The attached figures and tables are reprints from the following document:

Jack McCormick & Associates, Inc. 1977. "Investigations Of Aquatic And Terrestrial Mercury Contamination In The Vicinity Of The Former Location Of The Wood-Ridge Chemical Corporation Processing Plant, Boroughs Of Wood Ridge And Carlstadt, Bergen County, NJ." Prepared by Jack McCormick & Associates, Inc. (Berwyn, PA) for the Office of the Commissioner, NJDEP (Trenton, NJ).

203761

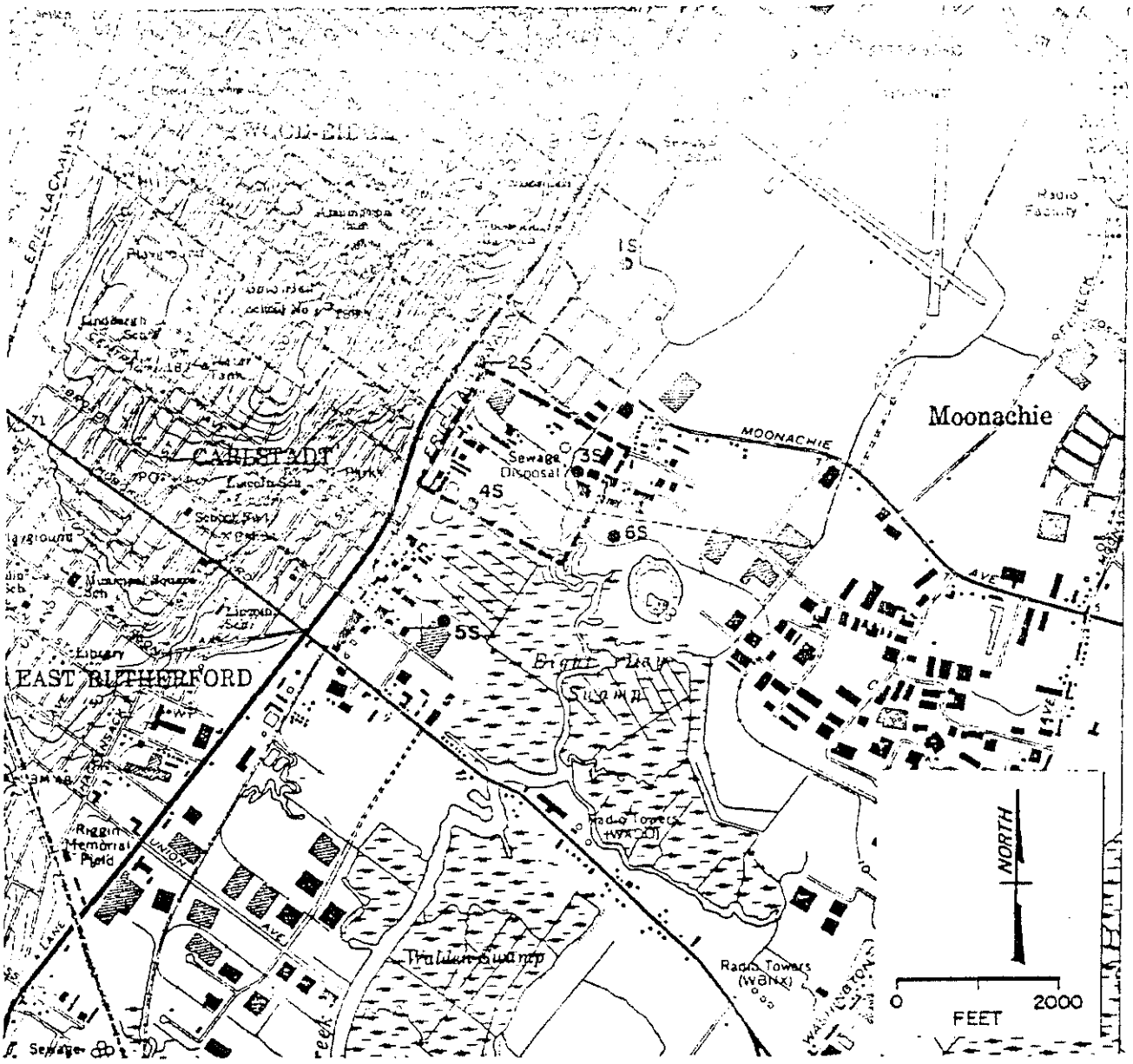
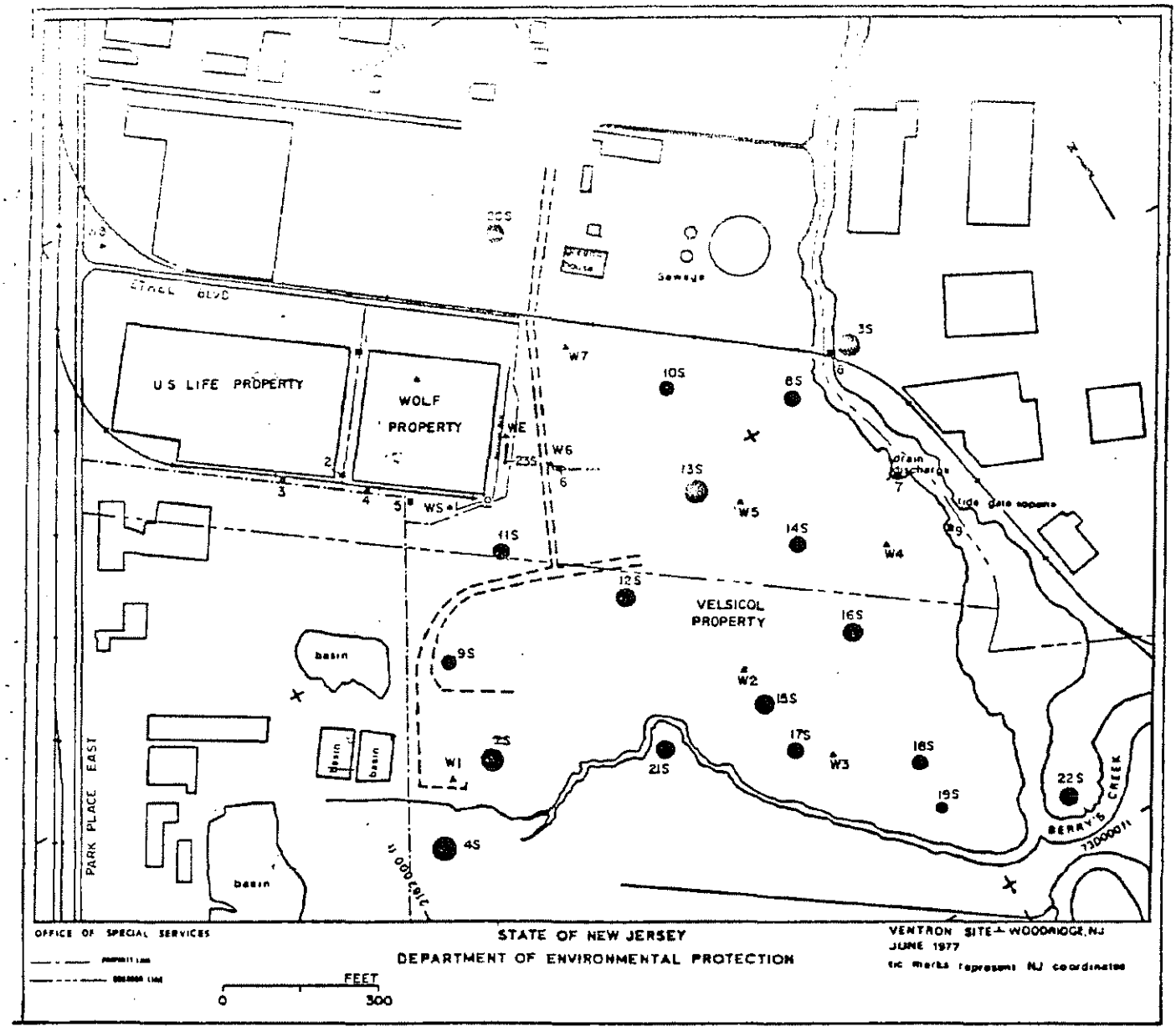


Figure 1. Regional location of the subject site. Numbered dots indicate the locations of stations from which samples of soil were obtained.

824260019



● Soil Station

▲ Observation Well

■ Surface Water Station

Figure 2. Locations of surface water stations, observation wells, and soil stations on and near the subject site.

824260020

Table 5. Concentrations of mercury, arsenic, lead, nickel, zinc, and cadmium levels in samples of soil from wells (concluded).

Well No.	Date	Depth (ft)	Hg	As	Pb	Ni	Zn	Cd
W7	26 May 1977	0–2	193	20	190	11	170	1
		2–4	234	16	170	12	240	1
		4–6	83	4	81	16	120	2
		6–8	58	7	85	11	100	1
		8–10	1.8	4	12	17	47	0.3
W8	26 May 1977	0–2	432	5	81	14	280	0.9
		2–4	105	5	110	14	190	0.9
		4–6	1.9	<0.5	11	8	110	0.3
		8–10[a]	0.7	2	7	10	27	<0.3
		10–12	1.2	1	5	7	19	<0.3
		12–14	1.3	1	7	11	24	0.3

[a]At the direction of personnel from the Department of Environmental Protection, samples from intervening depths were collected, but were not analyzed.

[b]In Well W4, no material was recovered from depths between 4 and 8 feet. A fragment of wood was recovered from 8 to 10 feet.

824260054

Table 6. Concentrations of mercury, lead, nickel, zinc, and cadmium in samples of soil cores from stations 1S through 23S during the period from 15 through 22 June. Units are mg/kg, or ppm, dry weight basis).

