

New York State Department of Environmental Conservation
Division of Hazardous Waste Remediation
Bureau of Hazardous Site Control
Additions/Change to Registry Summary of Approvals

Site Name CARBORUNDUM GLOBAL DEC I.D. Number 932036

Current Classification 2a

Activity: Add as Class Reclassify to 2 Delist Category Modify

Approvals:

Regional Hazardous Waste Engineer Yes No

NYSDOH Yes No

DEE Yes No

BHSC: a. Investigation Section Yes No

b. Site Control Section Robert Manning Date 11/29/93

c. Director John J. ... Date 12/2/93

DHWR Assistant Director Charles ... Date 12/3/93

Notification letter mailed 12/14/93

For Proposed Class 2a Site Only:

Anticipated Action: _____

By Whom: _____

Time Frame: _____



REGISTRY SITE CLASSIFICATION DECISION

1. SITE NAME CARBORUNDUM GLOBAL	2. SITE NUMBER 932036	3. TOWN/CITY/VILLAGE NIAGARA	4. COUNTY NIAGARA
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5. REGION 9	6. CLASSIFICATION CURRENT 2A PROPOSED 2 MODIFY
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7. LOCATION OF SITE (Attach U.S.G.S. Topographic Map showing site location)

a. Quadrangle NIAGARA FALLS b. Site Latitude 43° 07' 20" Site Longitude 79° 02'

c. Tax Map Number 130.19-2-1 and 130.19-2-2

8. BRIEFLY DESCRIBE THE SITE (Attach site plan showing disposal/sampling locations)

THE CARBORUNDUM GLOBAL PLANT MANUFACTURES HEATING ELEMENTS AND ELECTRONIC COMPONENTS FROM SILICON CARBIDE. THE SITE IS RELATIVELY FLAT AND MOSTLY PAVED OR GRAVEL COVERED. THE SITE CONTAINS A "MONKEY CAGE" USED FOR THE STORAGE OF EMPTY DRUMS AND SCRAP METAL AWAITING REMOVAL FOR RECYCLING. "MONKEY CAGE" AREA WAS FORMALLY USED FOR THE STORAGE OF SPENT SOLVENTS PRIOR TO DISPOSAL. ALSO PAPER, CARDBOARD, AND WOODEN PALLETS WERE INCINERATED IN THIS AREA.

a. Area 1 acres b. EPA ID Number NYD000513366

c. Completed Phase I Phase II PSA RI/FS PA/SI Other

9. Hazardous Waste Disposed (Include EPA Hazardous Waste Numbers)

SPENT HALOGENATED SOLVENTS F001

SPENT NON-HALOGENATED SOLVENTS F004 & F005

10. ANALYTICAL DATA AVAILABLE

a. Air Groundwater Surface Water Sediment Soil Waste Leachate EPTox TCLP

b. Contravention of Standards or Guidance Values

THE DATA INDICATE THE CONTRAVENTION OF GROUND WATER STANDARDS FOR VOLATILE ORGANIC COMPOUNDS IN THE OVERBURDEN AND BEDROCK GROUNDWATER ZONES; VINYL CHLORIDE 1300ppb, 1,2-DICHLOROETHENE 2300ppb, TRICHLOROETHENE 670ppb

SOIL GUIDANCE VALUES AS FOUND IN TAGM HWR-92-4046 HAVE BEEN EXCEEDED BY: VINYL CHLORIDE 400ppb, 1,2-DICHLOROETHENE 37000ppb, TRICHLOROETHENE 300000ppb, BENZENE 140ppb, TOLUENE 63000ppb ETHYLBENZENE 90000ppb, TOTAL XYLENES 400000ppb

11. JUSTIFICATION FOR CLASSIFICATION DECISION

WHILE NO ACTUAL INTENTIONAL DISPOSAL OF HAZARDOUS WASTE IS SUSPECTED, CONTAMINATION OCCURRED AS A RESULT OF SPILLS AND LEAKS ASSOCIATED WITH PLANT OPERATION. OVERBURDEN SOIL HAS BEEN FOUND TO BE CONTAMINATED WITH VOLATILE ORGANICS. WHILE GROUND WATER HAS BEEN FOUND TO BE CONTAMINATED WITH VOLATILE ORGANICS. CONTAMINATED GROUND WATER IS MIGRATING OFF SITE. THE SIGNIFICANT THREAT HAS BEEN DETERMINED TO EXIST DUE TO THE DOCUMENTED DISPOSAL OF HAZARDOUS WASTE RESULTING IN THE CONTRAVENTION OF GROUND WATER STANDARDS ON SITE, MIGRATION OF CONTAMINATED GROUND WATER FROM THE SITE AND THE PROXIMITY OF RESIDENTIAL PROPERTIES ADJACENT TO THE FACILITY.

12. SITE IMPACT DATA

a. Nearest Surface Water: Distance 6500 ft. Direction WEST Classification A-SPECIAL

b. Nearest Groundwater: Depth 10 ft. Flow Direction WSW Sole Source Primary Principal

c. Nearest Water Supply: Distance 15000 ft. Direction SOUTH Active Yes No

d. Nearest Building: Distance 0 ft. Direction ON-SITE Use INDUSTRIAL

e. In State Economic Development Zone? Y N i. Controlled Site Access? Y N

f. Crops or livestock on site? Y N j. Exposed hazardous waste? Y N

g. Documented fish or wildlife mortality? Y N k. HRS Score _____

h. Impact on special status fish or wildlife resource? Y N l. For Class 2: Priority Category 3

13. SITE OWNER'S NAME THE CARBORUNDUM COMPANY	14. ADDRESS 1625 BUFFALO AVE. PO BOX 337 NIAGARA FALLS NY 14302	15. TELEPHONE NUMBER 716-278-2250
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16. PREPARER

Michael J. Hinton 8/13/93
Signature Date

MICHAEL J. HINTON ENV. ENGINEER II, NYSDEC R9

Name, Title, Organization

17. APPROVED

Charles N. Goddard 12/3/93
Signature Date

Charles N. Goddard, Asst. Director, DHWR
Name, Title, Organization



STATE OF NEW YORK
DEPARTMENT OF HEALTH

P.1 *[Handwritten mark]*

Center for Environmental Health

2 University Place

Albany, New York 12203-3399

Mark R. Chassin, M.D., M.P.P., M.P.H.
Commissioner
Paula Wilson
Executive Deputy Commissioner

OFFICE OF PUBLIC HEALTH
Lloyd F. Novick, M.D., M.P.H.
Director
Diana Jones Ritter
Executive Deputy Director
William N. Stasiuk, P.E., Ph.D.
Center Director

October 12, 1993

Mr. Michael J. O'Toole, P.E.
Division of Hazardous Waste Remediation
NYS Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233

RE: Registry Site Classification Decision
Carborundum Company, Globar
(T) Niagara, Niagara County
Site ID #932036

Dear Mr. O'Toole:

My staff have reviewed the Registry Site Classification Decision for Carborundum Company, Globar site, (ID #932035), Town of Niagara, Niagara County. Disposal of hazardous waste from past spills has been documented. High levels (PPM) of vinyl chloride, 1,2-dichloroethene and trichloroethene were found in on-site soils and in groundwater at levels that exceed groundwater standards. I concur with the proposed reclassification from a Class 2A to a Class 2, and I have signed the Registry Site Classification Decision Package.

If you have any questions, please contact me or Mr. Al Wakeman at 458-6310.

