results, RI Phase I Groundwater Sampling Event, Schreck's Scrapyard Site, North Tonawanda, New York.

COMPOUND	MW - 1	MW - 2	MW - 3	MW - 4	MW - 4 D	MW 0[illegible]
*BENZENE	ND	ND	ND	ND	ND	ND
*TOULENE	ND	ND	ND	5 4	7.3	ND
*CHLOROBENZENE	ND	ND	ND	ND	ND	ND
*ETHYLBENZENE	ND	ND	ND	ND	ND	ND
*XYLENES (TOTAL)	ND	ND	ND	17	19	ND
*1,2 DICHLOROBENZENE	ND	ND	ND	ND	ND	ND
*1,3 DICHLOROBENZENE	ND	ND	ND	ND	ND	ND
*1,4 DICHLOROBENZENE	ND	ND	ND	ND	ND	ND
BROMODICHLOROMETHANE	ND	ND	ND	ND	ND	6 1
BROMOFORM	ND	ND	ND	ND	ND	ND
BROMOMETHANE	ND	ND	ND	ND	ND	ND
CARBON TETRACHLORIDE	ND	ND	ND	ND	ND	ND
CHLOROBENZENE	ND	ND	ND	ND	ND	ND
CHLOROETHANE	ND	ND	ND	ND	ND	ND
2-CHLOROETHYLVINYL ETHER	ND	ND	ND	ND	ND	ND
CHLOROFORM	ND	ND	ND	ND	ND	12
CHLOROMETHANE	ND	ND	ND	ND	ND	ND
DIBROMOCHLOROMETHANE	ND	ND	ND	ND	ND	2 6

CONCENTRATION UNITS: ppb
ND: NOT DETECTABLE
B: COMPOUND ALSO FOUND IN BLANK
C: NO CALIBRATION DATA

* EPA Method 8020 used for Parameter Analyses

Table 2-2 Cont.

COMPOUND	MW - 1	MW - 2	MW - 3	MW - 4	MW - 4 D	MW 0[illegible]
1,2 DICHLOROBENZENE	ND	ND	ND	ND	ND	ND
1,3 DICHLOROBENZENE	ND	ND	ND	ND	ND	ND
1,4 DICHLOROBENZENE	ND	ND	ND	ND	ND	ND
1,1-DICHLOROETHANE	ND	ND	ND	ND	ND	ND
1,2 DICHLOROETHANE	ND	ND	ND	ND	ND	ND
1,1-DICHLOROETHENE	ND	ND	ND	ND	ND	ND
trans-1,2-DICHLOROETHENE	ND	ND	ND	ND	ND	ND
1,2-DICHLOROPROPANE	ND	ND	ND	ND	ND	ND
cis-1,3 DICHLOROPROPENE	ND	ND	ND	ND	ND	ND
trans-1,3 DICHLOROPROPENE	ND	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	37 B	ND	28 B	21 B	19 B	12 B
1,1,2,2-TETRACHLOROETHANE	ND	ND	ND	ND	ND	ND
TETRACHLOROETHENE	ND	ND	ND	ND	ND	ND
1,1,1-TRICHLOROETHANE	15 B	14 B	14 B	15 B	15 B	18 B
1,1,2-TRICHLOROETHANE	ND	ND	ND	ND	ND	ND
TRICHLOROETHENE	ND	ND	ND	ND	ND	ND
TRICHLOROFLUOROMETHANE	ND	ND	ND	ND	ND	ND
VINYL CHLORIDE	ND	ND	ND	ND	ND	ND

ND NOT DETECTABLE

CONCENTRATION UNITS ppb

B: COMPOUND ALSO FOUND IN BLANK

C: NO CALIBRATION DATA

Table 2-3

Summary of Inorganic Compound Analytical Results, RI Phase I Groundwater Sampling Event, Schreck's Scrapyard Site, North Tonawanda, New York.

COMPOUND	MW-1	MW-2	MW-3	MW-4	MW-4 D	MW-OFF
ALUMINUM	505,000	339,000	555,000	342,000	489,000	452
ANTIMONY	ND	ND	ND	ND	ND	200
ARSENIC	229	129	184	207	304	200
BARIUM	4680	2,800 N	3,720 N	2,190 N	2,830	450 N
BERYLLIUM	61.0	42.0	65.0	45.0	66.0	1.0
CADMIUM	19.0	14.0	22.0	13.0	25.0	3.0
CALCIUM	1,790,000	1,520,000 E	1,700,000 E	1,500,000 E	2,510,000	32,400 E
CHROMIUM	642	450	680	473	667	100
COBALT	421	306	495	299	335	130
COPPER	1,370	541	929	1,040	1,380	540
IRON	675,000	479,000	725,000	510,000	760,000	319
LEAD	759	420	732	806	834	200
MAGNESIUM	545,000	331,000 E	445,000 E	476,000 E	800,000	7,110 E
MANGANESE	12,600	10,700	13,300	11,300	17,300	150
MERCURY	0.4	ND	0.4	0.5	1.7	0.2
NICKEL	732	485	740	539	722	400
POTASSIUM	33,000	22,500	33,000	20,500	30,500	1,200
SELENIUM	ND	ND	ND	ND	ND	200 B
SILVER	12.0	ND	ND	ND	19.0	10.0
SODIUM	68,500	7,110 E	26,400 E	11,700 B E	16,300	8,600 E
THALLIUM	ND	ND	ND	ND	ND	200
VANADIUM	1,860	1,210	1,770	1,560	2,420	160
ZINC	3,140	1,650	2,120	2,470	3,440	290
CYANIDE	ND	ND	ND	ND	ND	NA

CONCENTRATION UNITS: ppb
NA: NOT ANALYZED
ND: NOT DETECTABLE
E: INDICATES A VALUE ESTIMATED OR NOT REPORTED DUE TO INTERFERENCE
B: INDICATES A VALUE GREATER THAN OR EQUAL TO THE INSTRUMENT DETECTION LIMIT BUT LESS THAN THE CONTRACT REQUIRED DETECTION LIMIT
N: INDICATES SPIKE SAMPLE RECOVERY IS NOT WITHIN CONTROL LIMITS
* INDICATES DUPLICATE ANALYSIS IS NOT WITHIN CONTROL LIMITS

Table 2-4

Summary of Pesticide Compound Analytical Results, Remedial Investigation (RI) Phase II Groundwater Sampling Event, Schreck's Scrapyard Site, North Tonawanda, New York.