Station No.	Depth (in.)	Hg		Pb	Ni	Zn	Cd
1S	0-6	4.8	6	92	7.8	59	1.4
	6-12	1.9	11	5,710	16.4	118	1.3
2S	0-6	6.4	8	184	20	121	2.1
	6-12	3.5	6	116	13	95	1.3
3S	0-6	6.1	6	40	26	42	1.7
	6-12	2.6	10	40	30	56	1.5
4S	0-6	619	58	321	86	28,832	78
	6-12	746	64	111	95	25,208	72
5S	0-6	2.4	20	512	23	426	4.2
	6-12	18.5	14	287	20	284	3.6
6S	0-6	1.5	18	433	13	180	2.0
	6-12	2.0	11	594	41	267	3.6
7S	0-6	15.4	5	737	65	882	19
	6-12	4.7	10	583	65	795	5.2
	12-18	7.1	11	578	100	1,026	13
	18-24	3.9	7	550	120	521	5.5
8S	0-6	58	5	479	52	1,183	3.9
	6-12	117	14	184	49	315	2.3
	12-18	61	11	885	45	860	33
	18-24	850	13	671	40	1,391	14
9S	0-6	30	5	44	29	13,454	1.7
	6-12	23	6	117	80	480	3.3
	12-18	13.8	7	88	27	[illegible]	2.6
	18-24	8.4	7	198	23	[illegible]	3.7
10S	0-6	46	15	1,225	80	[illegible]	6.7
	6-12	8.6	10	11	51	353	3.3
	12-18	10.0	12	749	66	608	9.1
	18-24	13.7	18	2,071	62	586	6.4
11S	0-6	25	6	913	135	488	4.0
	6-12	14.1	6	462	33	316	2.8
	12-18	19.5	5	1,089	42	475	3.8
	18-24	32	6	423	164	408	27

824260055

Table 6. Concentrations of mercury, arsenic, lead, nickel and cadmium levels in composite soil samples from [illegible] (continued).

Station No.	Depth (in.)	Hg	As	Pb	Ni	Zn	Cd
12S	0-6	22	7	132	41	550	3.5
	6-12	25	11	899	77	1,320	7.9
	12-18	43	10	312	135	2,065	8.4
	18-24	116	13	614	240	2,772	86
13S	0-6	151	5	3,518	52	1,800	8.3
	6-12	2,008	14	3,926	35	1,979	9.3
	12-18	1,294	16	2,629	58	1,998	18
	18-24	654	14	2,166	158	3,139	10
14S	0-6	221	6	270	49	17,510	7.6
	6-12	276	6	196	45	6,866	4.7
	12-18	63	9	502	65	3,437	3.6
	18-24	123,000	11	322	91	4,584	6.9
15S	0-6	5.7	9	79	38	115	3.1
	6-12	5.5	6	215	35	180	1.8
	12-18	6.8	8	490	95	405	3.7
	18-24	9.8	11	388	37	294	3.1
16S	0-6	20.2	19	672	195	4,719	18
	6-12	26	30	896	157	3,392	15
	12-18	39	21	970	216	4,382	12
	18-24	23	22	990	132	3,770	13
17S	0-6	11.1	29	844	130	1,053	3.3
	6-12	11.9	9	670	49	715	5.5
	12-18	14.8	9	2,717	78	965	8.7
	18-24	12.9	11	964	85	1,204	9.2
18S	0-6	9.2	7	354	37	564	4.8
	6-12	3.9	7	298	37	4,491	29
	12-18	5.2	5	214	32	362	8.9
	18-24	19.9	9	385	45	711	8.4
19S	0-6	23	4	257	213	535	4.9
	6-12	18.4	1	164	19	313	2.6
	12-18	197	7	1,314	44	6,725	2.6
	18-24	328	12	580	33	13,634	6.0

824260056

Table 6. Concentrations of mercury, arsenic, lead, nickel, zinc, and cadmium levels in composite soil samples from stations 1S through 23S (concluded).

Station No.	Depth (in.)	Hg	As	Pb	Ni	Zn	Cd
20S	0-6	75	6	123	21	172	1.8
	6-12	34	6	216	21	122	1.9
	12-18	19.4	4	362	26	183	2.2
	18-24	15.1	7	395	19	202	2.2
21S	0-6	546	49	390	103	15,051	43
	6-12	1,444	82	125	21	502	7.5
22S	0-6	367	45	430	211	4,286	31
	6-12	1,185	148	396	289	10,670	71
23S	0-6	2,558	6	117	58	1,573	2.7
	6-12	2,885	7	179	58	2,032	3.7
	12-18	3,397	8	190	55	12,372	4.0
	18-24	4,719	8	344	27	818	2.2

824260057

Table 7. Concentrations of mercury, arsenic, lead, nickel, zinc, and cadmium in unfiltered samples of water collected from wells W1 through W8 on 2 June 1977. Units are µg/l, or ppb.

Well No.	Collection Time (EST)	Collection Level	Hg	As	Pb	Ni	Zn	Cd
W1	0800	T	0.7	<10	<500	<200	100	<50
	0800	B	1.0	<10	<500	<200	170	<50
W2	0900	T	3.0	<10	<500	<200	110	<50
	0900	B	84	15	<500	<200	22,400	<50
W3	0930	T	1.2	<10	<500	<200	60	<50
	0930	B	5.1	11	<500	<200	150	<50
W4	0945	T	0.4	<10	<500	<200	30	<50
	0945	B	2.7	<10	<500	<200	160	<50
W5	1000	T	1,110	12	1,000	<200	21,300	<50
	1000	B	3,770	31	3,000	<200	25,200	<50
W6	1010	T	198	<10	<500	<200	240	<50
	1010	B	74	<10	<500	<200	150	<50
W7	1020	T	210	<10	<500	<200	250	<50
	1020	B	194	10	<500	<200	380	<50
W8	1035	T	0.7	<10	<500	<200	90	<50
	1035	B	9.3	<10	<500	<200	280	<50

T = 1 to 1.5 feet below the surface of the water

B = 1 foot above bottom of casing

824260058

Table 8. Concentrations of mercury, arsenic, lead, nickel, zinc, and cadmium in unfiltered samples of water collected from wells W1 through W8, the east well, and the south well at times corresponding to periods of high and low water in Berrys Creek on 8 June 1977 (units are µg/l, or ppb).

Well No.	Collection Time (EST)	Tide Stage	Groundwater Level *	Hg	As	Pb	Ni	Zn	Cd
W1	1052	L	3.72	0.3	<10	<500	<200	80	<50
	1640	H	3.74	0.3	<10	<500	<200	80	<50
W2	1101	L	2.99	0.9	<10	<500	<200	50	<50
	1645	H	3.09	1.0	<10	<500	<200	40	<50
W3	1114	L	3.10	0.9	<10	<500	<200	60	<50
	1658	H	2.30	0.8	<10	<500	<200	40	<50
W4	1040	L	2.63	0.5	<10	<500	<200	40	<50
	1633	H	2.69	<0.1	<10	<500	<200	20	<50
W5	1148	L	2.27	1,077	26	1,400	<200	11,200	<50
	1628	H	2.19	68	10	<500	<200	2,800	<50
W6	1002	L	2.23	57	<10	<500	<200	70	<50
	1616	H	2.16	23	<10	<500	<200	30	<50
W7	0924	L	2.13	147	<10	<500	<200	190	<50
	1553	H	2.11	33	11	<500	<200	180	<50
W8	0912	L	1.87	1.6	<10	<500	<200	50	<50
	1541	H	1.85	0.5	<10	<500	<200	40	<50
WE	0937	L	1.72	41	78	<500	<200	50	<50
	1609	H	1.89	16.2	66	<500	<200	20	<50
WS	1014	L	1.80	35	18	<500	<200	4,500	<50
	1620	H	1.99	7.8	<10	<500	<200	3,400	<50

* Feet above mean sea level.

H = High water
L = Low water

824260060

Table 9. Concentrations of mercury, arsenic, lead, nickel, zinc, and cadmium in filtered samples of water collected from wells W1 through W8, the east well, and the south well at times corresponding to periods of high and low water in Berrys Creek on 13 July 1977 (units are µg/l, or ppb).

Well No.	Collection Time (EST)	Tide Stage	Groundwater Level *	Hg	As	Pb	Ni	Zn	Cd
W1	0700	H	2.72	< 0.3	<20	<10	<100	160	<3
	1242	L	2.72	< 0.3	<20	<10	<100	150	<3
W2	0750	H	2.44	< 0.3	<20	<10	<100	110	<3
	1301	L	2.94	< 0.3	<20	<10	<100	100	<3
W3	0900	H	2.35	< 0.3	<20	<10	<100	140	<3
	1310	L	2.43	< 0.3	<20	<10	<100	40	<3
W4	0907	H	2.68	< 0.3	<20	<10	<100	40	<3
	1320	L	2.89	< 0.3	<20	<10	<100	20	<3
W5	0915	H	1.87	< 0.3	<20	<10	<100	10	6.8
	1329	L	1.93	< 0.3	<20	<10	<100	300	3.0
W6	0925	H	1.81	< 0.3	<20	<10	<100	360	<3
	1340	L	1.72	< 0.3	<20	<10	<100	20	13
W7	0950	H	2.24	< 0.3	<20	<10	<100	40	<3
	1406	L	2.24	< 0.3	<20	<10	<100	130	<3
W8	0955	H	1.25	< 0.3	<20	<10	<100	50	8.0
	1414	L	1.06	< 0.3	<20	<10	<100	40	9.0
WE	0935	H	1.64	8.8	<20	<10	<100	90	<3
	1348	L	1.49	4.3	<20	<10	<100	100	5.6
WS	0945	H	1.68	0.9	<20	<10	<100	4,700	8.0
	1336	L	1.52	0.8	<20	<10	<100	2,800	9.0

* Feet above sea level

H = High water

L = Low water

824260061

Table 11. Concentrations of [illegible] mercury, arsenic, lead, nickel, zinc, and cadmium in samples of [illegible] on 13 May 1977 (units are ug/l, or ppb).

