

Seaway - 1110-1-81000 52-27

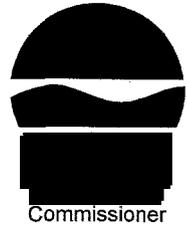
**New York State Department of Environmental Conservation
Division of Solid and Hazardous Materials, Region 9**

270 Michigan Avenue, Buffalo, New York, 14203-2999

Phone: (716) 851-7220 • FAX: (716) 851-7226

Website: www.dec.state.ny.us

1024



May 9, 2001

[REDACTED]
U.S. Army Engineering District
1776 Niagara St
Buffalo, NY 14207

Dear [REDACTED]:

Niagara (Seaway) Landfill
#15504

This letter is being written in response to your request at our meeting on December 7, 2000 for additional information concerning the groundwater contamination that has been identified at the closed Niagara Landfill.

The post-closure monitoring program consists of quarterly monitoring of seventeen wells which surround the landfill. Most of these wells were installed in 1987 and 1989 during two hydrogeologic investigation programs conducted at the landfill at the request of the Department, while a few are older wells. The attached table summarizes the construction of the wells. All of the wells are bedrock wells monitoring the upper portion of the Camillus shale except for wells 5, 9A, and 14S, which are overburden monitoring wells monitoring sandier zones in the clayey overburden.

The site geology consists of about 60-100 ft of overburden overlying shale bedrock which has a slight dip to the northwest, but flattens toward the north (toward the river). The overlying soils consist of an upper clay unit characterized as a red-brown clay and silt with lesser amounts of intermixed sand and gravel, and a stiff to hard consistency, ranging from 0-65 feet in thickness. Below this is a glaciolacustrine clay unit which is continuous across the site, consisting of soft to very soft clay about 5-45 feet thick, thinning towards the river. Below this zone is a zone characterized by previous investigators as a basal glaciolacustrine clay zone located in the north portion of the site. It is 0-8 feet thick and consists of thicker and more frequent silt and sand beds. Glacial till overlies the bedrock and is characterized as sand, with variable amounts of silt, clay and gravel. Groundwater is present in both the bedrock and the sandy zones within the clay and till deposits. Bedrock groundwater flow is toward the river.

Groundwater monitoring data obtained over a period of several years exhibits elevated levels of several leachate constituents in some of the monitoring wells. Wells W-8, W-11, W-12, W-13, and W-14D have shown elevated levels of parameters including BOD, COD, ammonia, chloride, arsenic, hexavalent chrome, iron, boron, and phenols. Low levels of volatile organics have been detected in

SEA_0312

some of the wells. The wells which are showing elevated parameter levels surround the north side of the landfill, downgradient from the landfill disposal areas. The attached drawings summarize the concentrations of parameters of interest from the February, May and August 200 sampling events.

The presence of contaminants in the bedrock wells downgradient of the landfill and the general lack of elevated values at the south end upgradient of the landfill suggests that waste disposal activities have impacted groundwater in the bedrock. The landfill, however, is in a highly industrialized area, so impacts from other adjacent facilities cannot be ruled out. Facility monitoring is continuing on a quarterly schedule and this data can be made available to your staff. Please contact this office at [REDACTED] if you need additional information or wish to review the data contained in our files.

Very truly yours,

[REDACTED]