COMPOUND	MW-1	MW-2	MW-3	MW-4	MW-5	MW-8
alpha-BHC	ND	ND	ND	0.03	ND	0.20
beta-BHC	ND	ND	ND	0.80	ND	0.067
delta-BHC	ND	ND	ND	ND	ND	ND
gamma-BHC (Lindane)	ND	ND	ND	ND	ND	ND
HEPTACHLOR	ND	ND	ND	ND	ND	ND
ALDRIN	ND	ND	ND	ND	ND	ND
HEPTACHLOR EPOXIDE	ND	ND	ND	ND	ND	ND
ENDOSULFAN I	ND	ND	ND	ND	ND	ND
DIELDRIN	ND	ND	ND	ND	ND	ND
4,4'-DDE	ND	ND	ND	ND	ND	ND
ENDRIN	ND	ND	ND	ND	ND	ND
ENDOSULFAN II	ND	ND	ND	ND	ND	ND
4,4'-DDD	ND	ND	ND	ND	ND	ND
ENDOSULFAN SULFATE	ND	ND	ND	ND	ND	ND
4,4'-DDT	ND	ND	ND	ND	ND	ND
METHOXYCHLOR	ND	ND	ND	ND	ND	ND
ENDRIN KETONE	ND	ND	ND	ND	ND	ND
alpha-CHLORDANE	ND	ND	ND	ND	ND	ND
gamma-CHLORDANE	ND	ND	ND	ND	ND	ND
TOXAPHENE	ND	ND	ND	ND	ND	ND

CONCENTRATION UNITS: UG/L
ND: NOT DETECTABLE

Table 2-5 Summary of Volatile Organic Compound Analytical Results, RI Phase II Groundwater Sampling Event, Schreck's Scrapyard Site, North Tonawanda, New York.

COMPOUND	MW - 1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-6D
BENZENE	ND	ND	ND	ND	ND	ND	230
TOULENE	ND	ND	5.4	ND	ND	14	ND
CHLOROBENZENE	ND	ND	ND	ND	ND	170	120 J
ETHYLBENZENE	ND	ND	ND	ND	ND	ND	260
XYLENES (TOTAL)	ND	ND	ND	ND	ND	ND	1,800
ACETONE	ND	ND	ND	ND	5.0	ND	ND
CARBON DISULFIDE	ND	ND	ND	ND	ND	ND	ND
1,2 DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND
BROMODICHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND
BROMOFORM	ND	ND	ND	ND	ND	ND	ND
BROMOMETHANE	ND	ND	ND	ND	ND	ND	ND
CARBON TETRACHLORIDE	ND	ND	ND	ND	ND	ND	ND
2 BUTANONE	ND	ND	ND	ND	ND	ND	ND
CHLOROETHANE	ND	ND	ND	ND	ND	ND	ND
VINYL ACETATE	ND	ND	ND	ND	ND	ND	ND
CHLOROFORM	ND	ND	ND	ND	ND	1.0 J	ND
CHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND
DIBROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND

J: ESTIMATED VALUE, VALUE BELOW THE COMPOUND QUANTITATION LIMIT
CONCENTRATION UNITS: UG/L
ND: NOT DETECTABLE

2VOL1.DRW

Table 2-6

Summary of Inorganic Compound Analytical Results, RI Phase II Groundwater Sampling Event, Schreck's Scrapyard Site, North Tonawanda, New York.

COMPOUND	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6
ALUMINUM	57,000 *	69,800 *	83,100 *	6,680 *	1,520 *	28,400 *
ANTIMONY	73.0 N	73.2 N	76.7 N	ND	ND	ND
ARSENIC	13.0 N	14.0 N	24.0 N	ND	ND	23.4 SN
BARIUM	850 N	808 N	779 N	ND	ND	360 N
BERYLLIUM	7.0	7.5	8.0	ND	ND	ND
CADMIUM	7.0	ND	7.6	ND	ND	6.0
CALCIUM	533,000	545,000	612,000	100,000	137,000	147,000
CHROMIUM	104 N*	124 N*	160 N*	17.3 N*	ND	78.7 N*
COBALT	83.0 N	98.3 N	110 N	ND	ND	ND
COPPER	268 EN*	208 EN*	320 EN*	82.8 EN*	ND	217 EN*
IRON	109,000 E*	132,000 E*	173,000 E*	11,400	2,600 E*	50,100 E*
LEAD	120	118 S	188	54.9	20.1	206 S
MAGNESIUM	120,000 N*	120,000 N*	142,000N*	27,000	51,000 N*	53,700 N*
MANGANESE	3050	4,400	5,100	806	485	1,140
MERCURY	ND	ND	0.27	4.3	04.7	0.02
NICKEL	160 EN*	171 EN*	232 EN*	ND	ND	80.8 EN*
POTASSIUM	12,000 EN*	20,700 EN*	13,100 EN*	ND	ND	23,500 EN*
SELENIUM	ND	ND	ND	ND	ND	ND
SILVER	20.5 N	17.5 N	25.0 N	ND	ND	10.3 N
SODIUM	43,300 N	29,900 N	25,600 N	16,600 N	74,500 N	66,400 N
THALLIUM	ND	ND	ND	ND	ND	ND
VANADIUM	132 EN*	154 EN*	197 EN*	ND	ND	66.3 EN*
ZINC	001 EN*	001 EN*	653 EN*	457 EN*	50.1 EN*	818 EN*
CYANIDE	ND	ND	ND	ND	ND	ND

CONCENTRATION UNITS: UG/KG
ND: NOT DETECTABLE
E: INDICATES A VALUE ESTIMATED OR NOT REPORTED DUE TO INTERFERENCE
S: VALUE DETERMINED BY THE METHOD OF STANDARD ADDITIONS
N: INDICATES SPIKE SAMPLE RECOVERY IS NOT WITHIN CONTROL LIMITS
* INDICATES DUPLICATE ANALYSIS IS NOT WITHIN CONTROL LIMITS
NA: NOT ANALYZED

3.0 Monitoring Plan Objectives

The objective of this Monitoring Plan is to characterize the effectiveness of remedial activities recently completed at the site and to monitor the changes in overburden groundwater quality over time. Soil source areas of groundwater contamination were removed as part of the site remediation.