Collection Time (EST)	Direction of Flow of Water	Hg	As	Pb	Ni	Zn	Cd
0304	Eastward	9.3	11	82	13	230	1.1
0400	Eastward	8.9	13	71	11	200	1.0
0503	Eastward	6.0	35	57	20	200	0.6
0600	Eastward	5.5	38	61	9	190	0.7
0700	Eastward	5.5	17	48	<0.1	170	0.6
0800	Westward	3.2	<10	38	10	200	2.4
0905	Westward	0.9	<10	20	11	190	1.9
1003	Westward	1.3	<10	12	14	170	1.7
1100	Westward	1.0	<10	10	20	160	1.4
1200	Eastward	1.4	<10	12	16	170	1.9
1300	Eastward	2.8	<10	25	<0.1	170	1.1
1400	Eastward	5.4	<10	17	7	140	1.0
1500	Eastward	10.5	<10	12	<0.1	170	0.9

824260063

Table 15. Concentrations of selected metals in samples of soil collected during July 1974 from Lot 10, Block 229 on the Subject Site (WT-22). Descriptions of the specific locations of the test [illegible] are not available. Data are expressed in parts per million [illegible] in the column for depth means surface. Other depths are expressed in feet.

Site	Depth	Arsenic	Cadmium	Lead	Mercury	Nickel	Zinc
1	0	6.8	2.6	24.0	415	26.0	590.0
	1	4.6	< 2.0	1,980.0	215	22.0	235.1
	2	3.0	2.2	16.8	2,175	16.6	147.5
	3	7.8	< 2.0	4.8	185	13.0	88.2
2	0	8.0	3.8	130.0	515	35.4	2,412.0
	1	11.9	< 2.0	46.8	265	26.6	174.6
	2	10.4	< 2.0	40.6	315	31.0	282.2
	3	6.8	< 2.0	45.0	275	27.4	291.9
3	0	10.2	< 2.0	43.0	3,215	21.6	156.2
	1	23.9	< 2.0	2.6	1,825	28.2	229.2
	2	27.2	< 2.0	38.4	1,450	38.2	201.8
	3	3.4	< 2.0	4.6	930	6.8	75.7
4	0	17.1	5.2	620.0	7,625	95.8	1,188.0
	1	9.6	2.2	63.0	18,750	23.0	475.0
	2	9.7	< 2.0	57.0	3,425	20.0	1,030.0
	3	8.0	< 2.0	10.2	6,875	13.4	100.0
5	0	11.1	8.3	380.0	10,750	162.6	8,760.0
	1	19.3	< 2.0	13.6	13,750	51.8	208.8
	2	21.1	< 2.0	103.2	16,750	99.6	2,530.0
	3	25.0	4.0	120.0	47,000	326.0	9,680.0
6	0	24.3	2.4	66.8	1,825	68.0	2,000.0
	1	35.6	< 2.0	17.4	16,250	52.0	5,020.0
	2	35.9	< 2.0	18.0	5,625	52.6	8,220.0
	3	22.0	< 2.0	21.6	39,500	45.4	1,614.0
7	0	21.1	4.5	52.6	9,500	92.8	2,652.0
	1	9.7	2.6	23.2	8,250	55.8	1,670.0
	2	7.7	92.2	408.0	67,500	40.2	76,500.0
	3	8.3	4.9	22.4	1,775	14.2	2,896.0
8	0	6.0	3.5	277.6	182,500	1,076.0	66,740.0
	1	2.8	27.9	216.8	29,500	177.6	56,100.0
	2	3.4	18.3	268.6	195,000	162.4	8,560.0
	3	3.3	2.5	141.4	117,500	150.0	2,360.0
9	0	2.1	< 2.0	73.0	82,500	29.8	600.0
	1	2.7	2.2	116.0	9,500	94.0	4,560.0
	2	2.3	4.8	168.4	23,000	114.0	3,440.0
	3	2.5	< 2.0	68.0	43,000	44.0	785.0
Mean		12.0	5.9	158.0	26,900	92.0	7,570.0
Maximum		35.9	92.2	1,980.0	195,000	1,076.0	76,500.0

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Table 16. Concentrations (levels) of mercury in samples of soil collected during September 1974 from the property owned by Wolf Realty (WV-19). The locations of the sites are plotted on Figure 7. Codes for depths are defined in a footnote at the end of the table. Data are expressed as parts per million (ppm).

Site	Depth	Level
B-1	A	19,000
	B	88,350
	C	19,000
B-2	0	16,530
	1	8,930
	2	1,900
B-3	2	6,270
B-4	0	7,600
	1	1,520
	2	2,850
C-1	1	5,510
	2	3,040
C-2	1	7,880
	2	3,040
C-3	1	6,080
	3	5,890
C-4	0	19,000
	1	3,040
	2	1,900
C-5	G	2,470
D-1	0	3,000
	1	1,330
	2	1,330
D-2	0	14,250
	1	5,700
	2	5,130
D-3	0	4,750
	1	4,560
	2	1,330
D-4	0	1,520
	1	17,480
	2	2,280
D-5	0	22,800
	1	7,220
E-1	0	2,140
	1	7,980
	2	4,750
E-2	1	3,420
	2	7,980
E-3	0	48,450
	1	10,830
	2	2,470
E-4	0	4,750
	1	23,750
	2	6,27[illegible]
E-5	0	54,150
	1	47,500
	2	7,600
F-1	0	99,750
	1	2,470
	2	1,900
F-2	0	4,750
	1	1,900
	2	1,900
F-3	D	3,990
	E	1,610
	F	6,360
F-4	0	760
	1	[illegible]
	2	3,230
F-5	0	[illegible]
	1	[illegible]

824260084

Table 16. Concentrations (levels) of mercury in samples of soil collected during September 1974 from the property owned by Wolf Realty (continued).

Site	Depth	Level	Site	Depth	Level
G-1	0	3,800	H-3	0	90
	1	1,430		1	50
	2	2,850		2	1,520
G-2	0	1,000	H-4	0	70
	1	950		1	70
	2	3,230		2	30
G-3	0	37,260	H-5	0	7,560
	1	19,000		1	9,500
	2	1,630		2	10,830
G-4	0	3,040			
	1	11,020	MEAN		12,800
	2	1,440			
			MAXIMUM		142,500
G-5	0	1,620			
	1	72,920			
	2	24,130			
H-1	0	1,800			
	1	1,520			
	2	2,850			
H-2	0	2,470			
	1	14,250			
	2	1,520			

[a]Codes for depths are: 0, surface or 6 or 8 inches to 12 inches in depth. 2, from 1 to 2 feet in depth; 2, from 2 to 3 feet in depth; A, 0.75 to 1.75 feet; B, 1.75 to 2.75 feet; C, 2.75 to 3.0 feet; D, 0.5 to 1.5 feet; E, 1.5 to 2.5 feet; F, 2.5 to 3.0 feet; G, collected by a backhoe, depth not specified

824260085

The attached figures and tables are reprints from the following document:

Exponent. 1998. "Phase 1: Remedial Investigation Report: Ventron/Velsicol Site, Wood Ridge/Carlstadt, NJ." Volume 3 of 3 (Background Investigation Technical Memorandum). Prepared by Exponent (Natick, MA) for Velsicol Chemical Corporation (Memphis, TN). Doc #8600B3N.001040112980111

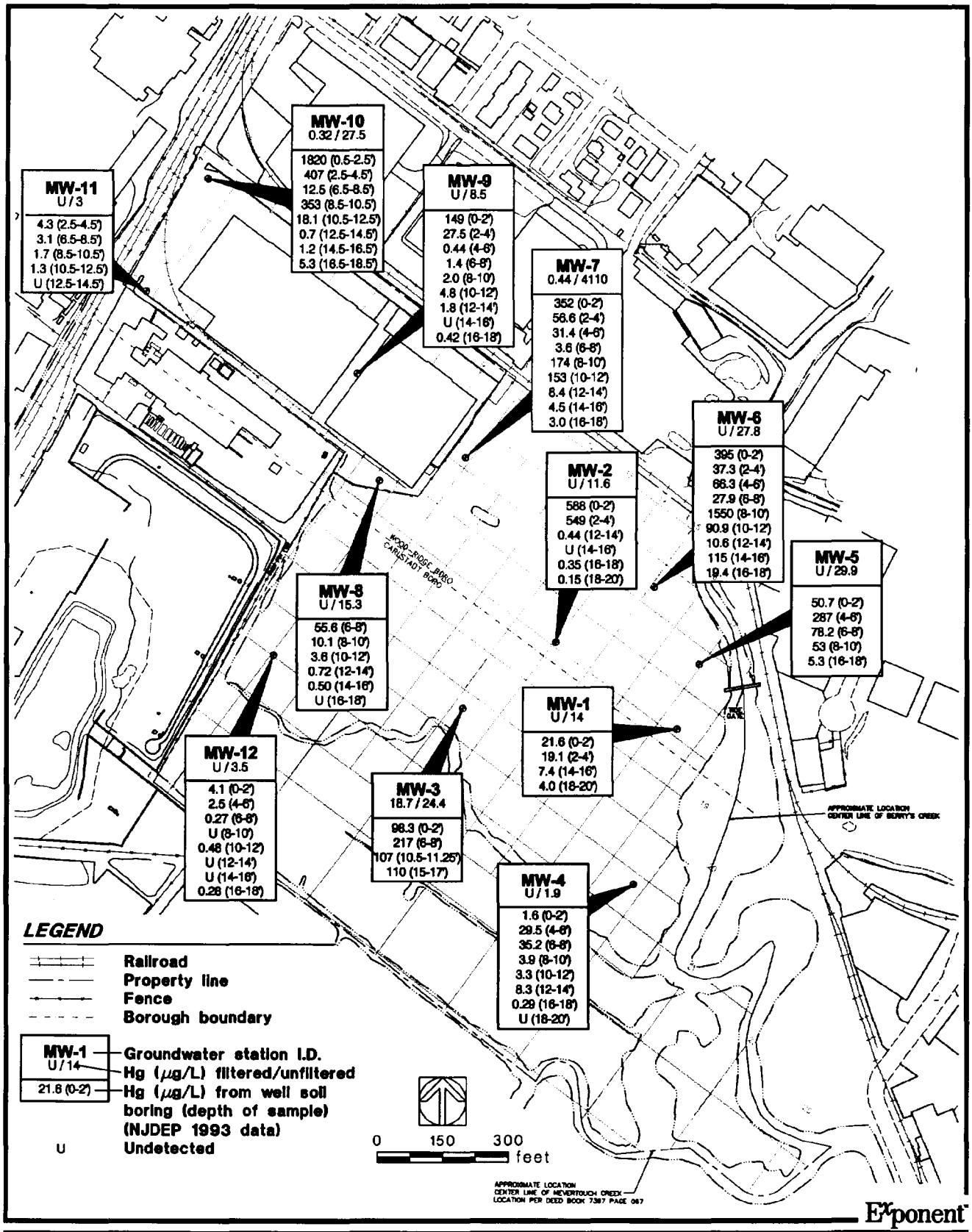


Figure B-3. Groundwater monitoring wells with groundwater and soil analytical reported by NJDEP (1993) at the Ventron/Velsicol Site.