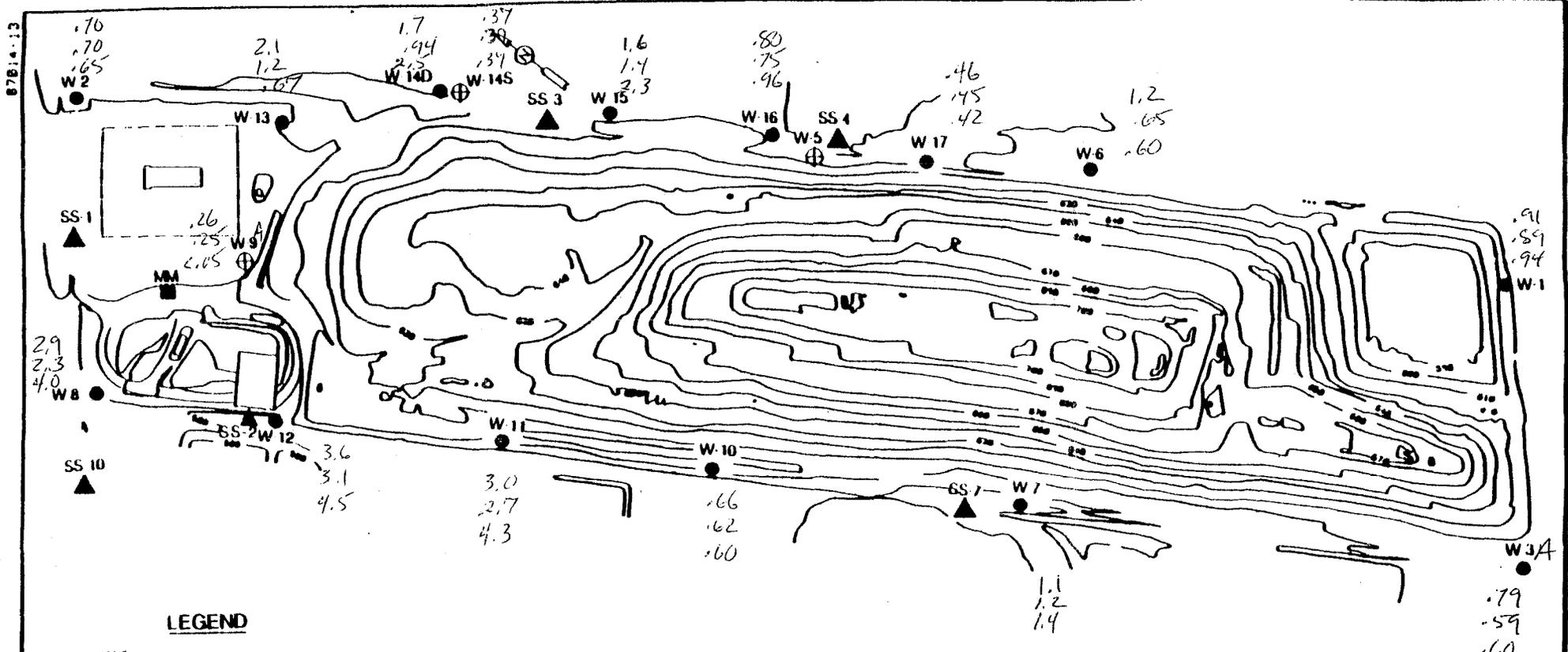
Regional Solid Materials Engineer

cc: [REDACTED], Engineering Geologist II

Well Installation Data - Niagara Landfill

<u>Well Number</u>	<u>Construction Data</u>	<u>Date Installed</u>	<u>Total Depth</u>	<u>Depth to Bedrock</u>	<u>Screen Zone</u>	<u>Formation Screened</u>
W-1	4" casing, open hole in rock	1/79	74.8	64.2	64.2 - 74.8	Camillus shale
W-2	4" casing, open hole in rock	1/79	105.2	95.2	95.2 - 105.2	Camillus shale
W-3A	4" casing, open hole in rock	4/83	68.5	60.0	60 - 68.5	Camillus shale
W - 5	1.5" casing	1/84	15.0	-	11 - 14	silty clay
W-6	4" casing, open hole in rock	10/87	107.0	92.0	96.5 - 107.0	Camillus shale
W-7	4" casing, open hole in rock	10/87	87.5	73.6	78.0 - 87.5	Camillus shale
W-8	4" casing, open hole in rock	11/87	88.4	76.4	78.4 - 88.4	Camillus shale
W-9A*	2" PVC	1990	61.4	-	54.2-59.2	fine to coarse Sand zone
*replaced well 9 which was installed in 1987; log from well 9 used						
W-10	4" casing, open hole in rock	8/89	89.5	75.5	79.5-89.5	Camillus shale
W-11	4" casing, open hole in rock	8/89	114.0	99.8	104.0 - 114.0	Camillus shale
W-12	4" casing, open hole in rock	5/89	101.3	85.0	90.0 - 101.3	Camillus shale
W-13	4" casing, open hole in rock	6/89	100.7	86.0	89 - 101.0	Camillus shale
W-14D	4" casing, open hole in rock	6/89	113.3	100.3	103.3 - 113.3	Camillus shale
W-14S	2" PVC	7/89	68.0	-	62.5 - 67.5	upper 5 ft. of sand zone above rock
W-15	4" casing, open hole in rock	6/89	96.0	82.5	86.1 - 96.0	Camillus shale
W-16	4" casing, open hole in rock	7/89	96.0	83.0	86.0 - 96.0	Camillus shale
W-17	4" casing, open hole in rock	6/89	96.5	84.5	86.5 - 96.5	Camillus shale