4.0 Groundwater Sampling Program

4.1 Groundwater Sampling Locations

The site overburden groundwater quality shall be monitored at four locations via standard groundwater monitoring wells. All of the monitoring wells are screened across the water table. The wells are two inches in diameter and the screen lengths are five feet. Monitoring well MW-3 is located along the southwestern property boundary adjacent to Lawless Container. MW-4 is located in the northwestern area of the property, just southwest of the former garage location and down-gradient of the former underground storage tank (UST) number 3. MW-5R is located in the northeast area of the site and MW-6R is located in the southeast area of the site in the vicinity of the former bailer location.

4.2 Groundwater Sampling Duration and Frequency

In order to meet the objectives outlined in Section 3.0 above, the overburden groundwater quality at the Site shall be observed for a minimum period of five years. During the first year of observation, the wells at the Site shall be sampled on a quarterly basis. At the end of that first year, the frequency of sampling and the number of analytical parameters may be changed at the option of the NYSDEC. Each data set shall consist of water level elevations, observations of floating product, photoionization detector (PID) well headspace readings or other indications of contamination, and the associated groundwater analytical data sets.

4.3 Groundwater Sampling Equipment

The following equipment shall be required:

- Field logbook.
- Site Health and Safety Plan
- Health and safety equipment as required by the Site Health and Safety Plan
- Alconox.
- Deionized/distilled water.
- Buckets and brushes.
- Photoionization detector (PID).
- Paper towels and garbage bags.
- Water jugs.
- Polyethylene sheeting.
- Sample containers (provided by contract laboratory), paperwork, and packaging.
- Surgical gloves.
- Nitrile gloves.
- Ziplock bags.
- Coolers.
- Vermiculite.
- Plywood work table.
- Ice.
- pH paper.
- Electric water-level indicator.
- Plastic buckets; 1,3 and 5-gallon capacity.

- Centrifugal or peristaltic pump with a volume rating of approximately 0.5 gallons per minute (GPM), the associated polyethylene ASTM drinking water grade tubing and a power source (i.e. battery or generator).
- Hose clamps.
- Field measurement instruments for conductivity, pH, temperature, and turbidity.
- teflon bailers.
- Electrical line clamps (stay ties).
- Polypropylene rope.
- Utility knife.
- Decontamination equipment.
- 10% HNO_3, ultra-pure.
- Methanol.
- Hexane.
- Demonstrated analyte-free water.
- Two 35-gal plastic garbage cans.
- Assorted tape (duct, fiberglass strapping, clear waterprint).
- Drums for purge water.
- Aluminum foil.

4.4 Groundwater Sampling Procedures

4.4.1 Preparatory Activities

Prior to the collection of groundwater samples, the following preparatory activities shall be conducted:

- The appropriate analytical laboratory will be notified.

- All sampling equipment will be assembled, tested and calibrated.

- A groundwater sampling crew kick-off meeting will be conducted in order to familiarize all sampling personnel of the details and objectives of the sampling activities.

- The sampling bailers shall be precleaned to meet NYSDEC QC requirements.

- All other field equipment that will be used for "contact" purposes shall be cleaned on-site prior to sample collection in accordance with the decontamination sequence presented in Section 4.4.2.

Section 4.4.2. Equipment Decontamination

All equipment or materials which can potentially come in contact with sampled groundwater will be decontaminated according to the following sequence:

a. Wash and scrub with low phosphate detergent.
b. Tap water rinse - tap water may be used from any municipal water treatment system. The use of an untreated potable water supply is not an acceptable substitute.
c. Rinse with 10% HNO_3, ultra-pure.

d. Tap water rinse.
e. Methanol rinse followed by hexane rinse.
f. Demonstrated analyte-free water rinse (amount of water must be at least five times that of solvents used).
g. Air dry.
h. wrap in aluminum foil, shiny side out, for transport.
i. All decontaminated equipment shall be stored on polyethylene sheeting and will not touch the ground adjacent to the well.

4.4.3 Groundwater Sampling

Each well will be inspected, prior to sampling, to determine if the well's integrity has been maintained since the previous round of sampling. All information will be recorded on a well inspection checklist (see Table 4-1). When it has been determined that the well's integrity has not been compromised, sampling activities may begin.

Samples shall be collected following the evacuation of a minimum of three to five well volumes. Current NYSDEC protocols call for purging each well such that the maximum turbidity of the effluent is less than or equal to 50 nephelometric turbidity units (NTUs). Information provided in Eder Associates (1990) indicates that this goal may not be achievable for these wells due to the fine grained nature of the materials in which the wells are screened. A maximum of 10 well volumes shall be purged from each well. If the turbidity of the effluent is still above 50 NTUs, the sample shall be collected and the NTU value will be recorded in the field logbook.

Prior to well evacuation, the water level and total depth of the well shall be measured, from a common datum, to calculate the correct volume. At the conclusion of the evacuation phase, when temperature, pH, turbidity and conductivity measurements have stabilized, the well will be allowed to recharge to ensure that aquifer water is being collected and that sufficient water is available to collect the proper sample volume. The samples shall be collected as soon as recharge is effected. If aquifer yield and well recharge are sufficient, sample collection will be completed within two hours of well evacuation. In the case of a slow recharging well, the sample shall be collected as soon as the proper sample volume has recharged to the well. A well must recharge within 24 hours with sufficient volume to collect samples, or the well will be considered dry and will not be sampled.

Well purging shall be accomplished as follows:

- The pH, turbidity and specific conductance meter shall be calibrated (daily) before use.
- The well will be unlocked and a PID shall be used to measure the well headspace.
- The depth to water or floating product shall be measured from the top of the inner casing and then the total depth of the well will be measured.
- The presence or absence of floating product shall be confirmed by using a clear plastic bailer to collect a sample from directly across the water table. Once collected, the

Table 4-1

Well Inspection Checklist
Schreck's Scrapyard Site

						Well Inspection (Good/Fair/Poor or Yes/No)									
Well Number	Stickup (ft/AGS)	Installed Total Depth Elevation (ft/ASL)	TOIC Elevation (ft/ASL)	TOIC Current Depth (feet)	TOIC Water Level (feet)	Well Marking (G/F/P)	Casing Lock (G/F/P)	Protective Cover (G/F/P)	Well Cap (G/F/P)	Obstructions in Well (Y/N)	Water in Annulus (Y/N)	Concrete Pad (G/F/P)	Inspection Date	Comments	Volume purged (gallons)
MW-3	1.79	564.22	577.51	13.29											
MW-4	2.82	564.64	578.46	13.82											
MW-5R															
MW-6R															

*Information on elevations and stickup is unavailable from current MW-5R and MW-6R well logs and should be ascertained during the first well monitoring visit.

sample will be observed either within the bailer, or a portion of the sample shall be decanted into a clear glass jar for observation. The approximate thickness of any observed floating product shall be noted.