CB3N0203\MERC93.dwg 11/18/98 OR

The attached figures and tables are reprints from the following document:

Arcadis Geraghty & Miller. 1999. “Concentrations of Arsenic/Mercury in Soil Sediment Associated with Ventron/Velsicol Open Dump.” (Langhorne, PA)

LEGEND

- SOIL SAMPLE LOCATION
- SEDIMENT SAMPLE LOCATION
- 5.4J — CONSTITUENT CONCENTRATION (mg/Kg)
- ND — NOT DETECTED
- TOWNSHIP LINE
- TEMPORARY OR PROPOSED ROADWAY
- RAILROAD TRACKS
- WATERWAY
- APPROXIMATE LIMITS OF 10-YEAR FLOOD

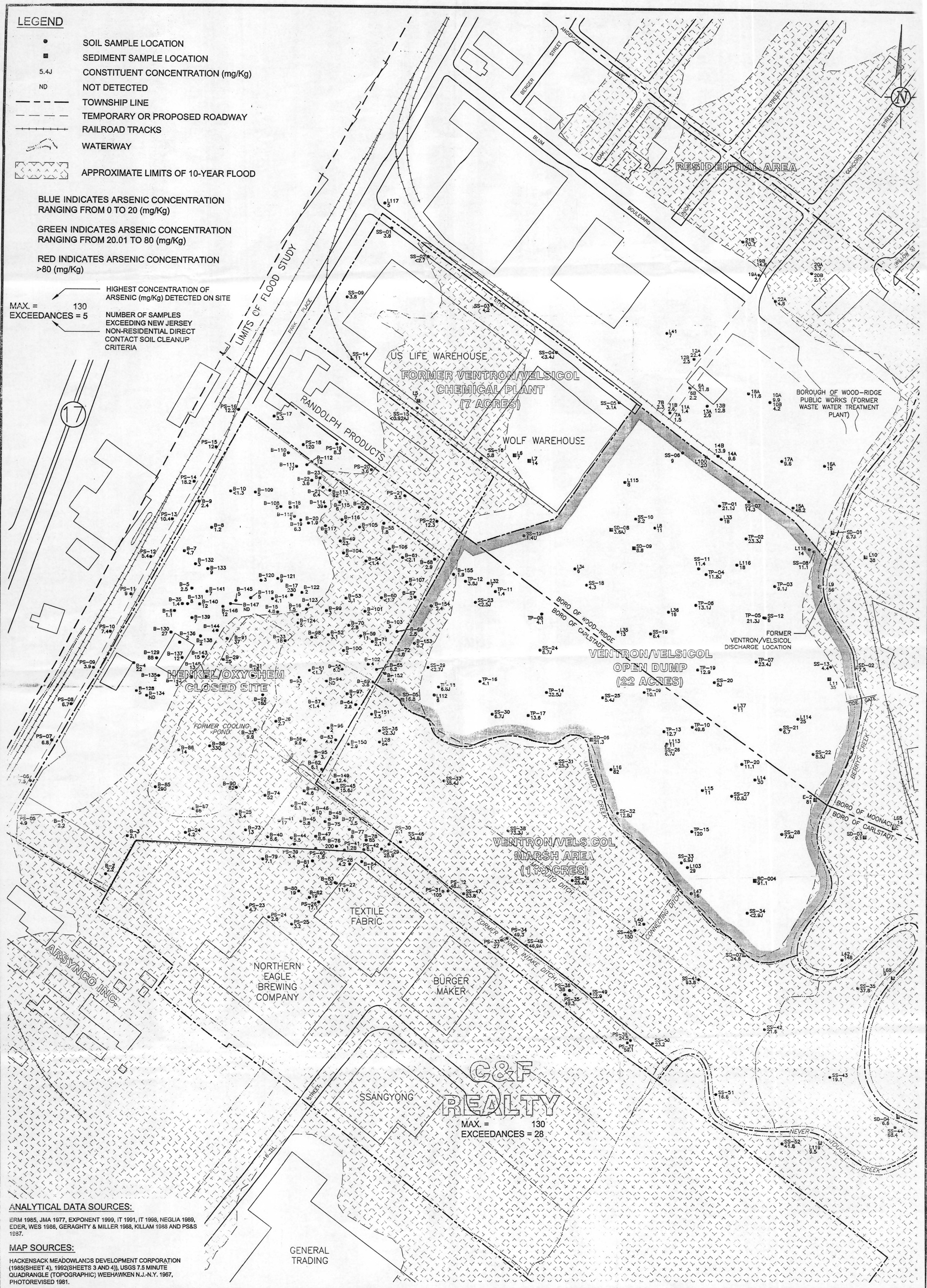
BLUE INDICATES ARSENIC CONCENTRATION RANGING FROM 0 TO 20 (mg/Kg)

GREEN INDICATES ARSENIC CONCENTRATION RANGING FROM 20.01 TO 80 (mg/Kg)

RED INDICATES ARSENIC CONCENTRATION >80 (mg/Kg)

MAX. = 130 — HIGHEST CONCENTRATION OF ARSENIC (mg/Kg) DETECTED ON SITE

EXCEEDANCES = 5 — NUMBER OF SAMPLES EXCEEDING NEW JERSEY NON-RESIDENTIAL DIRECT CONTACT SOIL CLEANUP CRITERIA



ANALYTICAL DATA SOURCES:

ERM 1985, JMA 1977, EXPONENT 1999, IT 1991, IT 1998, NEGLIA 1989, EDER, WES 1986, GERAGHTY & MILLER 1988, KILLAM 1988 AND PS&S 1987.

MAP SOURCES:

HACKENSACK MEADOWLANDS DEVELOPMENT CORPORATION (1985(SHEET 4), 1992(SHEETS 3 AND 4)), USGS 7.5 MINUTE QUADRANGLE (TOPOGRAPHIC) WEEHAWKEN N.J.-N.Y. 1967, PHOTOREVISED 1981.

G:\APROJECT\HENKEL_LITIGATION\CADD\STE... 1P-100.DWG

copyright © 19 99

0 100 200 300
SCALE: 1" = 100'

NO.	DATE	REVISION DESCRIPTION	BY / CKD

ARCADIS GERAGHTY & MILLER
3000 Cabot Blvd West
Suite 3004, Langhorne, Pa 19047
Tel: 215/752-6840 Fax: 215/752-6879

DRAWN	DATE	PROJECT MANAGER	DEPARTMENT MANAGER
M. WASILEWSKI	9/12/99	K. McGUINNESS	D. SOUSA
		LEAD DESIGN PROF.	CHECKED D. DUBROSKY
		PROJECT NUMBER	DRAWING NUMBER
		NJ000401.0001	1

CONCENTRATIONS OF ARSENIC IN SOIL AND SEDIMENT ASSOCIATED WITH VENTRON/VELSICOL OPEN DUMP

LEGEND

- SOIL SAMPLE LOCATION
- SEDIMENT SAMPLE LOCATION
- 5.4J — CONSTITUENT CONCENTRATION (mg/Kg)
- ND — NOT DETECTED
- TOWNSHIP LINE
- TEMPORARY OR PROPOSED ROADWAY
- RAILROAD TRACKS
- WATERWAY
- APPROXIMATE LIMITS OF 10-YEAR FLOOD

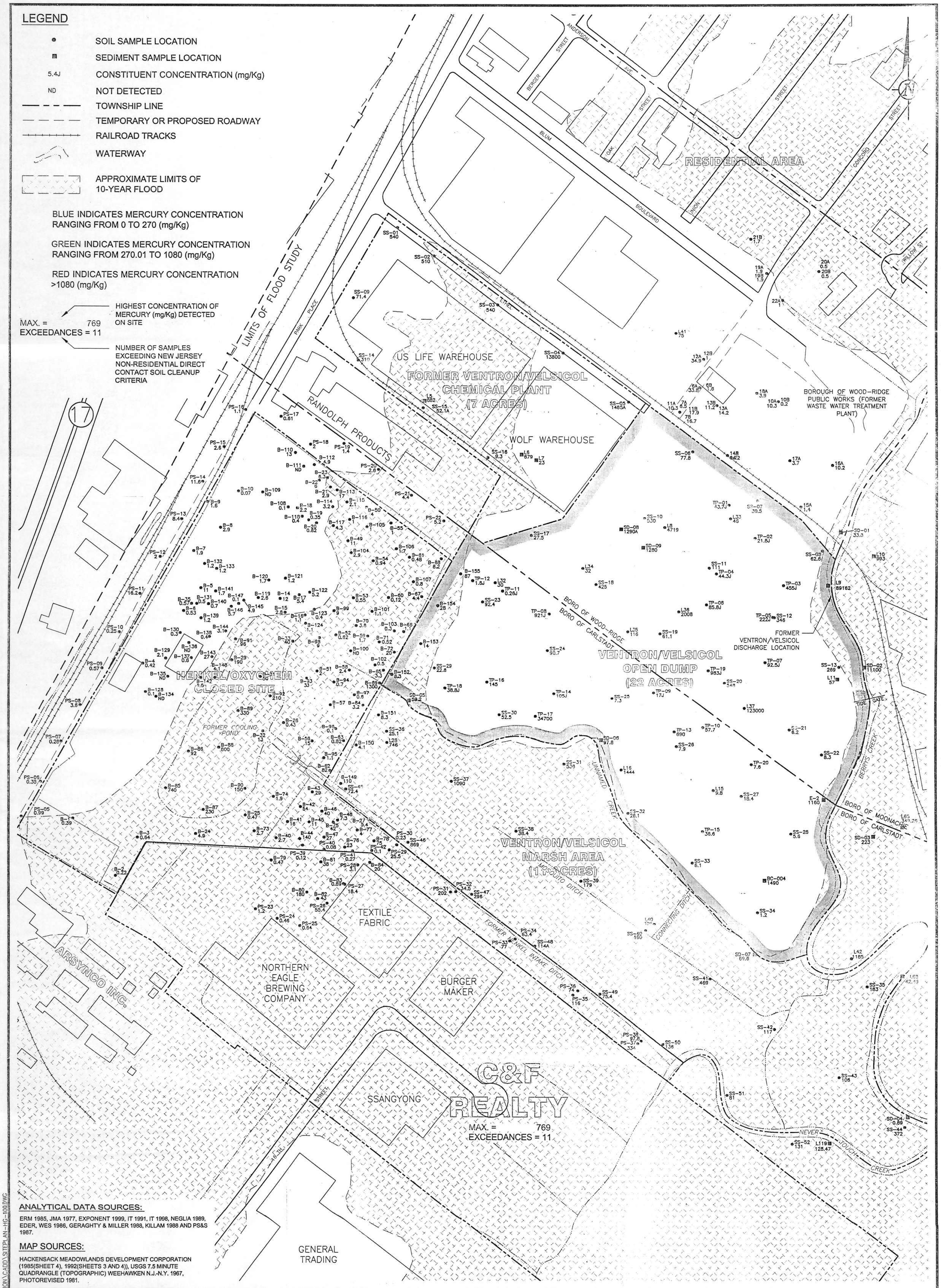
BLUE INDICATES MERCURY CONCENTRATION RANGING FROM 0 TO 270 (mg/Kg)