Sincerely,

G. Anders Carlson, Ph.D.
Director
Bureau of Environmental Exposure
Investigation

tjl/93274PRO0400

Attachment

Post-It™ brand fax transmittal memo 7671		# of pages ▶
To: Tony Sylvestre	From: Al Wakeman	
Co. DEC	Co. DOH	
Dept.	Phone # 458-6309	
Fax # 457-3972	Fax # 458-6372	

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
 DIVISION OF HAZARDOUS WASTE REMEDIATION
 INACTIVE HAZARDOUS WASTE DISPOSAL REPORT

CLASSIFICATION CODE: *2a 2*

REGION: 9

SITE CODE: 932036

EPA ID: NYD000513366

NAME OF SITE : Carborundum Company, Global
 STREET ADDRESS: Hyde Park Boulevard, Rhode Island Avenue
 TOWN/CITY: Niagara COUNTY: Niagara ZIP:
 Niagara

SITE TYPE: Open Dump- Structure- Lagoon- Landfill- Treatment Pond-
 ESTIMATED SIZE: 1 - Acres

SITE OWNER/OPERATOR INFORMATION:

CURRENT OWNER NAME.....: SOHIO
 CURRENT OWNER ADDRESS.: The Carborundum Center, Niagara Falls, NY
 OWNER(S) DURING USE...: Carborundum Corporation, Global
 OPERATOR DURING USE...: Carborundum Corp.
 OPERATOR ADDRESS.....: The Carborundum Center, Niagara Falls, NY
 PERIOD ASSOCIATED WITH HAZARDOUS WASTE: From To

SITE DESCRIPTION:

Area used formerly for incineration of wood and paper prior to 1962. Presently used as staging area prior to shipment off-site for recycling, reuse, treatment or disposal. Material was "stored" for less than 90 days to avoid the need for a RCRA permit. The company has submitted a study of conditions at this site. Ground-water has been found to contain lead, copper and chlorinated hydrocarbons. *has completed*
 The Company ~~will undertake~~ a Preliminary Site Assessment, ~~in 1992~~.

Sample
 DATA INDICATE THE CONTRAVENTION OF GROUND WATER STANDARDS FOR VOLATILE ORGANIC COMPOUNDS IN THE OVERBURDEN AND BEDROCK GROUNDWATER ZONES: VINYL CHLORIDE 1300ppb, 1,2-DICHLOROETHENE 2300ppb, TRICHLOROETHENE 670ppb
 SOIL GUIDANCE VALUES ~~AS FOLLOWS: VINYL CHLORIDE 400ppb, 1,2-DICHLOROETHENE 37000ppb, TRICHLOROETHENE 30000ppb, BENZENE 140ppb, TOLUENE 63000ppb, ETHYLBENZENE 90000ppb, TOTAL XYLENES 400000ppb~~

WHILE NO ACTUAL INTENTIONAL DISPOSAL OF HAZARDOUS WASTE IS SUSPECTED, CONTAMINATION OCCURRED AS A RESULT OF SPILLS AND LEAKS ASSOCIATED WITH PLANT OPERATION. OVERBURDEN SOIL HAS BEEN FOUND TO BE CONTAMINATED WITH VOLATILE ORGANICS. WHILE GROUND WATER HAS BEEN FOUND TO BE CONTAMINATED WITH VOLATILE ORGANICS, CONTAMINATED GROUND WATER IS MIGRATING OFF SITE. THE SIGNIFICANT THREAT HAS BEEN DETERMINED TO EXIST DUE TO THE DOCUMENTED DISPOSAL OF HAZARDOUS WASTE RESULTING IN THE CONTRAVENTION OF GROUND WATER STANDARDS ON SITE, MIGRATION OF CONTAMINATED GROUND WATER FROM THE SITE AND THE PROXIMITY OF RESIDENTIAL PROPERTIES ADJACENT TO THE FACILITY.

HAZARDOUS WASTE DISPOSED: Confirmed-
 TYPE

Suspected-X
 QUANTITY (units)

~~Metal Sludge (Ni or Ni Cr)
 Electric cleaning solutions
 Empty transformers, scrap metal & old equipment. Graphite, baghouse dust, carbon, silicon carbide. Hydraulic oil. Scrap metal.~~

 Unknown

*Spent Halogenated Solvents (F001)
 Spent Non-Halogenated Solvents (F004 & F005)*

CLASSIFICATION WORKSHEET

site: Carborundum-Globar County: Niagara Region: 9

1. Hazardous waste disposed? Y (to 2) N (Stop) U (Stop)

2. Consequential amount of hazardous waste? Y (to 3) N (Stop) U (to 3)

3. Part 375-1.4(a)(1) applies? N (to 4) U (to 4)

Y (as checked below; Class 2; to 5)

- a. endangered or threatened species
- b. streams, wetlands or coastal zone
- c. bioaccumulation
- d. fish, shellfish, crustacea or wildlife
- e. fire, spill, explosion or toxic reaction
- f. proximity to people or water supplies

4. Part 375-1.4(a)(2) applies? N (Cl 3; Stop) U (Cl 2a; Stop)

Y (Class 2; to 5)

contravention of groundwater standards

5. Factor(s) considered in making this determination: _____

Documented disposal (via spills and leaks) of spent solvents causing significant soil contamination, shallow overburden groundwater contamination, bedrock groundwater contamination and off-site migration of contaminated groundwater.

SUMMARY

Consequential Hazardous Waste Yes No Unknown

Significant Threat Yes No Unknown

Proposed Classification 2 Site Number 932036

8/10/93
date

Michael J. Hinton
signature and Title

pendix 3

NEW YORK STATE DEPARTMENTS OF ENVIRONMENTAL CONSERVATION AND HEALTH
INACTIVE HAZARDOUS WASTE DISPOSAL, SITE PRIORITY RANKING WORKSHEET

SITE I.D. 932036 SITE NAME Carborundum-Globar

Priority I - Sites for which remediation should supersede all other Class 2 sites. Priority I can be assigned if any one of the following questions can be answered affirmatively.

- a) Has a public or private water supply which is currently in use been contaminated or threatened?.... N
- b) Has human exposure to contaminants (or the potential for exposure) been identified which represents a significant health risk as determined by DOH?..... N
- c) Has bioaccumulation of site contaminants in flora or fauna resulted in a health advisory?..... N
- d) Are site contaminants present at levels that are acutely toxic to fish or wildlife or that have caused documented fish or wildlife mortality?..... N

(1)
[If 1 or more boxes are checked, check this box]

Priority II - Important Sites. Priority II will be assigned if any of the following questions can be answered affirmatively.

- a) Has a Class A or AA surface water body, primary or principal aquifer been contaminated or threatened without affecting an existing water supply?..... N
- b) Has bioaccumulation of site contaminants in flora or fauna resulted in actionable levels (but not a health advisory)?..... N
- c) Are contaminants at levels chronically toxic to fish/wildlife?..... N
- d) Have endangered, threatened or rare species, significant habitats, designated coastal zone or regulated wetlands been impacted by releases from the site?..... N

(2)
[If 1 or more boxes are checked, check this box]

Priority III - will be assigned unless one or more of the site prioritization criteria, specified above, apply to a site. After remedial needs for Priority I and II sites have been accommodated, remediation of sites under this category can be considered. If Priority III, check box 3.

Y (3)

Enter the number of the priority box checked 1, 2, or 3 here.....
This is the site's priority rank.

3 (4)

FACTORS

IJC Factor - If the sites has been identified by the International Joint Commission (IJC) as a component in a remedial action plan, subtract (1) from the value in box 4 and enter the result in box 5.....

(5)

EDZ Factor - If the site is within a New York State designated Economic Development Zone (EDZ) should this fact cause the site priority to be raised?.....

Yes No

Community Support Factor - If the site has been targeted for local government-supported development by a developer willing to sign a consent order with DEC to finance investigation and remediation should this fact cause the site priority to be raised?.....

Yes No

If either "yes" box is checked, subtract 1 from the value in box 4 and enter the result into box 6. If "no" is checked, the value in box 6 equals box 4 (or box 5 if applicable). If both IJC and EDZ/Community Support factors apply, only 1 (not 2) will be subtracted from the value in box 4. The resultant value in box 6 will never be less than 1.....

3 (6)

IRM NOTE: Should this site be considered a candidate for an Interim Remedial Measure (IRM) as defined by 6NYCRR Part 375-1.3n?