- The height of water column (in ft.) will be measured and the volume of water in the well (in gallons) will be calculated using the following formula:

  1 well purge volume = $(pi)(D^2)(H)/4$

  where: pi = 3.14
  D = diameter of well casing and screen (ft)
  H = height of water column (ft)

  For this project,D = 0.17 ft. Using this value, this equation can be converted to:

  1 well purge volume (gal.) = $[\{H(ft) * 0.0873\ (ft^2)\}/4] * 7.4805\ gal./ft^3$

- Field purging and sampling equipment shall be decontaminated in accordance with the procedures outlined in Section 4.4.2 above.

- Polyethylene tubing shall be attached to the purge pump and the hose clamp tightened securely.

- The polyethylene tubing shall be lowered to a depth that results in the intake being located no more than one foot below the water table. As the tubing is being lowered into the well, the exterior of the tubing shall be rinsed with distilled water. The tubing shall be wiped with a clean, nondyed, cotton cloth before entering the casing.

- Effluent polyethylene tubing will be connected to the effluent port of the pump. The tubing will be fed into an adjacent 55 gal. drum for the temporary storage of the purge water.

- The pumping will begin and the time shall be recorded.

- A minimum of four casing volumes shall be pumped from the well. The tubing shall be continually raised and lowered over the entire saturated length of the well to insure complete removal of all stagnant water in the well.

- Temperature, pH, turbidity and specific conductance of the pump discharge shall be monitored and recorded in the field logbook after purging each well volume and after removing four well volumes. After four well volumes have been purged, evacuation may be stopped if the temperature, pH and specific conductance have stabilized to within ten percent between two successive readings and the turbidity is equal to or less than 50 NTUs. Otherwise, purging will continue until a maximum of ten well volumes have been removed.

- At the conclusion of well purging activities, the turbidity of the well water shall be measured and recorded in the field logbook.

- The tubing shall be raised while the pump is still running until the intake is above the water level. The pump will then be turned off and the tubing will be removed from the well. The well shall be sampled within three hours of evacuation. If the well sits more than three hours, it will be repurged.

- A clean pair of surgical gloves shall be donned by the sampler and the decontaminated bailer and check value removed from the wrapping; the check value will then be screwed into the bottom of the bailer.

- Five feet of teflon coated leader line shall be securely attached to the bailer with a bowline knot. Polypropylene rope will be attached to the other end of the leader line. The bailer will be eased into the water column with as little agitation as possible. After filling the bailer, the bailer shall be carefully removed from the well in preparation of filling the sample containers.

VOC groundwater samples shall be collected as follows:

- The cap from a 40-ml septum (Teflon-faced silicone rubber) vial will be removed. Contact with the inner surface shall be avoided.

- The vial shall be filled with well water so that a meniscus forms at the mouth of the vial; the cap will be screwed onto the vial in one quick motion.

- The vial shall be inspected for air bubbles. If air bubbles are present, the via will be discarded and a new vial will be prepared as detailed above.

- A number label shall be attached to the vial. The vial will than be sealed in a ziplock bag and placed in a cooler with ice. A sufficient number of bags of ice shall be placed in the cooler to completely surround the samples and to maintain a temperature of 4°C until samples are received by the contract laboratory.

- All appropriate field data shall be recorded in the field logbook.

Metals groundwater samples shall be collected as follows:

- Water samples collected for metal analysis will be filtered only if the samples exhibit a turbidity greater than 50 NTU. In this case, the samples will be filtered using a coarse (i.e. 10 micron) filter.

- The metals bottle shall be filled about 90 percent and preserved to a pH of less than 2 with HNO_2. Excess sample will be poured into a separate container to test the pH (using pH paper).

- The cap shall be tightly replaced, a CLP label will be attached and the sample bottle will be sealed in a ziplock bag and placed in a cooler with bagged ice sufficient to cool the media to 4°C.

- All appropriate data shall be recorded in the field log book.

Pesticides groundwater samples shall be collected as follows:

- The pesticides bottle shall be filled about 90 percent. The cap will be tightly replaced, a CLP label will be attached and the sample bottle will be sealed in a ziplock bag and placed in a cooler with bagged ice sufficient to cool the media to 4°C.
- All appropriate data shall be recorded in the field log book.

4.4.4 Sample Labeling, Handling and Shipment

Each sample should be clearly labeled with the sample identification number (i.e. monitoring well number), date and time of sampling, and sample preservative. Once sealed in the zip-lock bag, each sample will be placed in the cooler such that it is completely surrounded with vermiculite. Ice bags should be placed between each layer of samples. An NYSDEC approved chain-of-custody form will be completed and signed. One copy of the chain-of-custody will be retained by the sampling field team leader. The remaining copies will be sealed in a zip-lock bag and taped to the inside of the sample shipment cooler lid. The samples will be shipped via overnight courier to the laboratory for analysis.

5.0 Analytical Program

5.1 Analytical Schedules and Methods

The groundwater samples will be analyzed for volatile organic compounds (VOCs), pesticides and total metals. The number of environmental and QC samples for analysis during each sampling event are presented in Table 5-1. A summary of the sampling requirements for all samples to be collected at the Site is provided in Table 5-2. Organic and inorganic analyses shall be performed in accordance with Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition, 1986, and in accordance with the NYSDEC Analytical Services Protocol, (ASP), 1991. A NYSDOH ELAP certified laboratory shall perform all analyses.

5.2 Laboratory QC Samples

One matrix spike and one matrix spike duplicate shall be required for each groundwater sampling event. Matrix spikes, matrix spike duplicates and surrogate recoveries will be in accordance with NYSDEC ASP 1991 recovery limits. The spike compounds to be used for organic analyses shall be as defined in Method 3500 of SW-846.