ammonia
 - 2/0
 - 5/0
 - 8/00

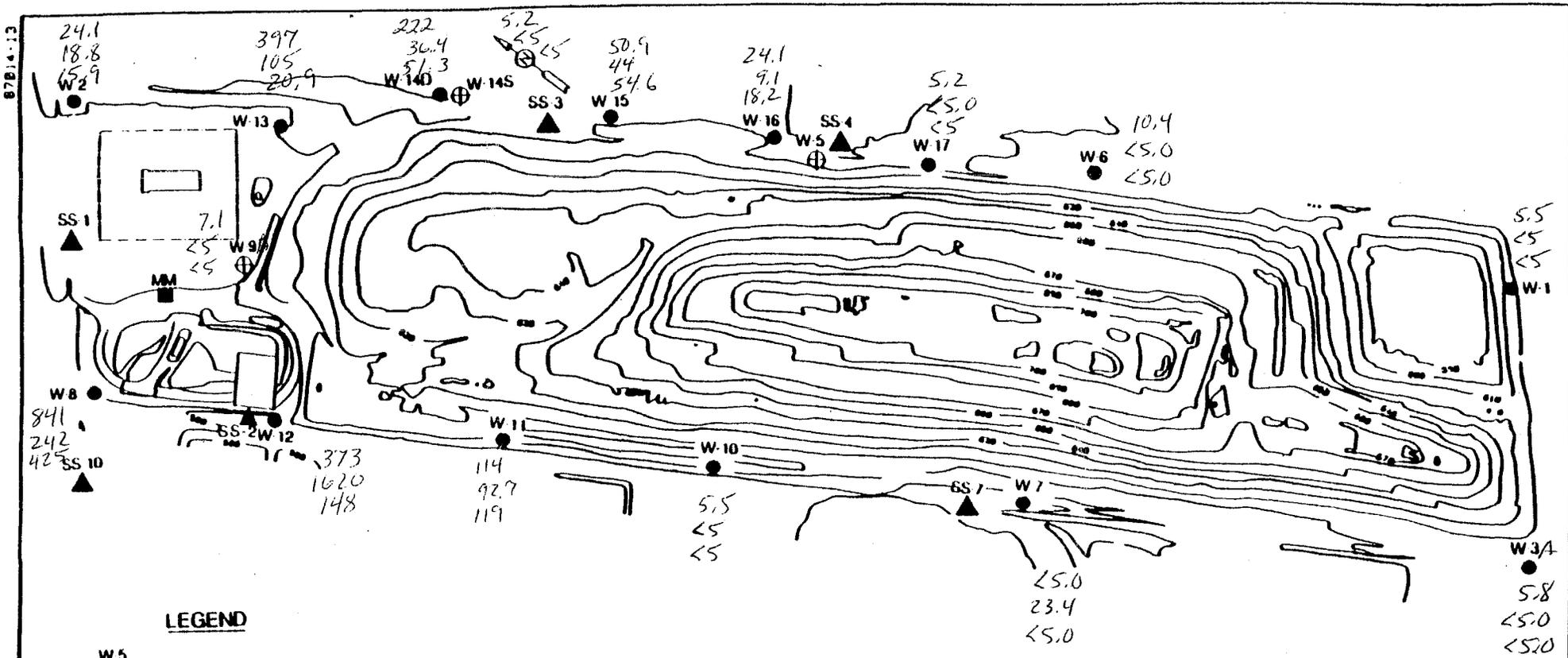


LEGEND

- W5 ⊕ OVERBURDEN MONITORING WELL
- W1 ● BEDROCK MONITORING WELL
- SS1 ▲ SURFACE WATER SAMPLING POINT
- MM ■ LEACHATE METERING MANHOLE

 NECHA ENVIRONMENTAL INC.	Scale: NTS		SEAWAY INDUSTRIAL PARK SANITARY LANDFILL TONAWANDA, NEW YORK	MONITORING LOCATION MAP		
	Dwn.	By		Date		
	Ckd.	RS		2/90		
	Ap'vd.					
	Rev.					
			Project No. 9C2131A	B	FIGURE 2	

COD
 - 2/90
 - 5/90
 - 8/90



LEGEND

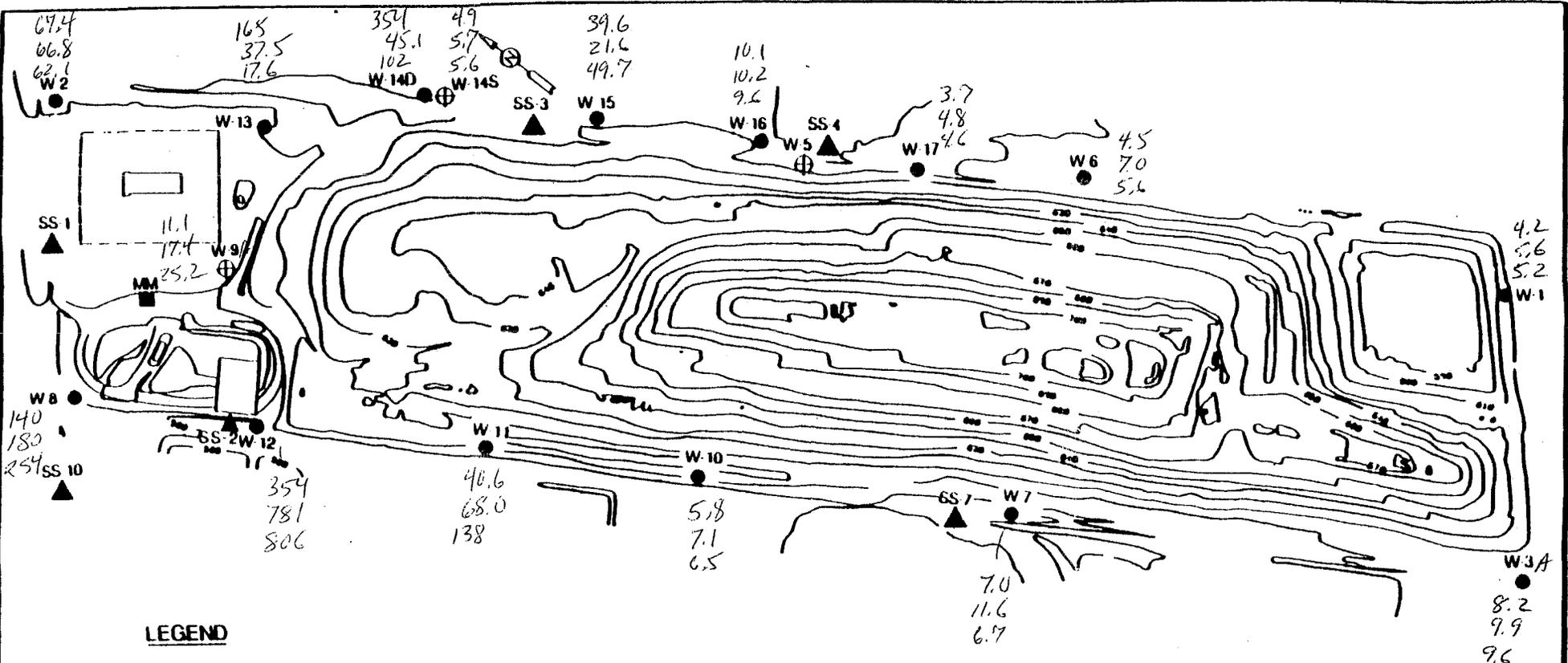
- W5 ⊕ OVERBURDEN MONITORING WELL
- W1 ● BEDROCK MONITORING WELL
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	By	Date		
	Dwn. RS	2/90		
	Chd.			
	Ap'vd.			
Rev.		Project No. 9C2131A	B	FIGURE 2