GREEN INDICATES MERCURY CONCENTRATION RANGING FROM 270.01 TO 1080 (mg/Kg)

RED INDICATES MERCURY CONCENTRATION >1080 (mg/Kg)

MAX. = 769 — HIGHEST CONCENTRATION OF MERCURY (mg/Kg) DETECTED ON SITE

EXCEEDANCES = 11 — NUMBER OF SAMPLES EXCEEDING NEW JERSEY NON-RESIDENTIAL DIRECT CONTACT SOIL CLEANUP CRITERIA



ANALYTICAL DATA SOURCES:

ERM 1985, JMA 1977, EXPONENT 1999, IT 1991, IT 1998, NEGLIA 1989, EDER, WES 1986, GERAGHTY & MILLER 1988, KILLAM 1988 AND PS&S 1987.

MAP SOURCES:

HACKENSACK MEADOWLANDS DEVELOPMENT CORPORATION (1985(SHEET 4), 1992(SHEETS 3 AND 4)), USGS 7.5 MINUTE QUADRANGLE (TOPOGRAPHIC) WEEHAWKEN N.J.-N.Y. 1967, PHOTOREVISED 1981.

G:\APROJECT\HENKEL LITIGATION\CADD\SITEPLAN-HG-100.DWG
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0 100 200 300
SCALE: 1" = 100'

NO.	DATE	REVISION DESCRIPTION	BY / CKD

ARCADIS GERAGHTY & MILLER
3000 Cabot Blvd West
Suite 3004, Langhorne, Pa 19047
Tel: 215/752-6840 Fax: 215/752-6879

DRAWN	DATE	PROJECT MANAGER	DEPARTMENT MANAGER
M. WASILEWSKI	10/14/99	K. McGUINNESS	D. SOUSA
		LEAD DESIGN PROF.	CHECKED D. DUBROSKY
		PROJECT NUMBER	DRAWING NUMBER
		NJ000401.0001	4

CONCENTRATIONS OF MERCURY IN SOIL AND SEDIMENT ASSOCIATED WITH VENTRON/VELSICOL OPEN DUMP

The attached figures and tables are reprints from the following document:

Exponent. 2000."Operable Unit 1: Remedial Investigation Report For The Ventron/Velsicol Site, Wood Ridge/Carlstadt, NJ." Volume 1 of 3. Prepared by Exponent (Natick, MA) for Velsicol Chemical Corporation (Rosemone, IL). Doc #8600B3N.001 0401 0900 DL01

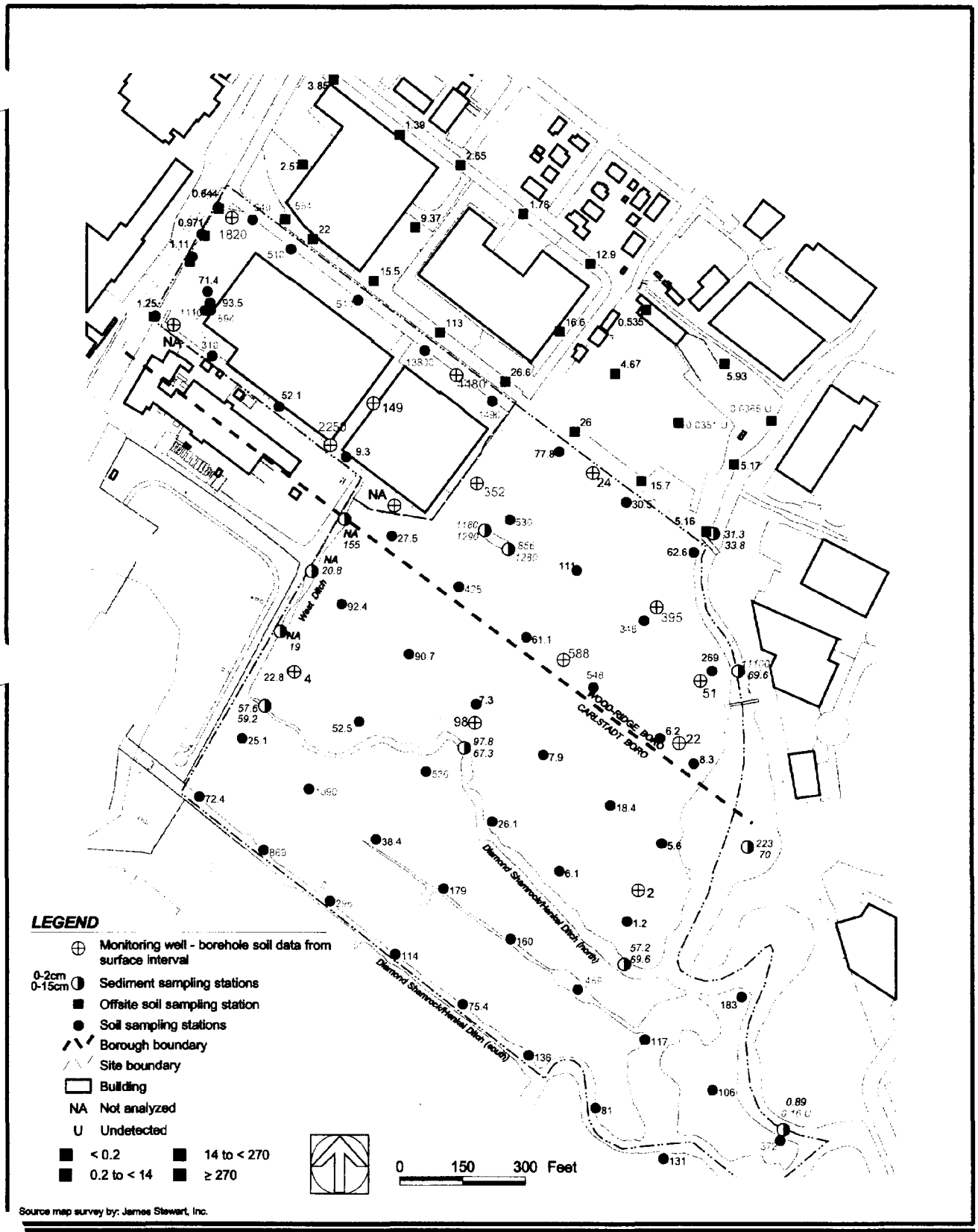


Figure 4-1. Mercury concentrations (mg/kg) in surface soils and sediments (color coding based on screening criteria values).

8600B3N.001.0401 09/19/00 OR / Mercury conc. solid e:/graphics/ventron_vel/col/woodridge.apr