5.3 Reporting and Deliverables

The reporting and deliverable requirements for each sampling event will include:

- instrument detection limits (calculated as defined in NYSDEC ASP-1991)
- results summary (for TCL analytes and TIC's)
- chromatograms (total ion)
- quantitation report for TCL analytes and TIC's, listing as a minimum the retention time, hits for TCL analytes, and peak areas
- surrogate percent recovery for each sample surrogate
- internal standard areas for each sample
- method blanks and their associated samples
- matrix spike and matrix spike duplicate summary forms listing the percent recovery and relative percent difference for each spiked analyte

The contract required quantitation limits (CRQL) shall be reported in accordance with Exhibit C of New York State Department of Environmental Conservation Analytical Services Protocol - 1991, pages C-11, 12 and C-33 through C-38.

5.4 Special Analytical Protocols

Samples will not be diluted by the analytical laboratory to remove interferences. Dilution will be permitted only to bring particular analytes within the linear range of calibration. All analytical cleanups will be mandatory, not optional, when matrix interferences occur. The

Table 5-1. Summary of Environmental and QC Samples to be Collected During Each Sampling Event, Schrecks Scrapyard Site, North Tonawanda, NY.

Parameter	Environmental Samples	MS/MSD	Trip Blank	Field Blank	Totals
TCL VOCs	4	1	1	1	7
TCL SVOCs	4	1	0	1	6
TCL Pesticides/PCBs	4	1	0	1	6
TAL Metals	4	1	0	1	6

Table 5-2. Summary of Sampling Requirements for the Schrecks Scrapyard Site, North Tonawanda, NY.

Analysis[1]	Est. No of CLP Samples[2]	Sample Matrix	Sample Preservation	Holding Time from VTSR [3]	Containers
TCL VOC	7	Aqueous	Cool to 4°C 1:1 HCl to pH<2 (2)	preserved: 10 days	3 40-ml glass vials w/ Teflon septum
SVOC/Pesticides/ PCBs	6	Aqueous	Cool to 4°C	5 days to extraction 40 days to analysis	6 1-liter amber glass bottles
Inorganics	6	Aqueous	$HN0_3$ to pH<2 Cool to 4°C	6 months Hg-26 days	1 1-liter polyethylene bottle

FOOTNOTES:

(1) Analyses shall be in accordance with the following ASP 1991 methods: TCL VOC 91-1; TCL SVOC 91-2; Pesticides/PCBs 91-3; Inorganics Series 200/300.

(2) Number includes QC samples

(3) VTSR refers to the verified time of sample receipt. Two days have been allowed for this, hence the reduced holding times which have been otherwise determined by date of sample collection.

(4) Adjust pH of aqueous VOC samples to <2 by the drop-wise addition, to the three 40 ml VOA vials, of 1:1 HCl (made with demonstrated analyte-free deionized water) prior to filing with sample. Determine the number of acid drops required on a fourth sample aliquot (of equal volume) - do not acidify sample if effervescence is observed and indicate on sample label and tag that no acid preservative has been added. If no preservative is used, sample holding time is reduced to 7 days from time of sample collection (or 5 days from VTSR).

type and number of sample cleanups to eliminate these matrix interferences during analysis shall be determined after consultation among the O&M operator, its testing laboratory and NYSDEC.

5.5 Laboratory Audit

A one-day laboratory audit shall be performed during each year of the five year program to verify that laboratory meets the technical standards of industry and can provide reliable defendable data. The audit will include a review of procedures for sample logging, chain-of-custody, sample tracking, container handling, instrument operation, real-time response to QA/QC problems and other applicable protocol. The audit will also include review of QC records, calculations and storage facilities for samples and extracts.

5.6 Data Audit

A data audit shall be performed by the prime contractor to verify that inorganic and organic analyses are performed in accordance with SW-846, 3rd edition methods. The data audit will include review and evaluation of all analytical deliverables described in Section 5.3. Data not meeting audit criteria shall be rejected and resampling may be required.

6.0 Groundwater Monitoring System Maintenance and Check List

The groundwater monitoring system for this site consists of four shallow monitoring wells screened across the water table. This system should require very little maintenance. Evaluation of the monitoring well conditions shall occur during each sampling event. The following observations shall be made:

* condition of the surface water drainage apron and surface casing,
* condition of the internal casing,
* measured depth to water from top of internal casing,
* measured depth to bottom of well from top of internal casing,
* calculated thickness of sediment at bottom of well,
* vertical plumbness of casing and screen,
* measured depth below top of internal casing of any observed obstructions,
* specific capacity, based on drawdown and pumping rate during purging, and
* overall well condition.

7.0 Disposal of Used Material and Waste

The sampling contractor shall arrange for proper off-site disposal of all solid waste generated during each sampling event. The sampling contractor shall stage all solid waste prior to off-site disposal using containers suitable for the solid waste generated.

8.0 Reporting

Data generated from these sampling activities shall be reported to NYSDEC periodically in order to support evaluations and/or decisions regarding the effectiveness of the remedial alternative implemented at this site. Assuming that the monitoring period will last for a minimum of five years, data will be reported in a minimum of four Interim Reports (during the first year of monitoring), four Annual Reports and one Five Year Review Report.

All reports are to be sent to:

Gerald Rider, P.E.
Chief, Operation and Maintenance Section
Bureau of Hazardous Site Control
DHWR
50 Wolf Road
Albany, NY 12233-7010

Daniel King, P.E.
RHWE
NYSDEC, Region 9
270 Michigan Avenue
Buffalo, NY 14203-2999

Dawn Hettrick
Environmental Exposure Invest.
NYSDOH
2 Universal Place
Albany, NY 12203-3399

8.1 Interim Reports

Each interim report shall include the following main elements:

* a summary table detailing all of the required monitoring system check list items listed in Section 6.0 above;
* a summary table listing all depth to water measurements, calculated water table elevations, calculated purge volumes, well purge parameters (i.e. temperature, conductivity, turbidity and pH) measured during well purging, and actual purge volumes;
* data summary tables showing concentrations of VOCs, pesticides and inorganic compounds detected in all wells;
* a minimum of one map showing water table equipotential lines and listing the concentrations of VOCs and pesticides detected at concentrations in excess of the NYSDEC Maximum Concentration Levels (MCLs) at each well,
* a brief discussion of all data presented in the report, and
* all data QC information, provided in attachments to the main report.