Chloride

- 2/00
- 5/00
- 8/00

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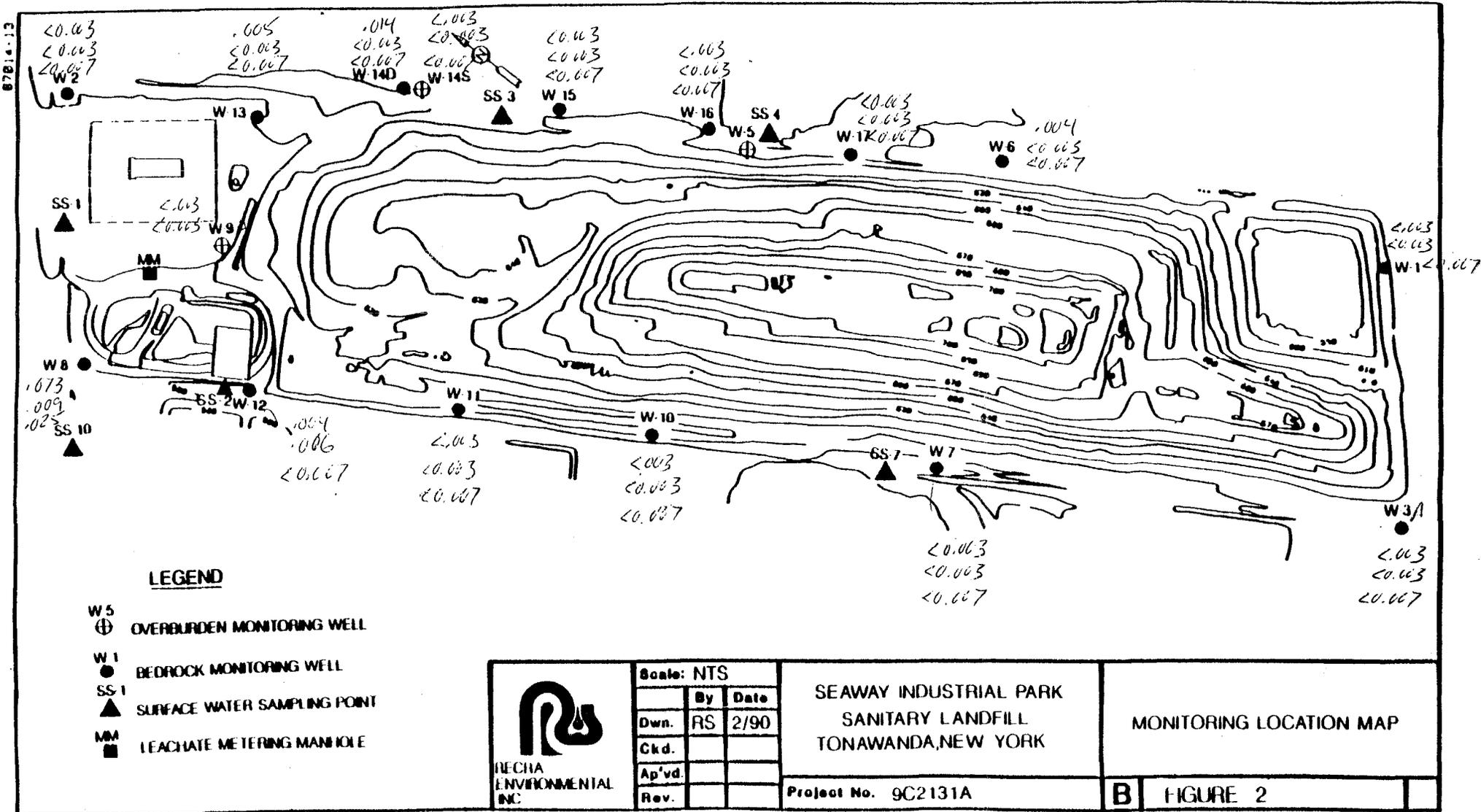
LEGEND

- W 5 ⊕ OVERBURDEN MONITORING WELL
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	Ckd.			
	Ap'vd.			
Rev.		Project No. 9C2131A	B	FIGURE 2