831220229

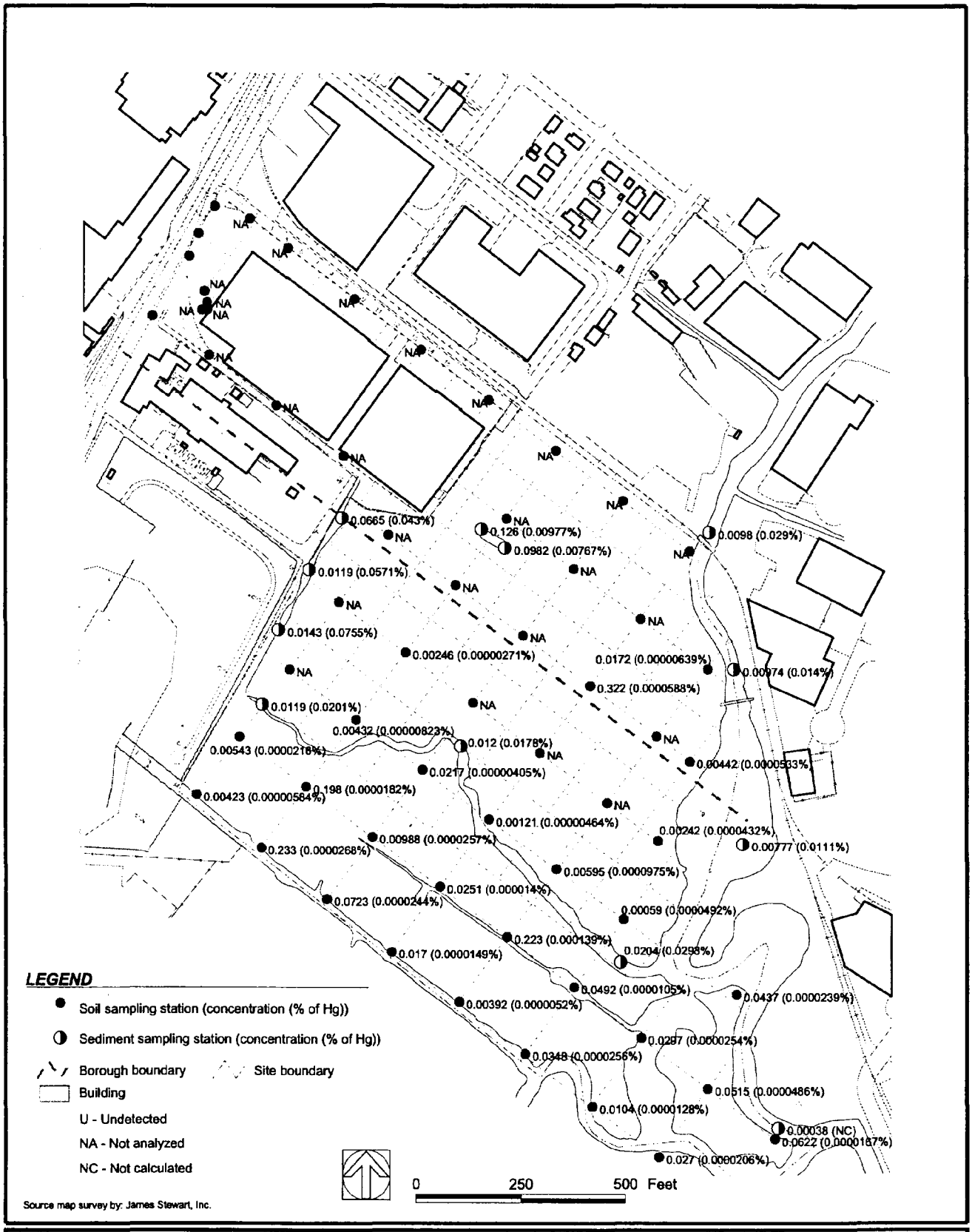


Figure 4-2 . Methylmercury concentrations (mg/kg and as percentage of total mercury) in surface soils and sediments.

8600B3N.001.0401/07/22/00 OR/ MeHg Surface/ e:/oswego1/vol1/graphics/Ventron_Velsicol/woodridge.apr

831220230

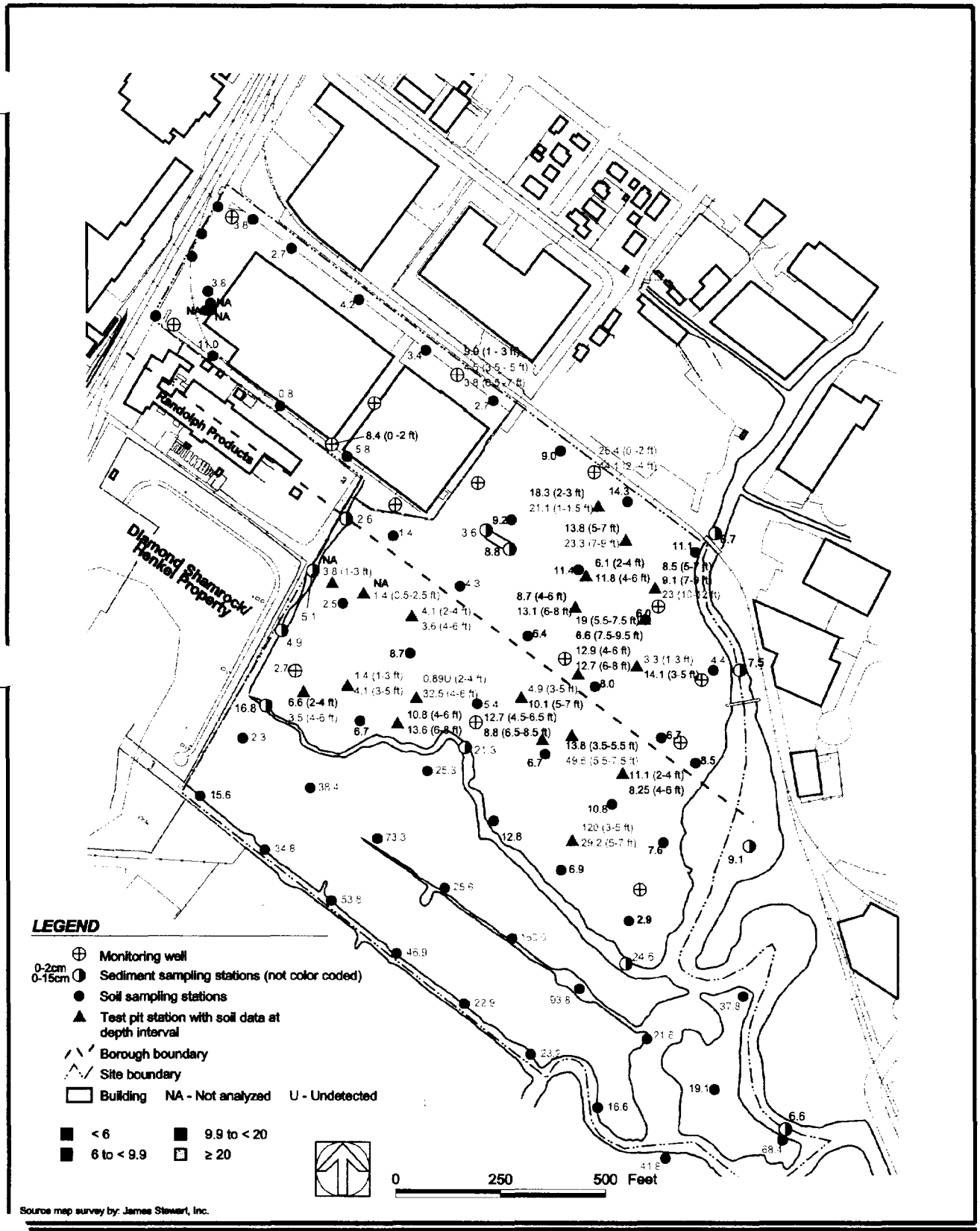
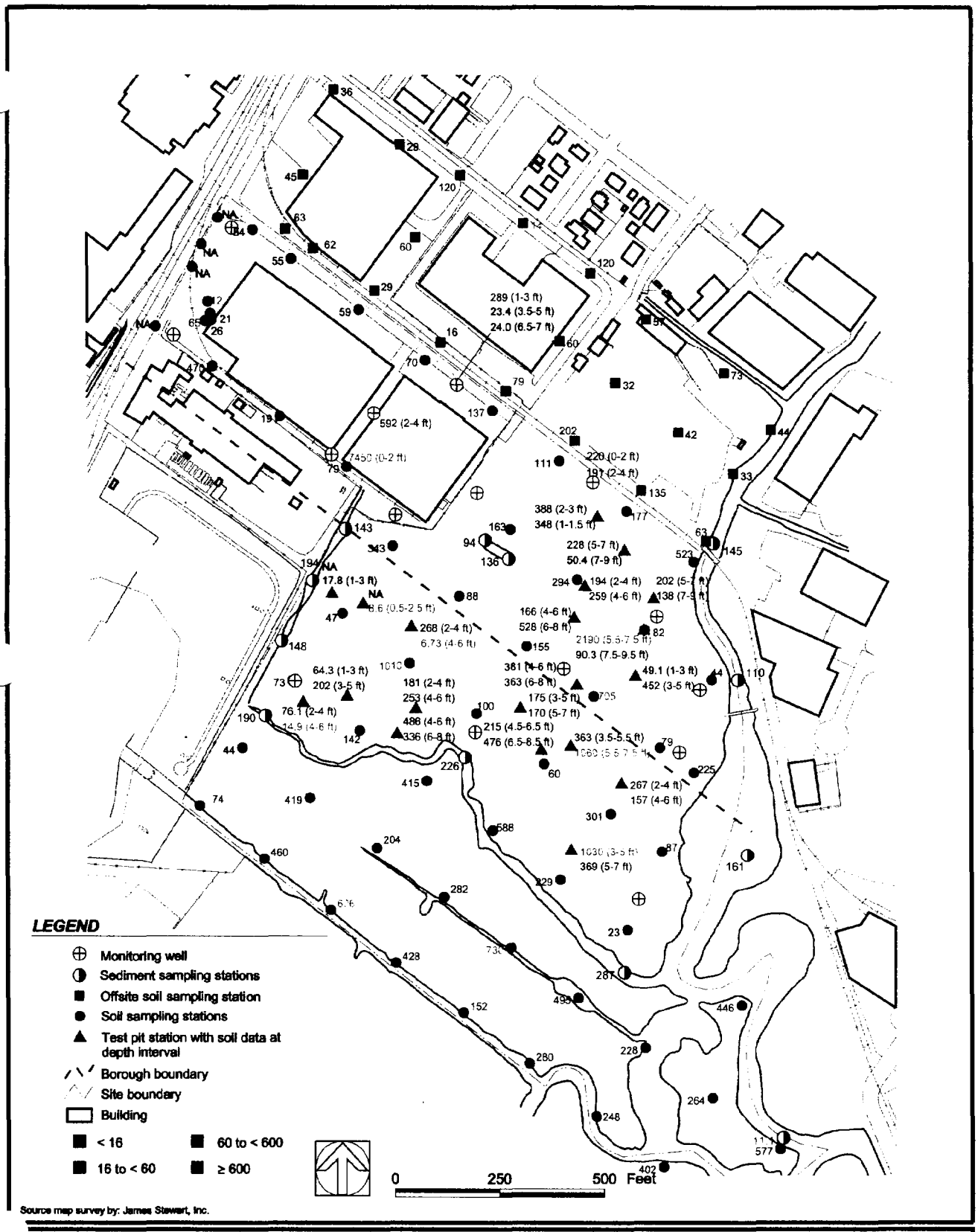


Figure 4-3. Arsenic concentrations (mg/kg) in surface and subsurface soils and sediments (color coding based on screening criteria values).