8.2 Annual Reports

The main purpose of the report will be to evaluate temporal changes in all data sets which occur over the report period. This information shall be used to support evaluations of the effectiveness of the selected remedial alternative and to support recommendations concerning additional groundwater monitoring or remedial activities which may be required. Each annual report shall recommend sampling frequency for the subsequent year. The annual reports will consist of a compendium of data and observations obtained during the reporting period. The data shall be presented in summary tables. The appropriate reports (i.e., interim reports) will be referenced for data QC information.

8.3 Five Year Review Report

The purpose of the Five Year Review Report shall be to evaluate the overall effectiveness of the selected remedial alternative. Summary information from each of the Annual Reports for the first four years will be presented along with summary data from each report (i.e. quarterly or biannual reports) generated during the fifth year. This information shall be used to determine whether or not the implemented remedial alternative will result in attainment of the groundwater cleanup goals for the site in a reasonable time frame. If it appears that these goals will not be attained in a reasonable time frame, additional groundwater remedial measures shall be recommended.

[docs\nysdec\schrecks\gwplan\rpts]

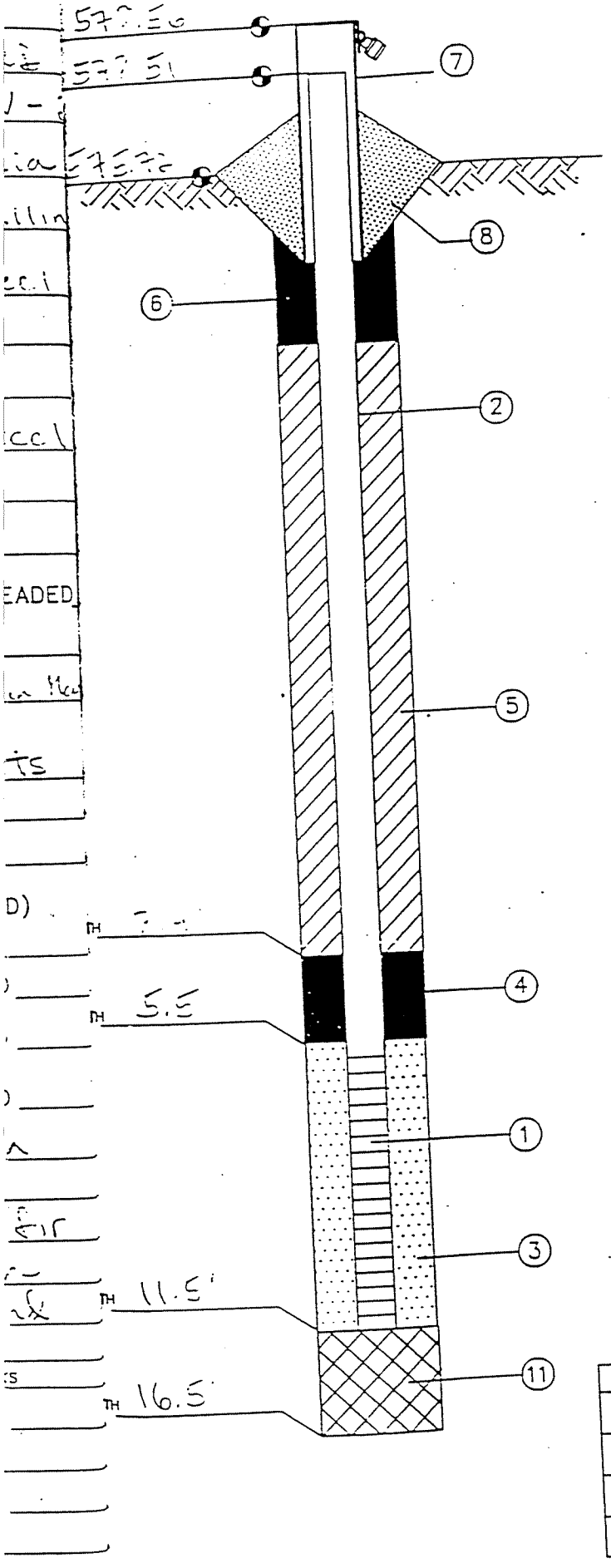
REFERENCES

Eder Associates, 1990. **Schreck's Scrapyard Remedial Investigation Phase I and II.** Report prepared on behalf of NYSDEC by Eder Associates, Inc.

APPENDIX A

WELL CONSTRUCTION DIAGRAMS

ALL DEPTHS MEASURED FROM GROUND SURFACE



MONITORING WELL CONSTRUCTION INFORMATION

JOB No. 611-1 CLIENT NYSDEC

LOCATION SCHENECKS LANDFILL

DATE 12-12-88 WELL No. MW-3

HYDROGEOLOGIST Nicholas Recchia

DRILLING CONTRACTOR Wisc. Test Drilling

1.) SCREEN TYPE Stainless Steel

SLOTTED LENGTH 5.0 ft.

SLOT SIZE 0.010 inches

2.) SOLID PIPE TYPE Stainless Steel

SOLID PIPE LENGTH 10.' ft.

PIPE & SCREEN DIA. 2 in.

JOINT TYPE – SLIP/GLUED ____ THREADED ✓

3.) TYPE OF BACKFILL AROUND SCREEN #2.0 Silica Sand (Amer. Colloid Co.)