ARSENIC

- 2/00
- 5/00
- 8/00

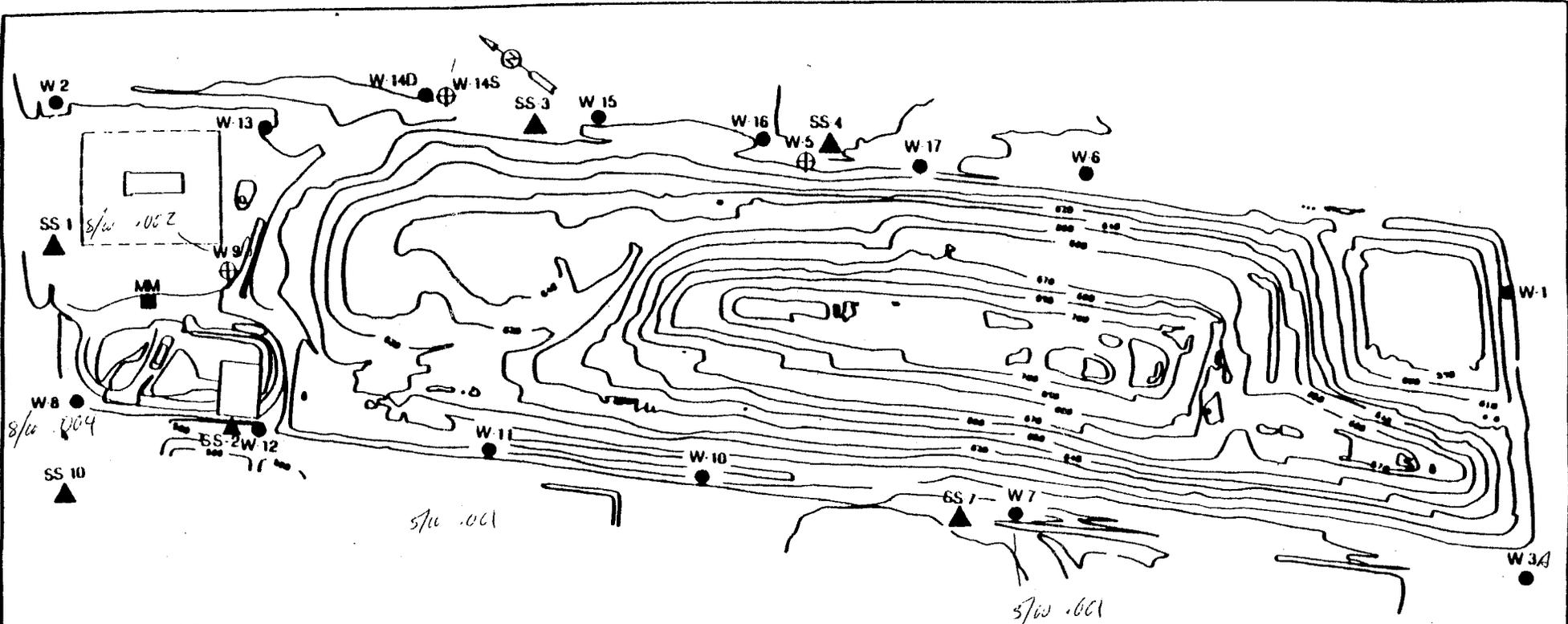


Cadmium

all < 0.001 2/90
all MS excavated 5/90
all MS excavated 5/90

5/90, 001

87814-13



LEGEND

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- W 1 ● BEDROCK MONITORING WELL
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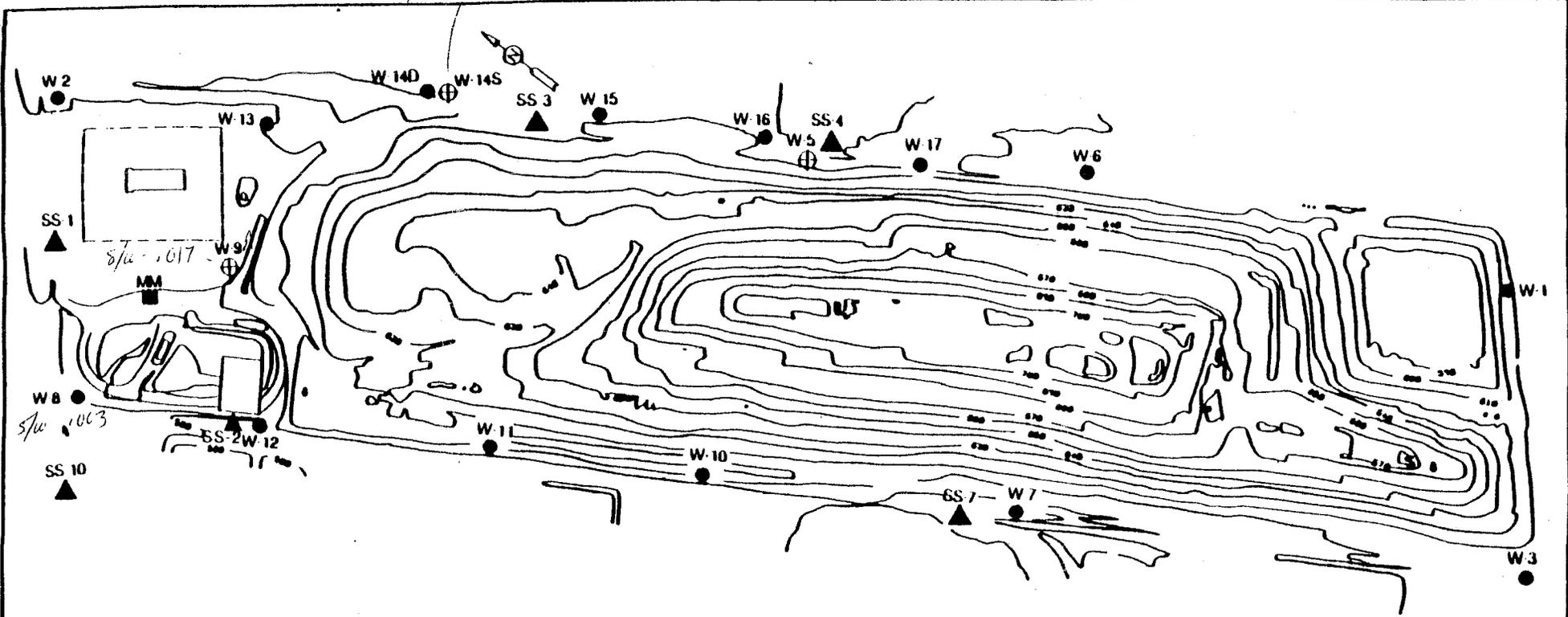
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	Dwn.	By			Date
	Ckd.	RS			2/90
	Ap'vd.				
	Rev.				
Project No. 9C2131A			B	FIGURE 2	

Lead

all MSX 0.003 2/00
all MS exc as noted 5/00
all MS exc as noted 8/00

5/00 0.003

87814-13



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Scale: NTS		
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Rev.		