Yes No

If "yes" please explain why: _____

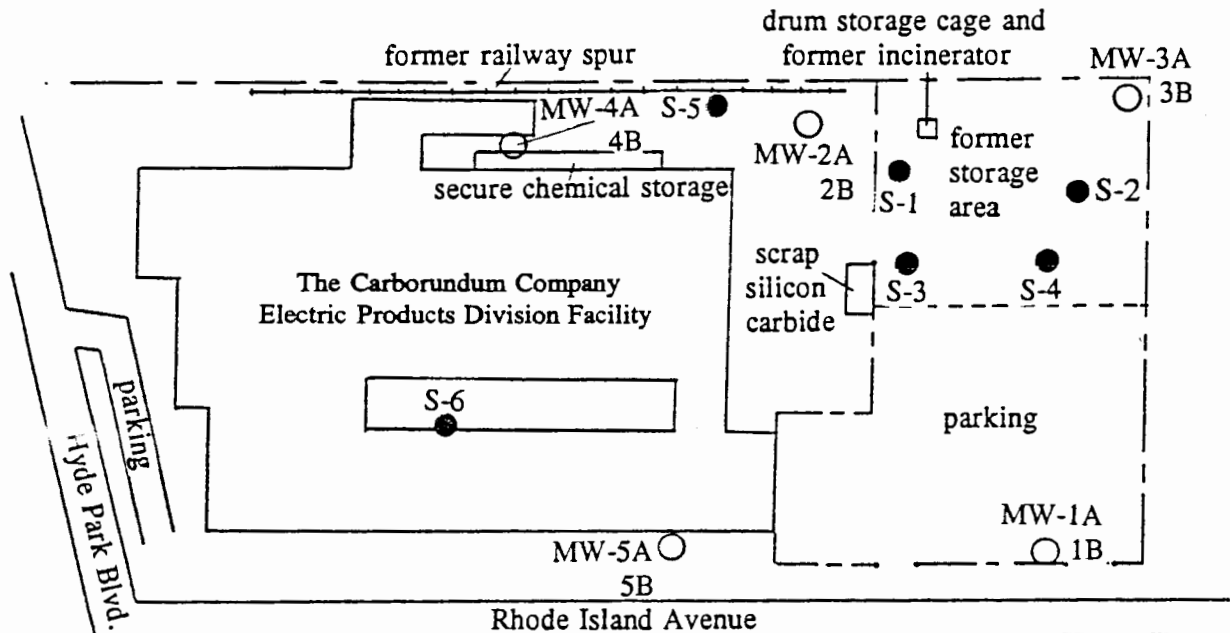
Prepared: Michael J. Hunter

Date 8/11/93

5170 II NE (LEWISTON) 658 659 2'30" 380 000 FEET



Union Carbide Corporation



Approximate Scale
0 50 100ft

LEGEND

- soil borehole
- monitor well location

DATE:

REF:

Monitor Well and Soil Sample Locations

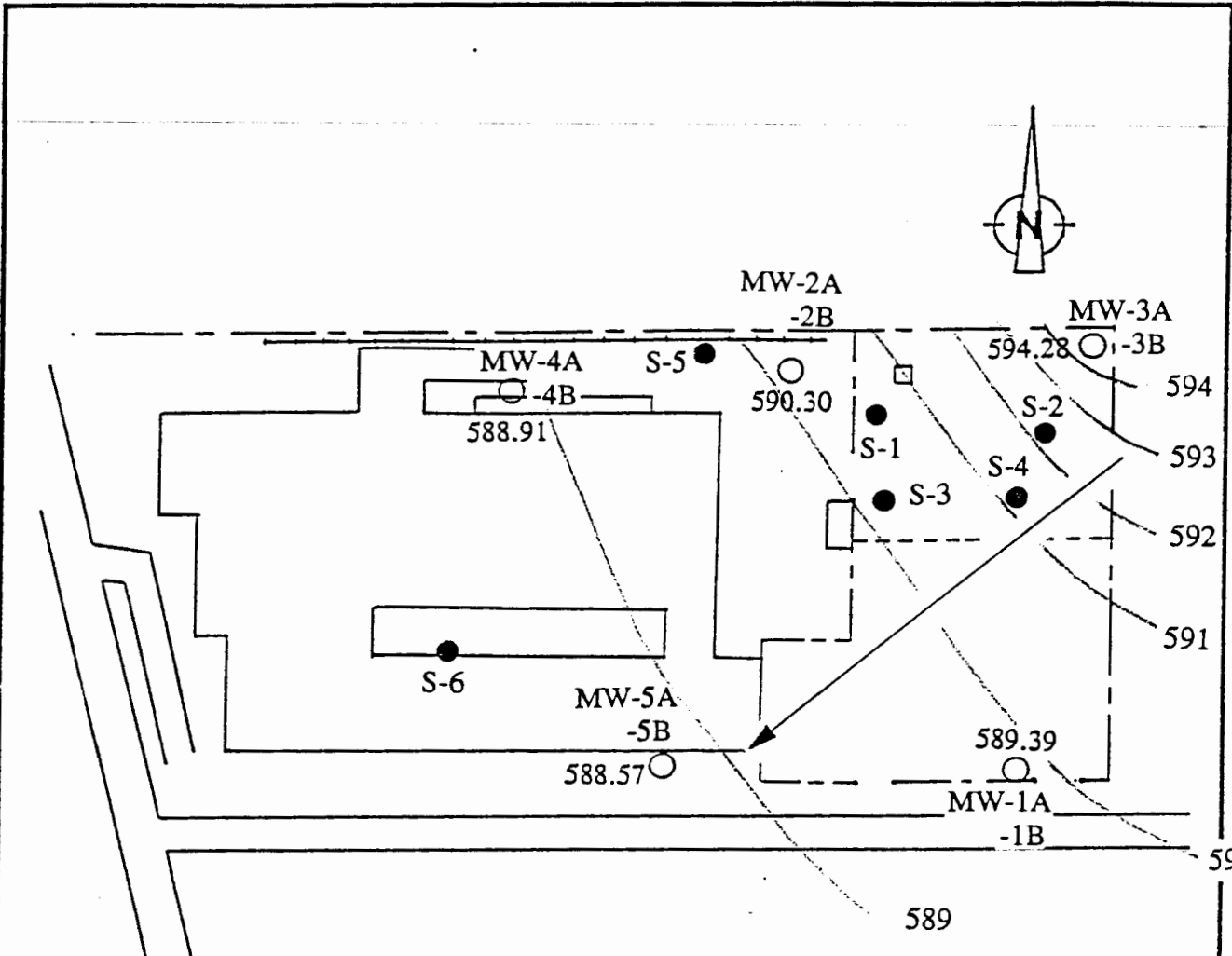
INTERA

Figure 4.6

Table 5.3 Groundwater Samples that Exceeded Water Quality Standards

Contaminant	Well No. and Concentration ($\mu\text{g/L}$)										Water Quality Standard ($\mu\text{g/L}$)	
	MW-1A	MW-1B	MW-2A	MW-2B	MW-3A*	MW-3B*	MW-4A	MW-4B	MW-5A	MW-5B	1.	2.
vinyl chloride				66		5	13	26	1300	75	2	
1,2-dichloroethene	14	10		2300		18	230	130	1900	520		5
trichloroethene				670						71		5
benzene				1							0.7	
aluminum	234										100	
iron		830					860		1310		300	
antimony	7						6					3

Note: 1. NYSDEC (1991) (6NYCRR Part 703)
 2. NYSDEC (1991) (TOGS 1.1.1)
 * well located on upgradient boundary



Approximate Scale
 0 50 100ft

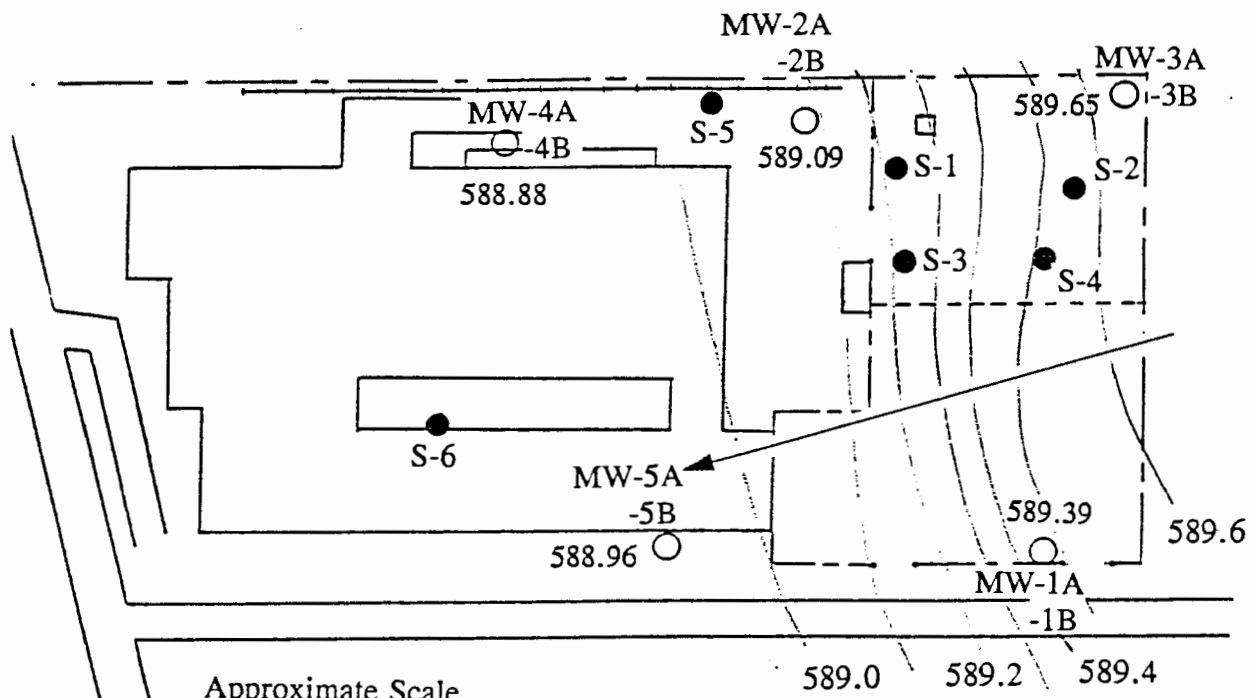
— 589 potentiometric surface contour (ft a.m.s.l.)
 —▶ inferred groundwater flow direction