4.) TYPE OF LOWER SEAL (IF INSTALLED) hydrated bentonite pellets

5.) TYPE OF BACKFILL cement

HOW INSTALLED poured

6.) TYPE OF SURFACE SEAL (IF INSTALLED) Concrete cement

7.) PROTECTIVE CASING – YES ✓ NO ____

LOCKING CAP YES ✓ NO ____

8.) CONCRETE SEAL – YES ✓ NO ____

9.) DRILLING METHOD hollow stem auger

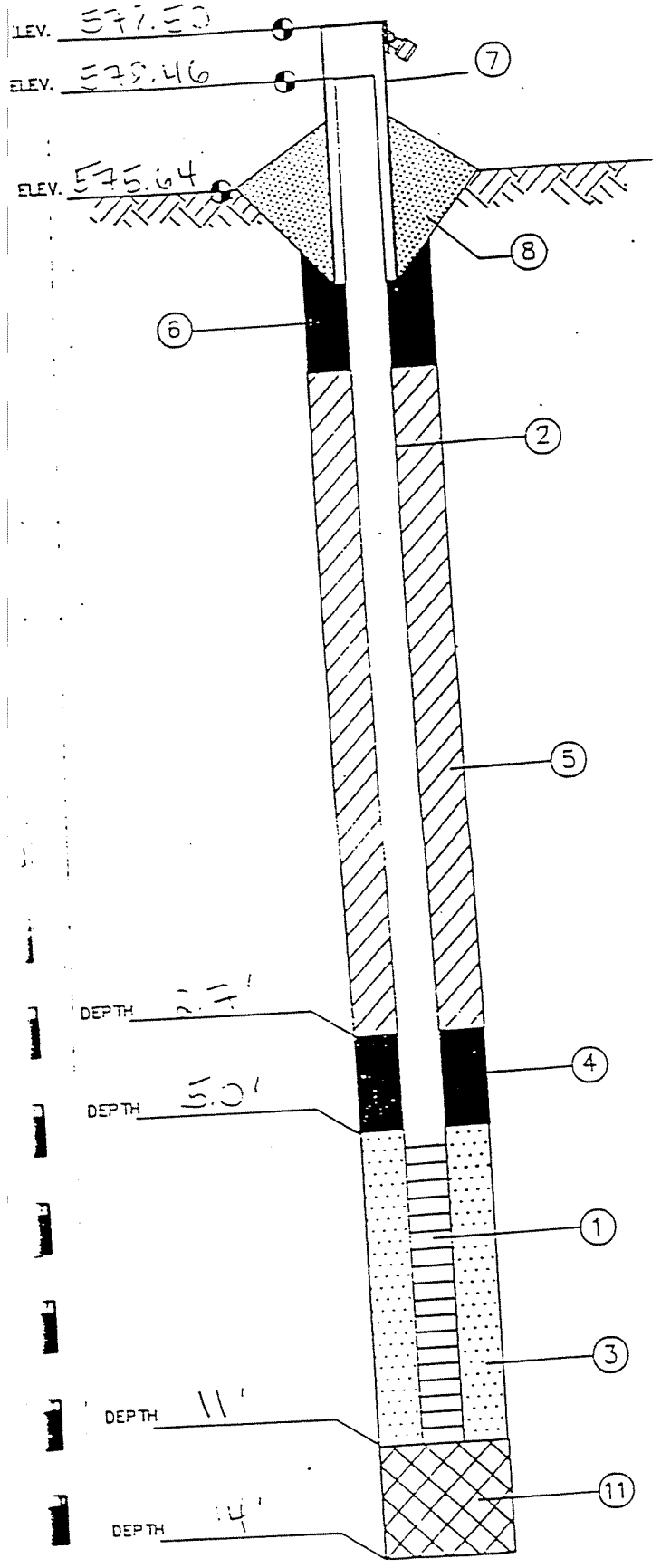
10.) ADDITIVES USED (IF ANY) water for bentonite pellet hydration

11.) TYPE OF BACKFILL Natural cave-in of the sil San

WATER LEVEL CHECKS *

DATE	TIME	DEPTH TO WATER	REMARKS
12/2	EOB	7.30	

* FROM TOP OF WELL CASING



MONITORING WELL CONSTRUCTION INFORMATIO

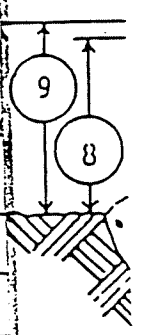
JOB No. 6[illegible]-1 CLIENT NYSEG

LOCATION SCHRECKS SCRAPYARD

DATE 12/1-188 WELL No. MW-4

HYDROGEOLOGIST Nicholas Rocchia

DRILLING CONTRACTOR Wisc. Test Drilli



1.) SCREEN TYPE stainless steel

SLOTTED LENGTH 5.0

SLOT SIZE 0.010 inches

2.) SOLID PIPE TYPE stainless steel

SOLID PIPE LENGTH 10

PIPE & SCREEN DIA. 2

JOINT TYPE – SLIP/GLUED ____ THREADED

3.) TYPE OF BACKFILL AROUND SCREEN #30 silica sand (American M

4.) TYPE OF LOWER SEAL (IF INSTALLED) hydrated bentonite pellets

5.) TYPE OF BACKFILL cement

HOW INSTALLED grout

6.) TYPE OF SURFACE SEAL (IF INSTALLED) concrete cement

7.) PROTECTIVE CASING – YES ✓ NO ____

LOCKING CAP YES ✓ NO ____

8.) CONCRETE SEAL – YES ✓ NO ____

9.) DRILLING METHOD hollow stem au

10.) ADDITIVES USED (IF ANY) water for bentonite pellet hydration

11.) TYPE OF BACKFILL natural cave-in

WATER LEVEL CHECKS *

DATE	TIME	DEPTH TO WATER	REMARKS
12/2	EOB	8.3	
12/5		8.5	

* FROM TOP OF WELL CASING

TECHNICAL DRILLING SERVICES

HOLE NO. B-2 MW#5R
ELEV. _____

531 N. DAVIS RD.
ELMA, N.Y. 14059

DRILLING LOG

MW#5R

Client ISI
Project Schrek Wrecking Yard Project No. 09421
Location Schenk Road, Tonowanda, N.Y.

Date: Started 7-5-94 Completed 7-5-94 Driller C Rengert
Sampler: Dia 2 ins. Type SS Hammer Wt. 140 lbs. Fall 30 ins.
Casing: Dia _____ ins. Type _____ Hammer Wt. _____ lbs. Fall _____ ins.
Water/Mud used in drilling Yes _____ No x Other _____

Depth (Ft.)	Material Description	Sample No	Sample Depth	Blows/0.5'	N	Rec (ft.)
4'	Very stiff, gray to black, silt and fine to very fine sand, moist	1	4-6	8-7-8-9	15	2
6.5'		2	6-8	10-22-22-20	44	1.5
	Dense, gray, coarse to fine sand, little silt, damp	3	8-10	4-7-8-8	15	1.3
8'		4	10-12	4-5-7-10	12	1.5
	Very stiff, brown, silt, some fine to very fine sand, wet	5	12-14	10-12-15-14	27	1.8
11'		6	14-16	4-5-6-7	11	1.7
	Stiff, brown, clayey silt, trace fine to very fine sand, moist					
	BOH 16'					

Water Depth: During Drilling _____ Ft.; Upon Compl. _____ Ft.; _____ Hrs. after Compl. _____ Ft.