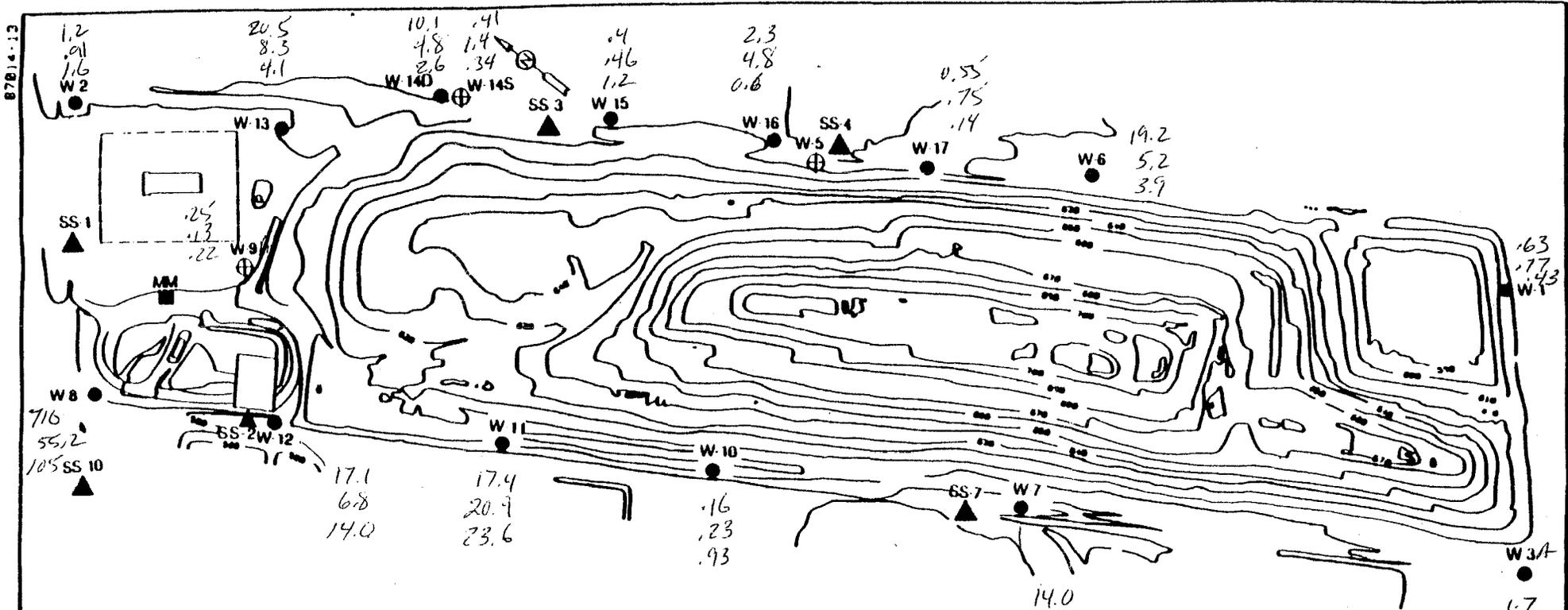
SEAWAY INDUSTRIAL PARK
SANITARY LANDFILL
TONAWANDA, NEW YORK

Project No. 9C2131A

MONITORING LOCATION MAP

B FIGURE 2

Iron
 - 2/w
 - 5/w
 - 8/w



LEGEND

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Scale: NTS		
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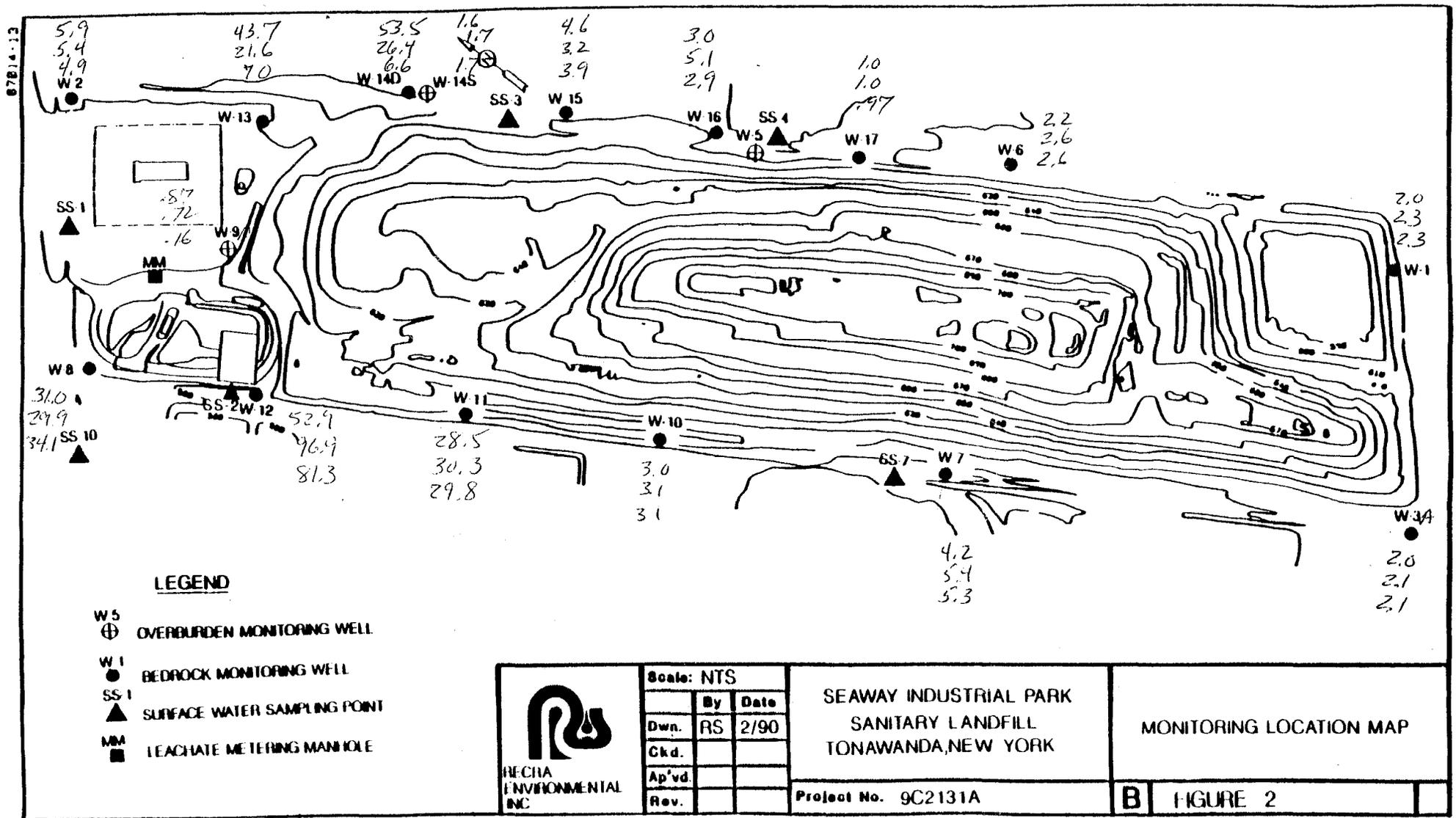
SEAWAY INDUSTRIAL PARK
 SANITARY LANDFILL
 TONAWANDA, NEW YORK