DATE:
 REF:

Potentiometric Surface Elevations -
 Overburden Wells

INTERA

Figure 5.1



Approximate Scale
0 50 100ft

- 589 potentiometric surface contour (ft a.m.s.l.)
- inferred groundwater flow direction

DATE:
REF:

Potentiometric Surface Elevations -
Bedrock Wells



Figure 5.2

Volatile Analytes (ug/L or ppb) WATER													
	MW1A	MW1B	MW2A	MW2B	MW2BD (20x)	MW3A	MW3B	MW4A	MW4AD (2.0x)	MW4B	MW5A	MW5B	MW5BD (20x)
25	4-Methyl-2-Pentanone	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
26	2-Hexanone	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
27	Tetrachloroethene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
28	1,1,1,2,2-Tetrachloroethane	nd(J)	nd(J)	nd	nd	nd(J)	nd	nd	nd(J)	nd	nd(J)	nd	nd(J)
29	Toluene	nd	nd	2(J)	nd	nd	nd	nd	nd	nd	nd	nd	nd
30	Chlorobenzene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
31	Ethylbenzene	nd	nd	3(J)	nd	nd	nd	nd	nd	nd	nd	nd	nd
32	Styrene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
33	Total Xylenes	nd	nd	9(J)	nd	nd	nd	nd	nd	nd	nd	nd	nd

- (J) Estimated value. Value is greater than zero but below quantitation.
- (B) Compound found in blank.
- (D) Diluted.

Semi-Volatile Analyses (µg/L or ppb) WATER

	MW1A	MW1B	MW2A	MW2B	MW3A	MW3B	MW4A	MW4B	MW5A	MW5B
23	2-Methylnaphthalene	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd
24	Hexachlorocyclopentadiene	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd
25	2,4,6-Trichlorophenol	nd	nd	nd	nd	nd	nd	nd	nd	nd
26	2,4,5-Trichlorophenol	nd	nd	nd	nd	nd	nd	nd	nd	nd
27	2-Chloronaphthalene	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd
28	2-Nitroaniline	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd
29	Dimethyl Phthalate	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd
30	Acenaphthylene	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd
31	2,6-Dinitrotoluene	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd
32	3-Nitroaniline	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd
33	Acenaphthene	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd
34	2,4-Dinitrophenol	nd(J)	nd(J)	nd(J)	nd(J)	nd	nd(J)	nd(J)	nd	nd(J)
35	4-Nitrophenol	nd	nd	nd	nd(J)	nd	nd	nd	nd	nd
36	Dibenzofuran	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd
37	2,4-Dinitrotoluene	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd
38	Diethylphthalate	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd
39	4-Chlorophenyl-phenylether	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd
40	Fluorene	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd
41	4-Nitroaniline	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd
42	4,6-Dinitro-2-Methylphenol	nd(J)	nd(J)	nd(J)	nd(J)	nd	nd(J)	nd(J)	nd(J)	nd
43	N-Nitrosodiphenylamine (1)	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd
44	4-Bromophenyl-phenylether	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd

Semi-Volatile Analyses (µg/L or)											WATER				
	MW1A	MW1B	MW2A	MW2B	W3A	MW3B	MW4A	MW4B	MW5A	MW5B					
45	nd	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd					
46	nd(J)	nd	nd(J)	nd(J)	nd(J)	nd	nd	nd(J)	nd	nd					
47	nd	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd					
48	nd	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd					
49	nd	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd					
50	nd	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd					
51	nd	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd					
52	nd	nd	nd	nd(J)	nd	nd(J)	nd	nd	nd	nd					
53	nd	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd					
54	nd	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd					
55	nd	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd					
56	nd	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd					
57	nd	0.8(J)	4(J)	nd	1(J)	nd(J)	2(J)	0.9(J)	0.8(J)	0.6(J)					
58	nd	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd					
59	nd	nd	nd	nd(J)	nd	nd(J)	nd	nd	nd	nd					
60	nd	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd					
61	nd	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd					
62	nd	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd					
63	nd	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd					
64	nd	nd	nd	nd	nd	nd(J)	nd	nd	nd	nd					

(J) Estimated value. Value is greater than zero but below quantitation.

(D) Diluted.

Inorganic Analyses (µg/L or ppb) WATER (total)

	MW1A	MW1B	MW2A	MW2B	MW3A	MW3B	MW4A	MW4B	MW5A	MW5B
1	Aluminum	2060	183(B)	245	87.6(B)	100(B)	1670	498	2320	113(B)
2	Antimony	nd	nd	nd	5.0(B)	nd	nd	nd	nd	6.0(B)
3	Arsenic	7.0(B)	nd	7.0(B)	nd	nd	nd	nd	nd	nd
4	Barium	292	231	51.8(B)	79.3(B)	93.6(B)	nd	52.6(B)	50.0(B)	168(B)
5	Beryllium	nd	nd	nd	nd	nd	nd	nd	nd	nd
6	Cadmium	nd	nd	nd	nd	nd	8.0	nd	nd	nd
7	Calcium	172,000(B)	149,000(B)	110,000(B)	192,000(B)	141,000(B)	197,000(B)	195,000(B)	173,000(B)	236,000(B)
8	Chromium	16.0	nd	nd	11.0	10.0	14.0	10.0	16.0	19.0
9	Cobalt	nd	nd	nd	nd	nd	nd	nd	nd	nd
10	Copper	25.0(B)	18.0(B)	25.4	12.9(B)	11.7	52.8	19.0(B)	nd	10.0(B)
11	Iron	3460	982	383	139	107	2230	481	3360	156
12	Lead	3.0	11.0	8.8	18.0	6.7	1750	28.0	9.0	12.7
13	Magnesium	55,900	68,800	60,700	64,900	186,000	68,800	64,100	61,700	71,700
14	Manganese	202	179	64.6	82.6	41.3	114	103	249	183
15	Mercury	nd	nd	nd	nd	nd	nd	nd	nd	nd
16	Nickel	nd	nd	nd	nd	nd	nd	nd	nd	72.0
17	Potassium	4780(B)	3840(B)	3860(B)	44,000(B)	2750(B)	5890	7500	5250	2890(B)
18	Selenium	nd	nd	nd	nd	nd	nd	nd	nd	nd
19	Silver	nd	nd	nd	nd	nd	nd	nd	nd	nd
20	Sodium	41,400	45,800	24,300	132,000	45,900	79,600	110,100	51,700	1,590,000
21	Thallium	nd	nd	nd	nd	nd	nd	nd	nd	nd
22	Vanadium	nd	nd	nd	nd	nd	nd	nd	nd	nd
23	Zinc	422	148	83.0	126	126	273	124	83.0	512
24	Cyanide	nd	nd	nd	nd	nd	nd	nd	nd	nd

(B) Compound found in blank.