Weather/Remarks: _____

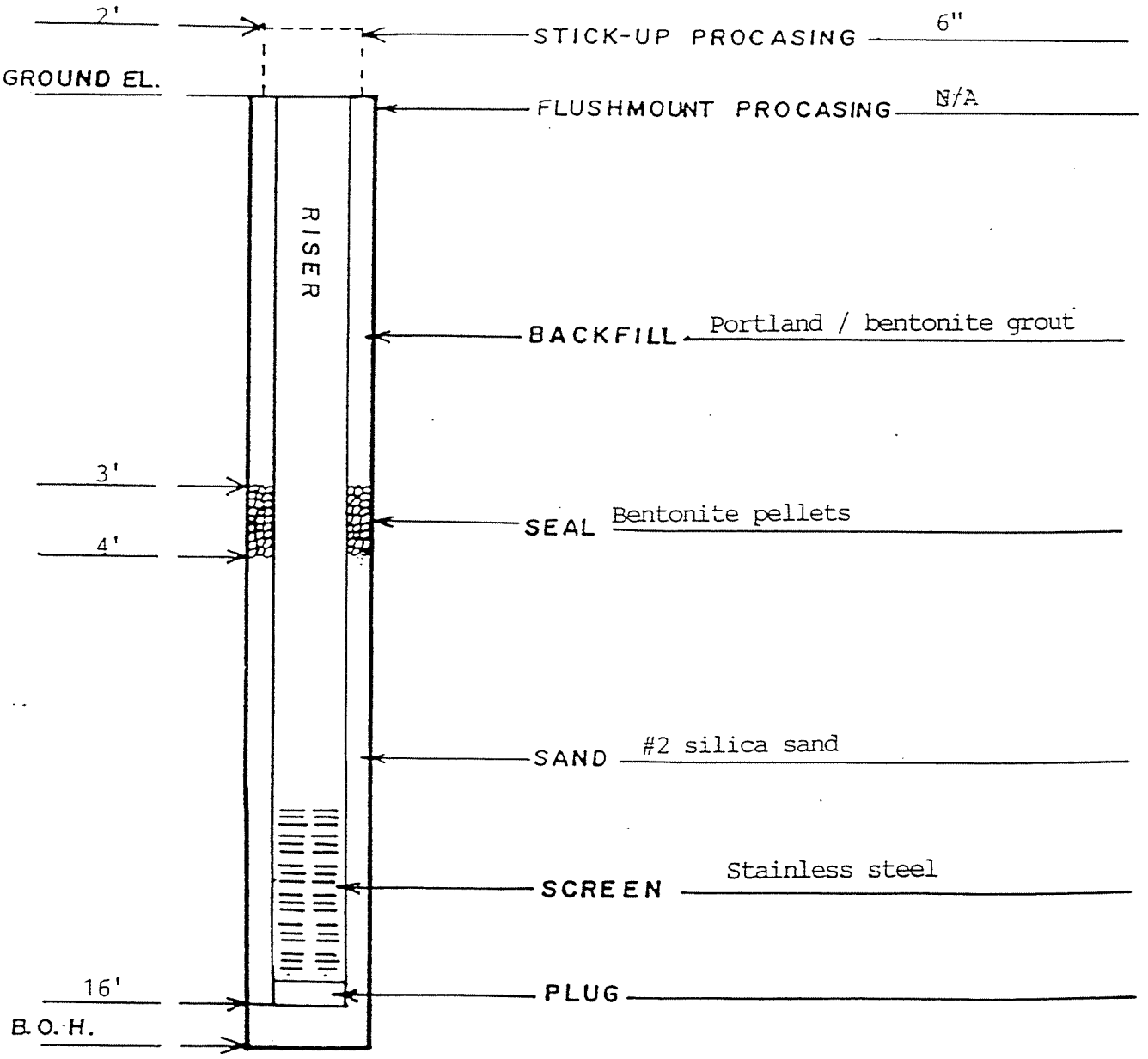
TECHNICAL DRILLING SERVICES

Auger • Coring • Monitoring Wells
531 North Davis Road
Elma, New York 14059
(716) 652-7858

Client: ISI MW#5R — Start: July 5, 1994

Project No.: 09421 — Completed: July 5, 1994

Boring No.: B-2 S.S — Well: 2 "- Sch. 304



TECHNICAL DRILLING SERVICES

HOLE NO. B-1 MW#6R
ELEV. _____

531 N. DAVIS RD.
ELMA, N.Y. 14059

DRILLING LOG

MW#6R

Client ISI
Project Schrek Wrecking Yard Project No. 09421
Location Schenk Road, Tonowanda, New York

Date: Started 7-5-94 Completed 7-5-94 Driller C. Rengert
Sampler: Dia 2 ins. Type SS Hammer Wt. 140 lbs. Fall 30 ins.
Casing: Dia _____ ins. Type _____ Hammer Wt. _____ lbs. Fall _____ ins.
Water/Mud used in drilling Yes _____ No x Other _____

Depth (Ft.)	Material Description	Sample No	Sample Depth	Blows/0.5'	N	Rec (ft.)
0	Medium dense, brown, silt, little fine to very fine sand, trace fine gravel damp	1	0-2	13-14-10-8	24	1.6
		2	2-4	5-12-19-50/.4	50/.4	Ø
	cobbles @ 5'					
7'		3	4-6	5 4-6-6	10	1.6
	Very stiff, gray to brown, silt, little fine to very fine sand, wet	4	6-8	6-8-8-9	16	1.6
10.5'		5	8-10	5-2-2-5	4	2
	Loose, gray, fine gravel, some coarse to fine sand, little silt, saturated	6	10-12	5-4-4-7	8	2
11.6'		7	12-14	3-4-6-6	10	1.7
	Medium stiff, red brown, silt, little fine to very fine sand, trace fine gravel, moist	8	14-16	6-8-7-6	15	1.1
	BOH 16'					

Water Depth: During Drilling _____ Ft.; Upon Compl. _____ Ft.; _____ Hrs. after Compl. _____ Ft.

Weather/Remarks: _____

TECHNICAL DRILLING SERVICES

Auger • Coring • Monitoring Wells
531 North Davis Road
Elma, New York 14059
(716) 652-7858

Client: ISI MW#6R — Start: July 5, 1994

Project No.: 09421 — Completed: July 5, 1994

Boring No.: B-1 — Well: "- Sch.