8600 B3N0401 09/19/00 OR/Soil:Arsenic/ e:/Oswego1/vol1/graphics/Ventron_Velsicol/woodridge.apr

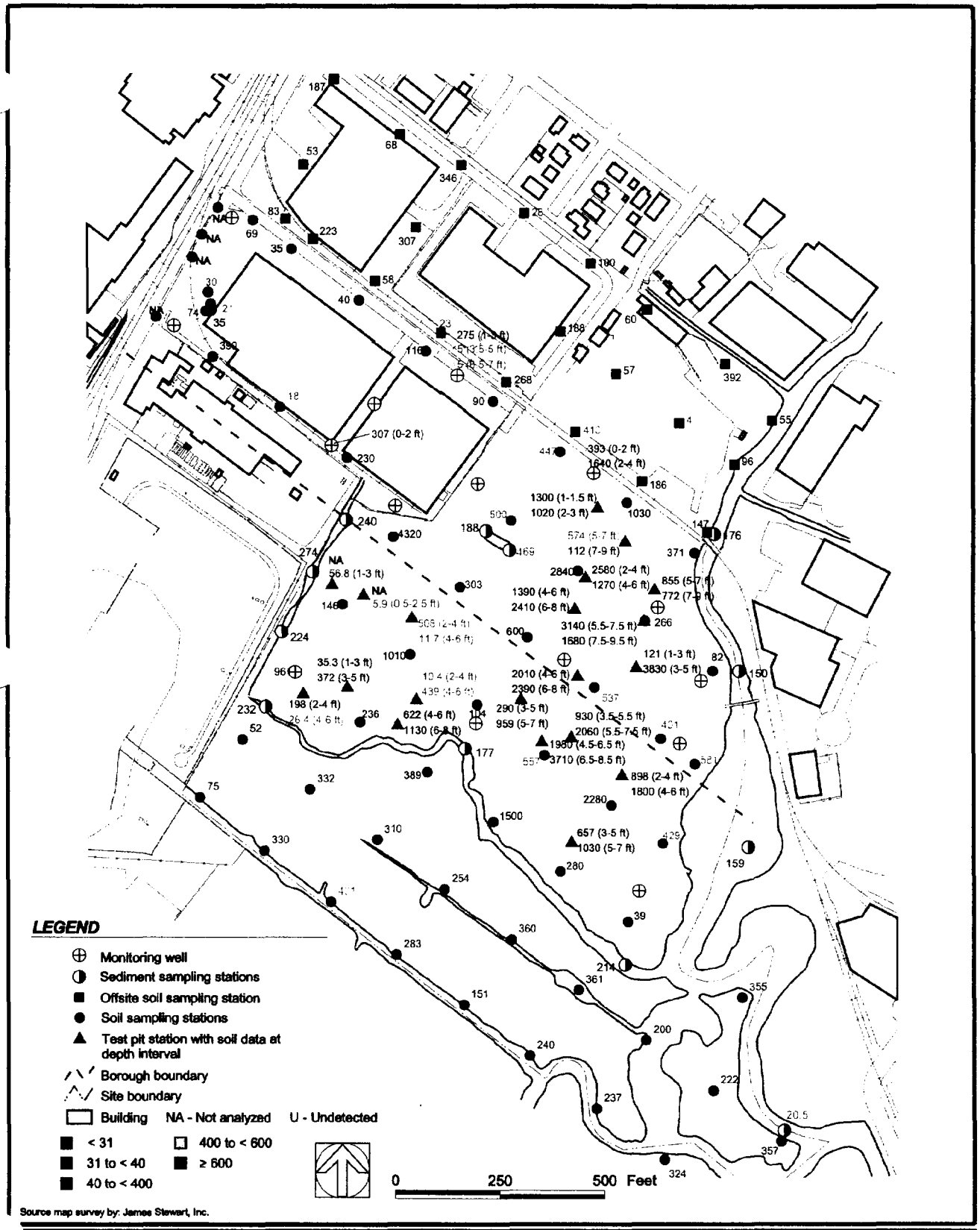
831220231



Source map survey by: James Stewart, Inc.

Figure 4-4. Copper concentrations (mg/kg) in surface and subsurface soils and sediments (color coding based on screening criteria values).

8600B3N.001.0401 09/20/00 OR / Copper / e:/Oswego1/vol1/graphics/Ventron_Velsicol/woodridge.apr



Source map survey by: James Stewart, Inc.

Figure 4-5. Lead concentrations (mg/kg) in surface and subsurface soils and sediments (color coding based on screening criteria values).

8600B3N.001.0401 | Jul 26,2000 | Soil: Lead//Oswego1/vol1/graphics/Ventron_Velsicol/woodridge.apr

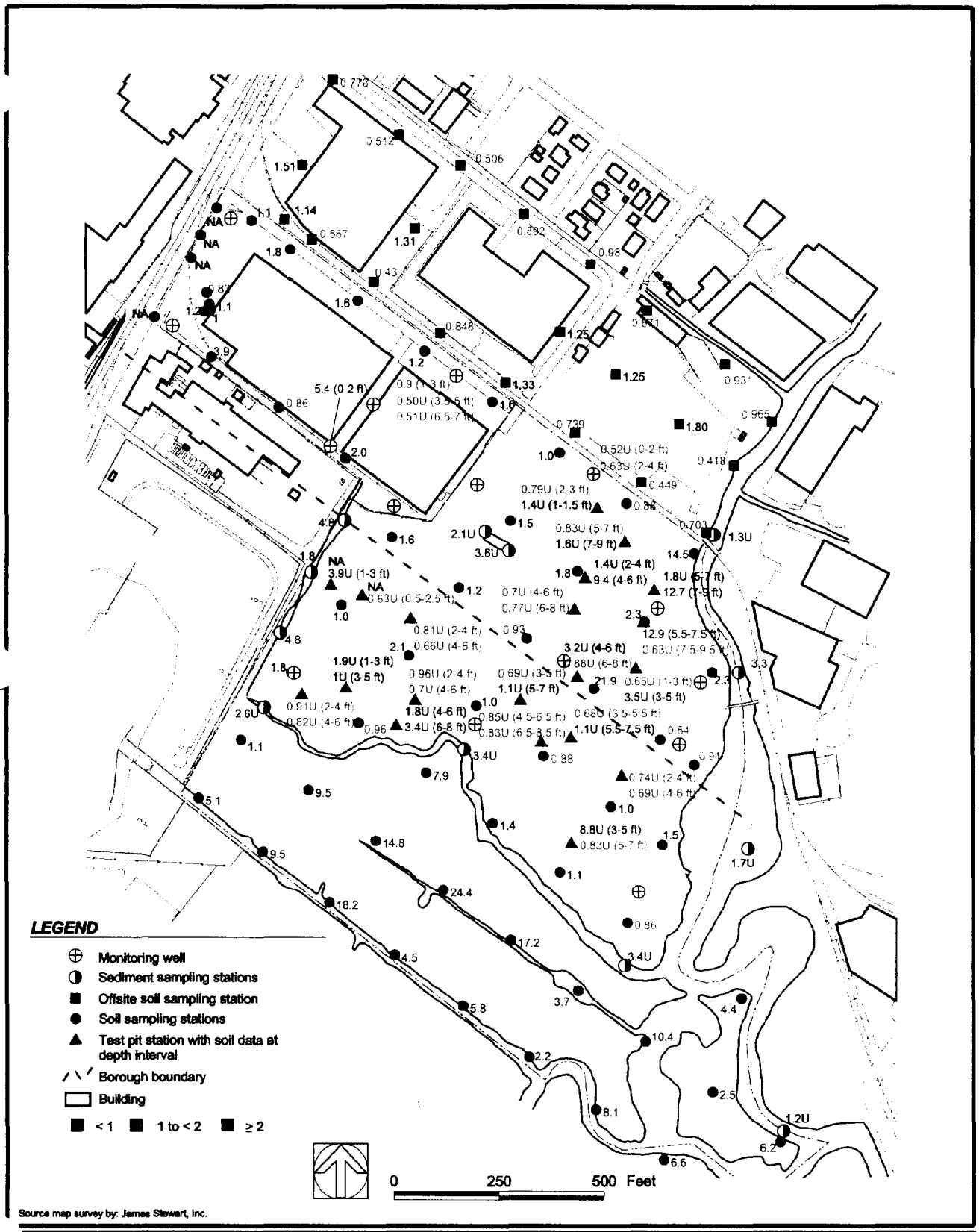


Figure 4-6. Thallium concentrations (mg/kg) in surface and subsurface soils and sediments (color coding based on screening criteria values).

8600 | Aug 25,2000 | Thallium | Thallium | //Oswego1/vol1/graphics/Ventron_Velsicol/woodridge.apr