(B)

		Inorganic Analyses (µg/L or ppb) W. FER (dissolved)											
		MW1A	MW1B	MW2A	MW2B	MW3A	MW3B	MW4A	MW4B	MW5A	MW5B		
1	Aluminum	234	nd	nd	nd	nd	nd	nd	nd	nd	nd		
2	Antimony	7.0(B)	nd	nd	nd	nd	nd	6.0(B)	7.0(B)	nd	6.0(B)		
3	Arsenic	10.0	nd	nd	nd	nd	nd	nd	nd	nd	nd		
4	Barium	183(B)	249	51.4(B)	72.1(B)	nd	81.7(B)	nd	51.7(B)	nd	167(B)		
5	Beryllium	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		
6	Cadmium	nd	nd	nd	nd	nd	nd	nd	5.0	nd	nd		
7	Calcium	99,000(B)	136,000(B)	100,000(B)	181,000(B)	164,000(B)	164,000(B)	167,000(B)	178,000(B)	143,000(B)	1,740,000		
8	Chromium	nd	nd	nd	nd	nd	10.0	nd	nd	nd	nd		
9	Cobalt	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		
10	Copper	nd	nd	nd	nd	nd	11.4(B)	nd	nd	nd	nd		
11	Iron	52.0(B)	830	53.1(B)	111	nd	53.6(B)	860	80.2(B)	1310	nd		
12	Lead	nd	nd	nd	8.0	nd	nd	nd	nd	nd	nd		
13	Magnesium	52,500	68,800	62,600	61,900	195,000	58,000	73,200	57,800	49,500	70,700		
14	Manganese	22.7	162	76.7	79.5	40.9	69.9	75.0	88.2	171	152		
15	Mercury	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		
16	Nickel	nd	nd	nd	nd	nd	nd	nd	nd	nd	72.7		
17	Potassium	4690(B)	3850(B)	4560(B)	4670(B)	3120(B)	4920(B)	4080(B)	7560	4130(B)	2580(B)		
18	Selenium	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		
19	Silver	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		
20	Sodium	43,600	43,800	30,600	139,000	49,600	82,900	79,000	112,000	39,800	79,000		
21	Thallium	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		
22	Vanadium	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		
23	Zinc	nd	36.0	nd	160	nd	nd	nd	27.0	nd	235		
24	Cyanide	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR		

(B) Compound found in blank.

		Volatile Analyses (µg/kg or SOIL)				
		MW1B	MW2B	MW3A	MW4B	MW5B
1	Chloromethane	nd	nd	nd	nd	nd
2	Bromomethane	nd(J)	nd	nd(J)	nd(J)	nd(J)
3	Vinyl Chloride	nd	nd	nd	nd	nd(J)
4	Chloroethane	nd	nd	nd	nd(J)	nd(J)
5	Methylene Chloride	nd	nd	nd	nd	nd
6	Acetone	28	48(J)	nd	26(J)	nd
7	Carbon Disulfide	nd(J)	nd	nd(J)	nd(J)	nd
8	1,1-Dichloroethene	nd	nd	nd	nd	nd
9	1,1-Dichloroethane	nd	45(J)	nd	2(J)	nd
10	1,2-Dichloroethene (total)	nd	nd	nd	29	nd
11	Chloroform	nd	nd	nd	nd	nd
12	1,2-Dichloroethane	nd	nd	nd	nd	nd
13	2-Butanone	nd	nd	nd	nd	nd
14	1,1,1-Trichloroethane	nd	39(J)	nd	3(J)	nd
15	Carbon Tetrachloride	nd	nd	nd	nd	nd
16	Bromodichloromethane	nd	nd	nd	nd	nd
17	1,2-Dichloropropane	nd	nd	nd	nd(J)	nd
18	cis-1,3-dichloropropene	nd	nd	nd	nd	nd
19	Trichloroethene	nd	nd	2(J)	18	nd
20	Dibromochloromethane	nd	nd	nd	nd	nd
21	1,1,2-Trichloroethane	nd	nd	nd	nd	nd

Volatile Analyses (µg/kg or ppb) SOIL						
	MW1B	MW2B	MW3A	MW4B	MW5B	
22	nd	nd	nd	nd	nd	nd
23	nd	nd	nd	nd	nd	nd
24	nd	nd	nd	nd	nd	nd
25	nd	nd	nd	nd	nd	nd
26	nd	nd	nd	nd	nd	nd(J)
27	nd	nd	nd	nd	nd	nd
28	nd	nd	nd	nd	nd	nd
29	nd	nd	nd	nd	nd	nd
30	nd	nd	nd	nd	nd	nd
31	nd	370	nd	nd	nd	nd
32	nd	nd	nd	nd	nd	nd
33	nd	1,200	nd	nd	nd	nd

(J) Estimated value. Value is greater than zero but below quantitation.

(B) Compound found in blank.

(D) Diluted.

Semi-Volatile Analyses ($\mu\text{g}/\text{kg}$ or ppb) SOIL

	MW1B	MW2B	MW2BD(5x)	MW3A	MW3AD(10x)	MW4B	MW4BD(2x)	MW5B
23	2-Methylnaphthalene	nd	nd	nd	nd	nd	nd	nd
24	Hexachlorocyclopentadiene	nd(J)	nd	nd(J)	nd(J)	nd	nd	nd
25	2,4,6-Trichlorophenol	nd	nd	nd	nd	nd	nd	nd
26	2',4,5-Trichlorophenol	nd	nd	nd	nd	nd	nd	nd
27	2-Chloronaphthalene	nd	nd	nd	nd	nd	nd	nd
28	2-Nitroaniline	nd	nd	nd	nd	nd	nd	nd
29	Dimethyl Phthalate	nd	nd	nd	nd	nd	nd	nd
30	Acenaphthylene	nd	nd	nd	nd	nd	nd	nd
31	2,6-Dinitrotoluene	nd	nd	nd	nd	nd	nd	nd
32	3-Nitroaniline	nd	nd	nd	nd	nd	nd	nd
33	Acenaphthene	nd	nd	nd	nd	nd	nd	nd
34	2,4-Dinitrophenol	nd	nd(J)	nd	nd	nd	nd	nd
35	4-Nitrophenol	nd	nd	nd	nd	nd	nd	nd
36	Dibenzofuran	nd	nd	nd	nd	nd	nd	nd
37	2,4-Dinitrotoluene	nd	nd	nd	nd	nd	nd	nd
38	Diethylphthalate	nd	nd	nd	nd	nd	nd	nd
39	4-Chlorophenyl-phenylether	nd	nd	nd	nd	nd	nd	nd
40	Fluorene	nd	nd	nd	nd	nd	nd	nd
41	4-Nitroaniline	nd	nd	nd	nd	nd	nd	nd
42	4,6-Dinitro-2-Methylphenol	nd	nd	nd	nd	nd	nd	nd
43	N-Nitrosodiphenylamine (1)	nd	nd	nd	nd	nd	nd	nd
44	4-Bromophenyl-phenylether	nd	nd	nd	nd	nd	nd	nd

Semi-Volatile Analyses (µg/l or ppb) SOIL									
	MW1B	MW2B	MW2BD(5x)	MW3A	MW3AD(10x)	MW4B	MW4BD(2x)	MW5B	
45	nd	nd	nd	nd	nd	nd	nd	nd	nd
46	nd	nd	nd(J)	nd	nd	83(J)	nd	nd	nd
47	nd	nd	nd	nd	nd	14(J)	nd	nd	nd
48	nd	nd	nd	nd	nd	nd	nd	nd	nd
49	nd	nd	nd	nd	nd	nd	nd	nd	nd
50	15(J)	20(J)	nd	15(J)	nd	nd	nd	nd	nd
51	nd	nd	nd	nd	nd	16(J)	nd	nd	nd
52	nd	nd	nd	nd	nd	14(J)	nd	nd	nd
53	nd	17(J)	nd	11(J)	nd	nd	nd	nd	nd
54	nd	nd	nd	nd	nd	nd	nd	nd	nd
55	nd	nd	nd	3(J)	nd	nd	nd	nd	nd
56	nd	nd	nd	17(J)	nd	nd	nd	nd	nd
57	2,800	5,700	4,900	5,200	8,100	3,200	2,200	410	
58	nd	nd	nd	nd	nd	nd	nd	nd	nd
59	nd(J)	15(J)	nd	7(J)	nd	15(J)	nd	nd	nd
60	nd	6(J)	nd	2(J)	nd(J)	7(J)	nd	nd	nd
61	nd	nd	nd	7(J)	nd	10(J)	nd	nd	nd
62	nd	10(J)	nd	nd	nd	nd	nd	nd	nd
63	nd	nd	nd	nd	nd	nd	nd	nd	nd
64	nd	11(J)	nd	3(J)	nd	nd	nd	nd	nd

(J) Estimated value. Value is greater than zero but below quantitation.

(D) Diluted.