Project No. 9C2131A

MONITORING LOCATION MAP

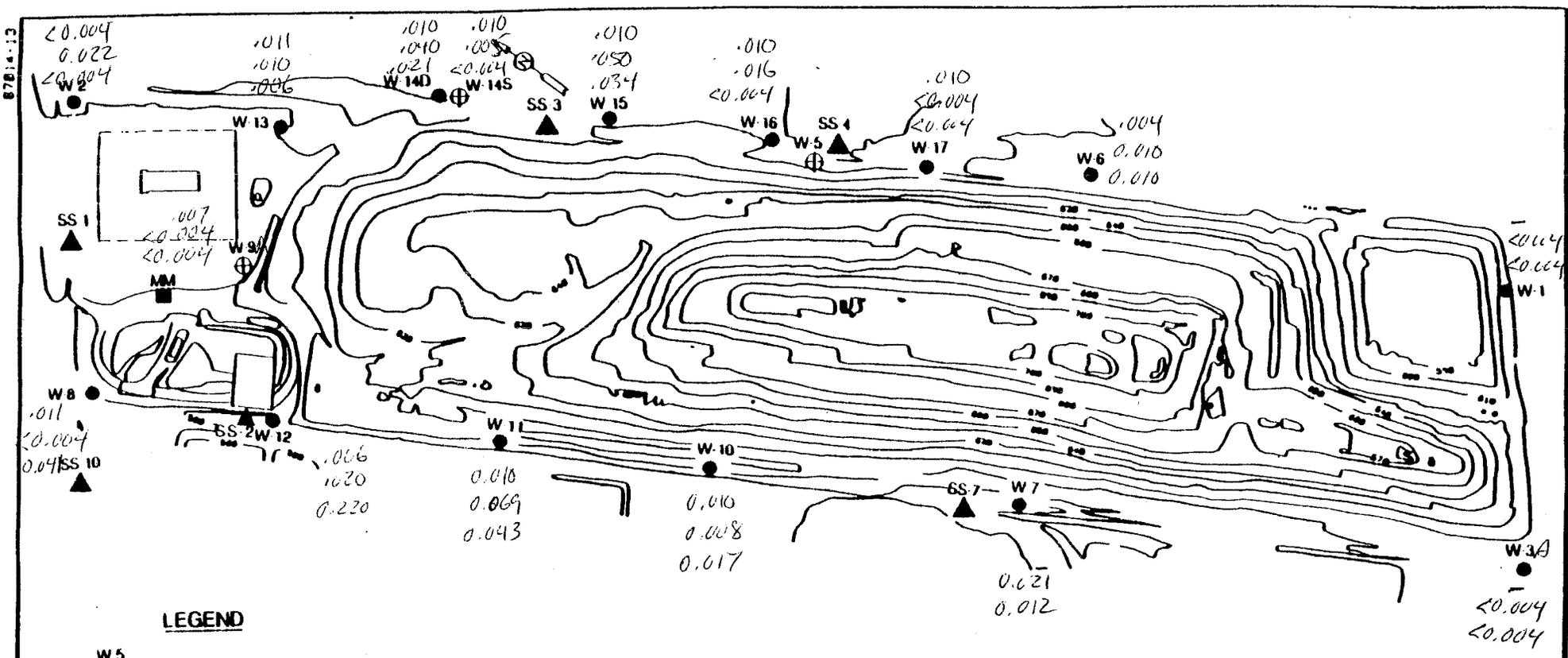
B FIGURE 2

Boron
 - 2/00
 - 5/00
 - 8/00



- means data questionable
(det limit 2/100 = 0)