Pesticide Organics Analyses ($\mu\text{g}/\text{kg}$ or ppb) SOIL							
		MW1B	MW2B	MW3A	MW4B	MW5B	MW5B(R)
1	alpha-BHC	nd	nd	nd	nd	nd	nd
2	beta-BHC	nd	nd	nd	nd	nd	nd
3	delta-BHC	nd	nd	nd	nd	nd	nd
4	gamma-BHC (Lindane)	nd	nd	nd	nd	8.3(P)	nd
5	Heptachlor	nd	nd	nd	nd	7.9	nd
6	Aldrin	nd	nd	nd	nd	7.1	nd
7	Heptachlor epoxide	nd	nd	nd	nd	nd	nd
8	Endosulfan I	nd	nd	nd	nd	nd	nd
9	Dieldrin	nd	nd	nd	nd	15	nd
10	4,4'-DDE	nd	nd	nd	nd	nd	nd
11	Endrin	nd	nd	nd	nd	19	nd
12	Endosulfan II	nd	nd	nd	nd	nd	nd
13	4,4'-DDD	nd	nd	nd	nd	nd	nd
14	Endosulfan sulfate	nd	nd	nd	nd	nd	nd
15	4,4'-DDT	nd	nd	nd	nd	18	nd
16	Methoxychlor	nd	nd	nd	nd	nd	nd
17	Endrin ketone	nd	nd	nd	nd	nd	nd
18	Endrin aldehyde	nd	nd	nd	nd	nd	nd
19	alpha-Chlordane	nd	nd	nd	nd	nd	nd
20	gamma-Chlordane	nd	nd	nd	nd	nd	nd
21	Toxaphene	nd	nd	nd	nd	nd	nd
22	Aroclor-1016	nd	nd	nd	nd	nd	nd
23	Aroclor-1221	nd	nd	nd	nd	nd	nd
24	Aroclor-1232	nd	nd	nd	nd	nd	nd
25	Aroclor-1242	nd	nd	nd	nd	nd	nd
26	Aroclor-1248	nd	nd	nd	nd	nd	nd
27	Aroclor-1254	nd	nd	nd	nd	nd	nd
28	Aroclor-1260	nd	40(J)	24(J)	9.5(J)	nd	nd

- (J) Estimated value. Value is greater than zero but below quantitation.
(P) Greater than 25% difference for detected concentrations between 2 GC columns.
(R) Repeat analysis.

INTERA

Inorganic Analyses (mg/kg or ppm) SOIL						
		MW1B	MW2B	MW3A	MW4B	MW5B
1	Aluminum	14,300	21,200	13,400	14,600	14,300
2	Antimony	nd	nd	nd	nd	nd
3	Arsenic	2.0(B)	7.7	5.3	5.5	4.0
4	Barium	70.3	107	101	68.5	93.7
5	Beryllium	nd	nd	nd	nd	nd
6	Cadmium	nd	nd	nd	nd	nd
7	Calcium	48,300	33,100	50,600	40,900	4,040
8	Chromium	11.6	27.1	27.5	16.5	18.9
9	Cobalt	9.0(B)	15.2	35.9	10.7(B)	9.1(B)
10	Copper	13.4	25.1	518	23.8	18.9
11	Iron	14,200	28,700	27,300	20,100	22,000
12	Lead	35.4	28.8	30.4	26.5	30.9
13	Magnesium	19,000	13,700	16,200	9,980(B)	6,070(B)
14	Manganese	529	561	682	519	294
15	Mercury	nd	nd	nd	nd	nd
16	Nickel	18.1	24.8	80.2	16.9	11.4
17	Potassium	1550	2,580	3,430	1,930	921(B)
18	Selenium	nd	nd	nd	nd	nd
19	Silver	nd	nd	nd	nd	nd
20	Sodium	331(B)	389(B)	458(B)	373(B)	518(B)
21	Thallium	nd	nd	nd	nd	nd
22	Vanadium	14.0	33.3	31.9	19.7	24.2
23	Zinc	67.5	68.8	162	51.1	48.1
24	Cyanide	nd	nd	nd	nd	nd

(B) Compound found in blank.

INTERA

Volatile Analyses (µg/kg or ppb)

	S1(F)	S1(F)(M)	S1(N)	S1(M)D	S2(F)	S2(N)	S3(F)	S3(D)	S3(N)(M)	S4(F)	S4(N)	S4(N)(M)	S5(F)(M)	S5(N)	S6(F)	S6(N)
1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
2	nd(f)	nd	nd(f)	nd(f)	nd(f)	nd	nd	nd	nd	nd(f)	nd	nd	nd	nd	nd	nd
3	400(f)	nd	4(f)	nd(f)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
4	nd(f)	nd(f)	nd(f)	nd(f)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
5	nd	nd	0.8(f)	nd	nd	nd	nd	nd	nd	0.9(f)	1(f)	nd	nd	nd	1(f)	nd
6	170	nd	13	nd	nd(B)	9(f)	40	80(D)	6100	nd(B)	19	nd	nd	100(f)	45(B)	15(B)
7	nd	nd	nd	nd	nd(f)	nd	nd	nd	nd	nd(f)	nd	nd	nd	nd	nd	nd
8	120	60(f)	nd	nd	nd(f)	nd	nd	nd	nd	nd	6(f)	nd	nd	nd	nd	nd
9	nd	nd	nd	nd	nd(f)	nd	nd	nd	nd	nd(f)	nd	nd	nd	nd	nd	nd
10	37,000(E)	26,000(f)	360(E)	360	nd	nd	560(E)	820(D)	3300	9(f)	1700(E)	1300(f)	560(f)	20	nd	30
11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
13	88	nd(B)	nd	nd	nd	nd	9(f)	nd	7900(B)	nd	nd	nd(B)	nd(B)	nd	nd	nd
14	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
15	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
16	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
17	nd	nd	nd	nd	nd(f)	nd	nd	nd	nd	nd(f)	nd	nd	nd	nd	nd	nd
18	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
19	31,000(E)	300,000 (E)	400(E)	560	1(f)	1(f)	2(f)	nd	23,000	23	5900(E)	23,000	17,000	99	2(f)	8(f)
20	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
21	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
22	140	120(f)	1(f)	nd	nd	nd	3(f)	5(D)	76(f)	nd	25	nd	nd	nd	nd	nd
23	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
24	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
25	210	110(f)	nd	nd	nd	nd	nd	nd	8300	nd	nd(f)	nd	nd	nd	nd	nd

Volatile Analytes (µg/kg or ppb) SOIL

	S1(F)	S1(F)(M)	S1(F)(M)D 10X	S1(N)	S1(N)D	S2(F)	S2(N)	S3(F)	S3(F)D	S3(N)(M)	S4(F)	S4(N)	S4(N)(M)	S5(F)(M)	S5(N)	S6(F)	S6(N)
26	2-Hexanone	nd	nd	nd(J)	nd(J)	nd	nd	nd	nd	nd	nd	nd(U)	nd	nd	nd	nd	nd
27	Trichloroethene	44(J)	240(J)	nd	nd	nd	nd	nd	nd	nd	nd	2(J)	nd	nd	nd	nd	nd
28	1,1,2,2-Tetrachloroethane	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
29	Toluene	16,000(E)	84,000 (BE)	4(J)	16(J)	nd	nd	94	170(D)	10,000(B)	nd	34	49(J)	nd(B)	nd	nd	nd
30	Chlorobenzene	15(J)	nd	nd	nd	nd	nd	nd	nd	nd	nd	1(U)	nd	nd	nd	nd	nd
31	Ethylbenzene	16,000(E)	90,000 (E)	7(U)	39(J)	nd	nd	140	270(D)	1900	7(J)	120	500(J)	120(J)	nd	nd	nd
32	Styrene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
33	Total Xylenes	58,000(E)	400,000 (E)	16	110	nd	nd	330	640(D)	17,000	4(J)	150	590(J)	800(J)	nd	nd	nd

(F) Fill sample.

(N) Native soil sample.

(J) Estimated value. Value is greater than zero but below quantitation.

(B) Compound found in blank.

(D) Diluted.

(M) Medium level contamination.

Semi-Volatile Analytes (µg/kg or ppb) SOIL

	S1(F)	S1(N)	S2(F)	S2(N)	S3(F)	S3(N)	S4(F)	S4(N)	S5(F)	S5(FD (100x))	S5(FIRE)	S5(N)	S6(F)	S6(FIRE)	S6(N)
1	nd	nd	nd	nd	nd	nd	nd	nd	200(I)	nd(I)	280(I)	nd	nd(I)	nd(I)	nd
2	nd	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(I)	nd	nd(I)	nd(I)	nd
3	nd	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(I)	nd	nd(I)	nd(I)	nd
4	nd	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(I)	nd	nd(I)	nd(I)	nd
5	nd	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(I)	nd	nd(I)	nd(I)	nd
6	nd	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(I)	nd	nd(I)	nd(I)	nd
7	62(I)	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(I)	nd	nd(I)	nd(I)	nd
8	nd	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(I)	nd	nd(I)	nd(I)	nd
9	nd	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(I)	nd	nd(I)	nd(I)	nd
10	nd	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(I)	nd	nd(I)	nd(I)	nd
11	nd	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(I)	nd	nd(I)	nd(I)	nd
12	nd	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(I)	nd	nd(I)	nd(I)	nd
13	nd	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(I)	nd	nd(I)	nd(I)	nd
14	nd	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(I)	nd	nd(I)	nd(I)	nd
15	nd	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(I)	nd	nd(I)	nd(I)	nd
16	nd	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(I)	nd	nd(I)	nd(I)	nd
17	nd	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(I)	nd	nd(I)	nd(I)	nd
18	nd	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(I)	nd	nd(I)	nd(I)	nd
19	78(I)	nd	nd	nd	nd	nd	nd	nd	16,000(EI)	4300(I)	14,000(EI)	nd	nd(I)	nd(I)	nd
20	nd	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(I)	nd	nd(I)	nd(I)	nd
21	nd	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(I)	nd	nd(I)	nd(I)	nd
22	nd	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(I)	nd	nd(I)	nd(I)	nd
23	49(I)	nd	nd	nd	nd	nd	nd	nd	3600(EI)	470(I)	2800(I)	nd	nd(I)	nd(I)	nd
24	nd	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(I)	nd	nd(I)	nd(I)	nd
25	nd	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(I)	nd	nd(I)	nd(I)	nd
26	nd	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(I)	nd	nd(I)	nd(I)	nd

Semi-Volatile Analytes (µg/kg or ppb) SOIL

	S1(F)	S1(N)	S2(F)	S2(N)	S3(F)	S3(N)	S4(F)	S4(N)	S5(F)	S5(F)D (100s)	S5(F)RE	S5(N)	S6(F)	S6(F)RE	S6(N)
27	2-Chloronaphthalene	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(f)	nd	nd(f)	nd(f)	nd
28	2-Nitroaniline	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(f)	nd	nd(f)	nd(f)	nd
29	Dimethyl Phthalate	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(f)	nd	nd(f)	nd(f)	nd
30	Acenaphthylene	nd	nd	nd	nd	nd	nd	18,000(EJ)	2600(E)	16,000(EJ)	nd	nd	nd(f)	nd(f)	nd
31	2,6-Dinitrotoluene	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(f)	nd	nd(f)	nd(f)	nd
32	3-Nitroaniline	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(f)	nd	nd(f)	nd(f)	nd
33	Acenaphthene	8(f)	nd	13(f)	nd	nd	nd	nd	1700(f)	nd	1800(f)	nd	nd(f)	nd(f)	nd
34	2,4-Dinitrophenol	nd	nd	nd(f)	nd	nd	nd	nd	nd(R)	nd	nd(f)	nd	nd(f)	nd(f)	nd
35	4-Nitrophenol	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(f)	nd	nd(f)	nd(f)	nd
36	Dibenzofuran	nd	nd	nd	nd	nd	nd	nd	14,000(EJ)	2600(f)	16,000(EJ)	nd	nd(f)	nd(f)	nd
37	2,4-Dinitrotoluene	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(f)	nd	nd(f)	nd(f)	nd
38	Diethylphthalate	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(f)	nd	nd(f)	nd(f)	nd
39	4-Chlorophenyl-phenylether	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(f)	nd	nd(f)	nd(f)	nd
40	Fluorene	nd	nd	nd	nd	nd	nd	nd	29,000(EJ)	4900(f)	31,000(EJ)	nd	nd(f)	nd(f)	nd
41	4-Nitroaniline	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(f)	nd	nd(f)	nd(f)	nd
42	4,6-Dinitro-2-Methylphenol	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(f)	nd	nd(f)	nd(f)	nd
43	N-Nitrosodiphenylamine (1)	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(f)	nd	nd(f)	nd(f)	nd
44	4-Bromophenyl-phenylether	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(f)	nd	nd(f)	nd(f)	nd
45	Hexachlorobenzene	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(f)	nd	nd(f)	nd(f)	nd
46	Pentachlorophenol	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(f)	nd	nd(f)	nd(f)	nd
47	Phenanthrene	66(f)	nd	69(f)	nd	nd	nd	nd	62,000(EJ)	28,000(f)	55,000(EJ)	nd	140(f)	130(f)	nd
48	Anthracene	15(f)	nd	nd	nd	nd	nd	nd	16,000(EJ)	5300(f)	19,000(EJ)	nd	26(f)	nd(f)	nd
49	Carbazole	7(f)	nd	12(f)	nd	nd	nd	nd	5100(EJ)	2000(f)	7400(EJ)	nd	23(f)	18(f)	nd
50	Di-n-Butylphthalate	92(f)	nd	nd	nd	nd	nd	nd	120(f)	nd	170(f)	nd	nd(f)	nd(f)	nd
51	Fluoranthene	130(f)	nd	160(f)	nd	nd	nd	nd	53,000(EJ)	27,000(f)	49,000(EJ)	nd	230(f)	270(f)	nd
52	Pyrene	170(f)	nd	190(f)	nd	nd	nd	nd	54,000(EJ)	23,000(f)	47,000(EJ)	nd	340(f)	300(f)	nd

Semi-Volatile Analytes (µg/kg or) SOIL

	S1(F)	S1(N)	S2(F)	S2(N)	S3(F)	S3(N)	S4(F)	4(N)	S5(F)	S5(F)D (100x)	S5(F)RE	S5(N)	S6(F)	S6(F)RE	S6(N)
53	77(0)	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(0)	nd	nd(0)	nd(0)	nd
54	nd	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(0)	nd	nd(0)	nd(0)	nd
55	81(0)	nd	140(0)	nd	nd	nd	nd	nd	35,000(EJ)	14,000(0)	31,000(EJ)	nd	2200(0)	2200(0)	nd
56	170(0)	nd	140(0)	nd	nd	nd	nd	nd	28,000(EJ)	14,000(0)	25,000(EJ)	nd	2600(0)	2700(0)	nd
57	340(0)	1500	1100(B)	900(B)	nd(B)	160(B)	1100(B)	2,800(B)	820(B)	nd	1200(B)	nd(B)	nd(0)	nd(0)	630(B)
58	nd	nd	nd	nd	nd	nd	nd	nd	nd(R)	nd	nd(0)	nd	nd(0)	nd(0)	nd
59	210(0)	nd	280(0)	nd	nd	nd	nd	nd	53,000(EJ)	14,000(0)	76,000(EJ)	nd	nd(0)	nd(0)	nd
60	110(0)	nd	100(0)	nd	nd	nd	nd	nd	66,000(EJ)	6700(0)	12,000(EJ)	nd	nd(0)	nd(0)	nd
61	96(0)	nd	nd	nd	nd	nd	nd	nd	24,000(EJ)	11,000(0)	22,000(EJ)	nd	nd(0)	nd(0)	nd
62	nd(0)	nd(0)	nd	nd	nd	nd	nd	nd	7900(EJ)	6400(0)	9100(EJ)	nd	nd(0)	nd(0)	nd
63	nd	nd	nd	nd	nd	nd	nd	nd	2200(0)	1200(0)	2700(0)	nd	nd(0)	nd(0)	nd
64	390(0)	nd	nd	nd	nd	nd	nd	nd	3500(EJ)	4200(0)	5100(EJ)	nd	nd(0)	nd(0)	nd

(J) Estimated value. Value is greater than zero but below quantitation.

(D) Diluted.

(E) Concentrations exceed calibration range of instrument.

(R) Unusable.

RE Sample reanalyzed.