Phenols
 - 2/100
 - 5/100
 - 8/100

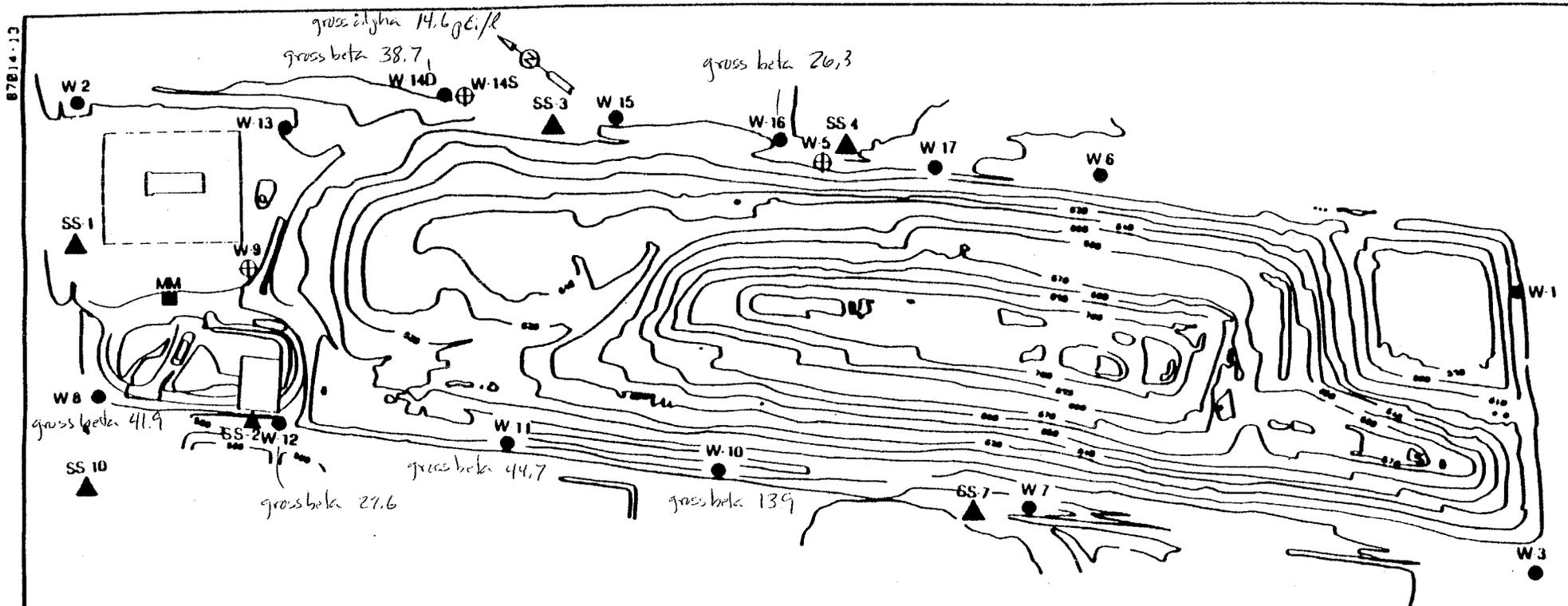


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	By	Date			
	Dwn. RS	2/90			
	Chd.				
	Ap'vd.				
Rev.					

gross alpha 5/100
 gross beta
 rest undetects (varying
 detection limits)



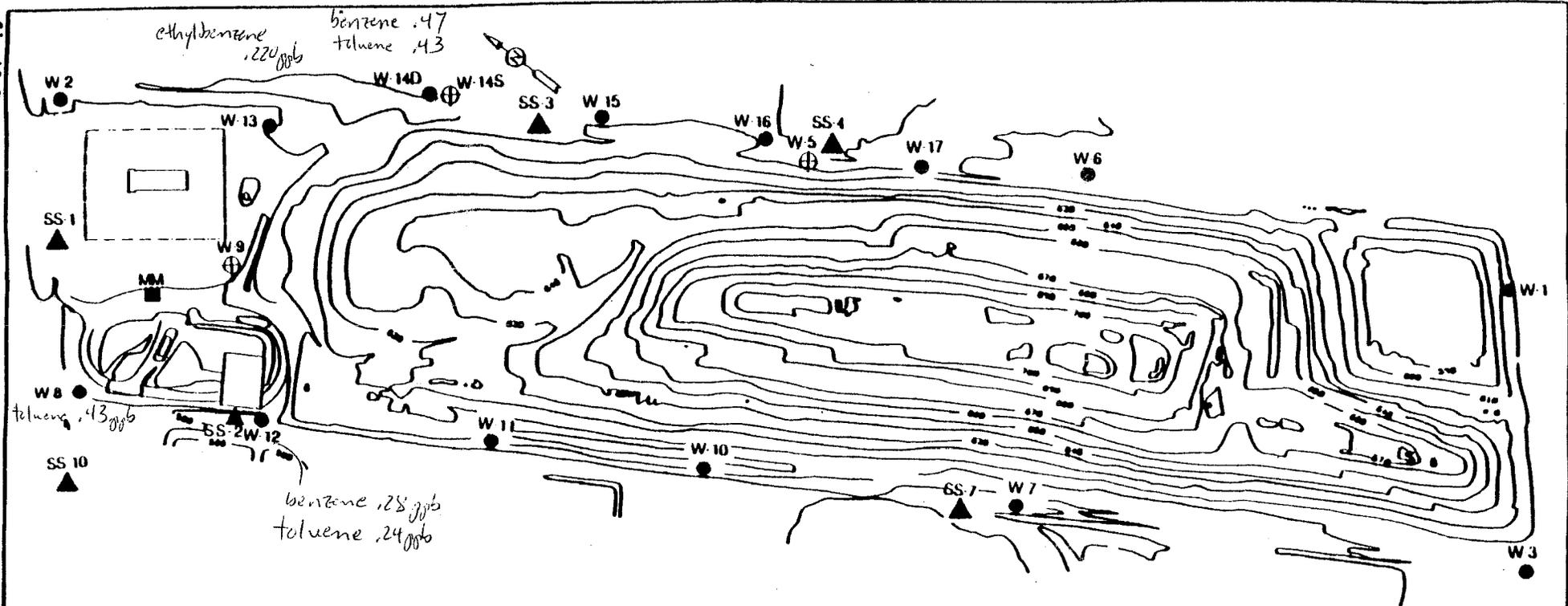
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	By	Date			
	Dwn. RS	2/90			
	Ckd.				
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Rev.					

Volatiles opb.
601/662
5/00

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LEGEND

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SEAWAY INDUSTRIAL PARK
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TONAWANDA, NEW YORK

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MONITORING LOCATION MAP

B FIGURE 2