Inorganic Analyses (mg/kg or ppm) SOIL

	S1(F)	S1(N)	S2(F)	S2(N)	S3(F)	S3(N)	S4(F)	S4(N)	S5(F)	S5(N)	S6(F)	S6(N)
1 Aluminum	2590(E)	12,800(E)	11,200(E)	7370(E)	8950(E)	13,700(E)	12,900(E)	13,500(E)	9360(E)	5620(E)	10,900(E)	8350(E)
2 Antimony	18.4(N)	62.8(N)	46.4(N)	29.9(N)	47.7(N)	63.0(N)	69.1(N)	57.5(N)	47.9(N)	33.4(N)	49.6(N)	38.6(N)
3 Arsenic	3.7	2.2(B)	2.8	3.4	2.2(B)	17.8	7.3	2.8	19.8	2.3	3.9	2.6
4 Barium	81.1	99.1	90.8	84.5	53.9	60.4	213	122	64.9	93.8	67.1	74.2
5 Beryllium	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
6 Cadmium	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
7 Calcium	156,000	59,200	68,900	45,600	55,000	56,200	52,400	64,700	54,800	65,500	39,900	45,000
8 Chromium	34.9*	21.5*	22.1*	12.9*	16.4*	24.0*	21.1*	22.3*	32.0*	11.3*	19.9*	14.0*
9 Cobalt	2270*	14.1*	60.5*	10.0(B)*	12.1*	12.3(B)*	12.6(B)*	13.5*	32.2*	7.5(B)*	53.5*	9.7(B)*
10 Copper	4770*	31.3*	709*	17.7*	26.1*	33.7*	29.8(B)*	27.6*	5040*	22.2*	5540*	41.9*
11 Iron	9470	23,700	20,000	16,600	19,000	27,900	25,600	24,900	16,100	12,200	19,600	16,300
12 Lead	719	18.8(S)	61.7	6.7	7.7	13.2	8.6	17.7(S)	78.6	23.5(S)	21.6*	10.3
13 Magnesium	90,700	11,700	19,500	8790	9460	10,700	114,000	12,800	27,900	22,000	9310	10,200
14 Manganese	3610(E)	608(E)	636(E)	731(E)	712(E)	573(E)	822(E)	664(E)	545(E)	625(E)	900(E)	657(E)
15 Mercury	0.15	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
16 Nickel	545(N)*	32.6(N)*	148(N)*	29.9(N)*	27.4(N)*	32.2(N)*	36.4(N)*	33.5(N)*	770(N)*	25.2(N)*	953(N)*	28.8(N)*
17 Potassium	473(B)	2350	1670	1140(B)	901(B)	2330	2290	2660	890(B)	1060(B)	1230(B)	1480
18 Selenium	nd	nd(WN)	11.9(WN)	nd(WN)	nd(WN)	nd(WN)	nd(WN)	nd(WN)	nd(WN)	nd(WN)	nd(WN)	nd(WN)
19 Silver	69.6	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
20 Sodium	413(B)	353(B)	343(B)	308(B)	348(B)	378(B)	362(B)	376(B)	287(B)	300(B)	320(B)	320(B)
21 Thallium	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
22 Vanadium	14.0	26.0	24.0	16.0	18.9	27.4	24.4	27.6	20.8	11.6(B)	20.8	15.9

INTER

Inorganic Analyses (mg/kg or μm) SOIL												
	S1(F)	S1(N)	S2(F)	S2(N)	S3(F)	S3(N)	S4(F)	S4(N)	S5(F)	S5(N)	S6(F)	S6(N)
23	Zinc	788	62.5	272(N)*	45.6(N)*	51(N)*	71.7(N)*	73.3(N)*	403(N)*	158(N)*	300(N)*	58.7(N)*
24	Cyanide	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd

- (E) Estimated value due to interference effects.
- (N) Spike sample recovery is not within control limits.
- * Duplicate analysis is not within control limits.
- (B) Value greater than or equal to the instrument detection limit but less than contract required detection limit.
- (S) Value determined by Method of Standard Addition.
- (W) Post digestion spike for Furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- + Indicates the correlation coefficient for method of standard addition is less than 0.996.

		Pesticide Organics Analyses (μ g or ppb) SOIL											
		S1(F)	S1(N)	S2(F)	S2(N)	S3(F)	S3(N)	S4(F)	S4(N)	S5(F)	S5(N)	S6(F)	S6(N)
23	Aroclor-1221	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
24	Aroclor-1232	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
25	Aroclor-1242	660(P)	nd	nd	nd	nd	nd	nd	nd	nd	nd	910(P)	nd
26	Aroclor-1248	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
27	Aroclor-1254	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
28	Aroclor-1260	2000	nd	320(P)	nd	nd	nd	12(J)	nd	nd	nd	2400	nd

(J) Estimated value. Value is greater than zero but below quantitation.

(P) Greater than 25% difference for detected concentrations between 2 GC columns.

A. Sylvester

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233



Thomas C. Jorling
Commissioner

DEC 14 1993

The Carborundum Company
1625 Buffalo Avenue
P.O. Box 337
Niagara Falls, New York 14302

Dear Sir:

As mandated by Section 27-1305 of the Environmental Conservation Law (ECL), the New York State Department of Environmental Conservation (NYSDEC) must maintain a registry of all inactive disposal sites known to contain hazardous waste. The ECL also mandates that this Department notify the owner of all or any part of each site or area included in the Registry of Inactive Hazardous Waste Disposal Sites as to changes in site classification.

Our records indicate that you are the owner or part owner of the site listed below. Therefore, this letter constitutes notification of change in the classification of such site in the Registry of Inactive Hazardous Waste Disposal Sites in New York State.

DEC Site No.: 932036
Site Name: Carborundum Company, Gload
Site Address: Hyde park Boulevard, Rhode Island Avenue, Niagara, NY

Classification Change from 2a to 2

The reason for the change is as follows:

- While no actual intentional disposal of hazardous waste is suspected, contamination occurred as a result of spills and leaks associated with plant operation. Overburden soil has been found to be contaminated with volatile organics, while groundwater has been found to be contaminated with volatile organics. Contaminated groundwater is migrating off site. The significant threat has been determined to exist due to the documented disposal of hazardous waste resulting in the contravention of groundwater standards on site, migration of contaminated groundwater from the site and the proximity of residential properties adjacent to the facility.

Enclosed is a copy of the New York State Department of Environmental Conservation, Division of Hazardous Waste Remediation, Inactive Hazardous Waste Disposal Site Report form as it appears in the Registry and Annual Report, and an explanation of the site classifications. The Law allows the owner and/or operator of a site listed in the Registry to petition the Commissioner of the New York State Department of Environmental Conservation for deletion of such site, modification of site classification, or modification of any information regarding such site, by submitting a written statement setting forth the grounds of the petition. Such petition may be addressed to:

Thomas C. Jorling, Commissioner
New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233-0001

For additional information, please contact me at (518) 457-0747.

Sincerely,



Robert L. Marino
Chief
Site Control Section
Bureau of Hazardous Site Control
Division of Hazardous Waste Remediation

Enclosures

bcc: w/o Enc.
E. Barcomb
R. Marino
T. Reamon
A. Sylvester

w/Enc. (copy of Site Report form only)
R. Dana
A. Carlson, NYSDOH
L. Condra
S. Doleski
J. Ryan
P. Buechi, R/9
E. Belmore

AS/srh

ANALYTICAL DATA AVAILABLE:

Air- Surface Water- Groundwater-X Soil-X Sediment-

CONTRAVENTION OF STANDARDS:

Groundwater-X Drinking Water- Surface Water- Air-

LEGAL ACTION:

TYPE...: State- Federal-
 STATUS: Negotiation in Progress- Order Signed- X

REMEDIAL ACTION:

Proposed- Under design- In Progress- Completed-
 NATURE OF ACTION:

GEOTECHNICAL INFORMATION:

SOIL TYPE:
 GROUNDWATER DEPTH: 10 ft.

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Documented disposal of hazardous waste (spent solvents) has caused significant soil contamination, shallow overburden groundwater contamination, bedrock groundwater contamination and off-site migration of contaminated groundwater.

ASSESSMENT OF HEALTH PROBLEMS:

The site is enclosed within fencing and the wall of the plant building. Access is restricted to employees or authorized personnel, only. Most of the area is covered, but staining by oily substances is evident. Sampling of soil and ground water has shown the presence of low concentrations of several organic pollutants and metals. Run-off water is caught by storm sewers, and ground water eventually flows into the Niagara River, which is 7000 feet to the west. All area residences are connected to public water. It is unknown whether containers storing oil are sealed or unsealed. There is a potential for air emissions and fire due to the storage of oil at the facility. Further investigation needs to be done in order to evaluate the impact on public health attributable to this site.