831220234

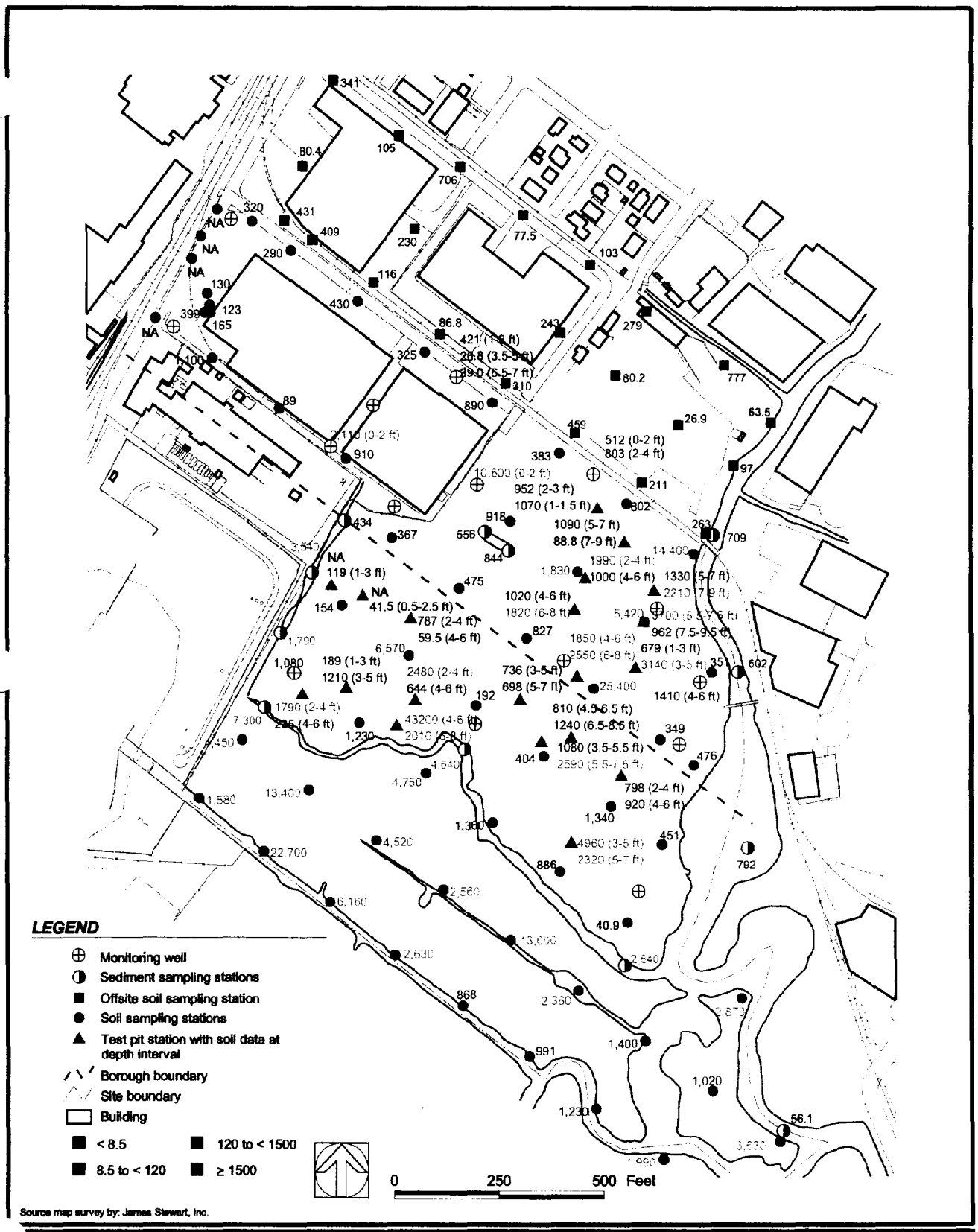


Figure 4-7. Zinc concentrations (mg/kg) in surface and subsurface soils and sediments (color coding based on screening criteria values).

8600B3N.001.0401 09/19/00 / Zinc e:/Oswego1/vol1/graphics/Ventron_Velsicol/woodridge.apr

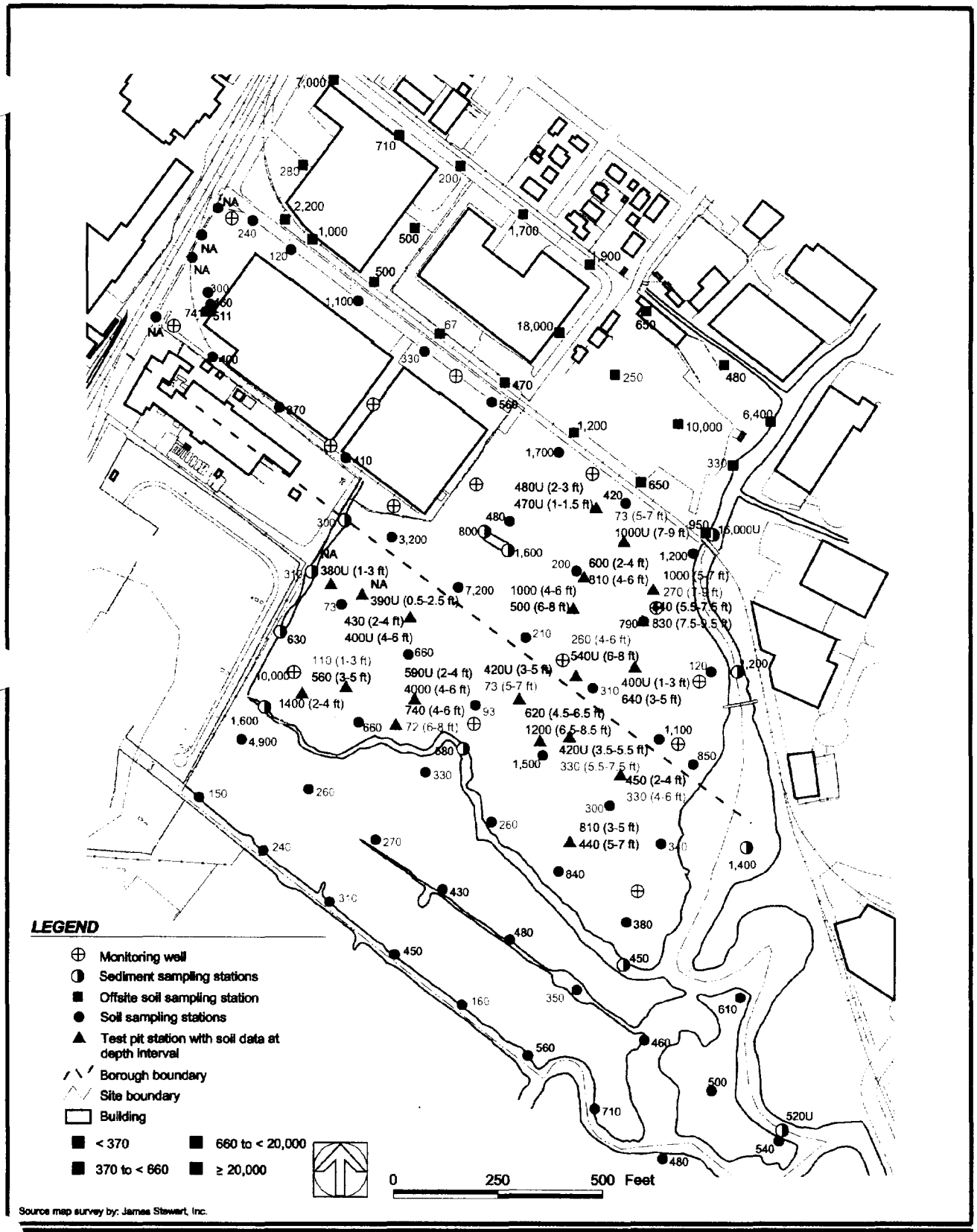


Figure 4-8. Benzo(a)pyrene concentrations (μ g/kg) in surface and subsurface soils and sediments (color coding based on screening criteria values).

8600B3N.001.0401 09/19/00 OR/ Benzo(a)pyrene e://Oswego1/vol1/graphics/Ventron_Velsicol/woodridge.apr

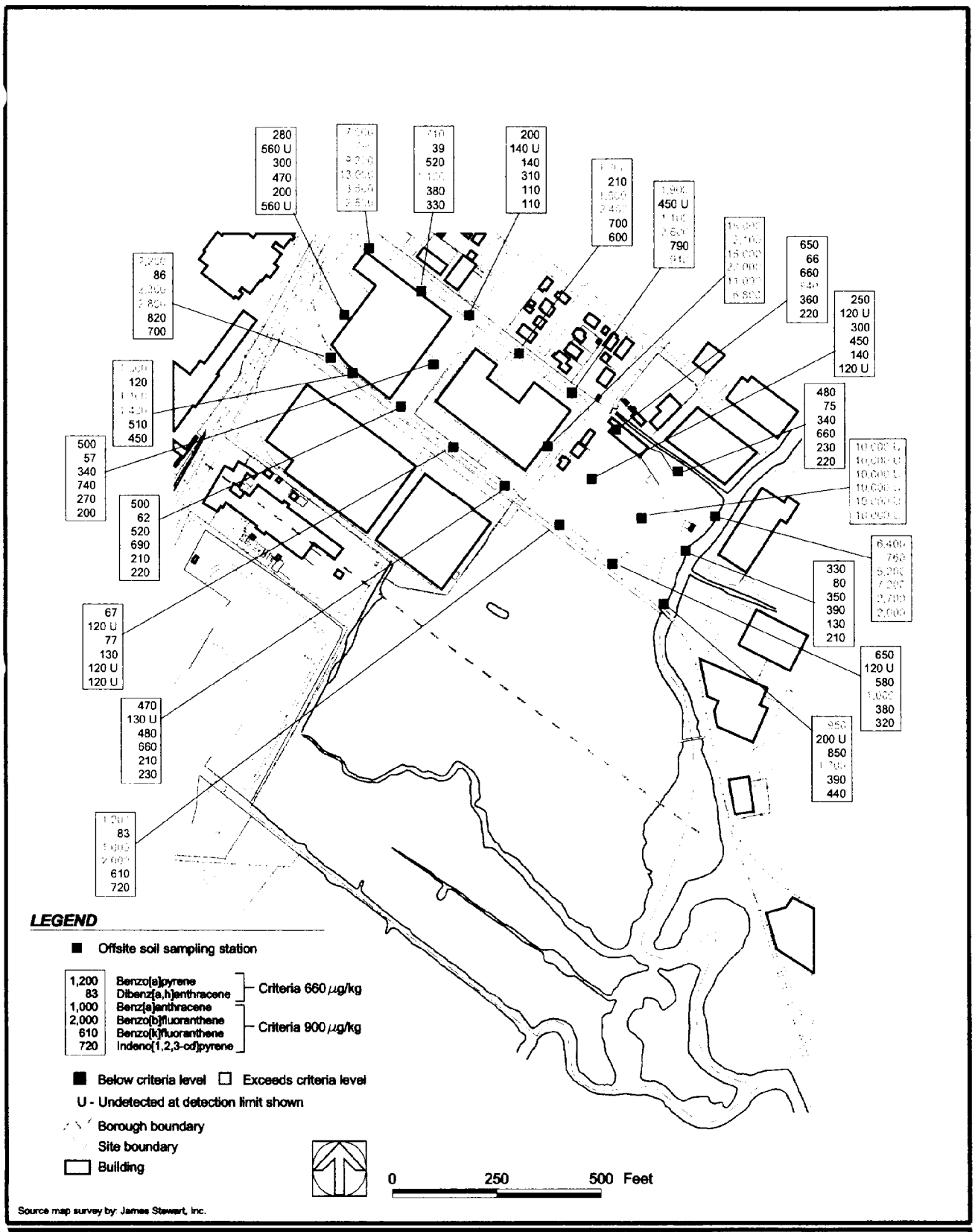


Figure 4-9. PAH concentrations (μg/kg) in offsite soils (color coding based on screening criteria values).

8600 | Aug 31,2000 | PAH | Preview | //Oswego1/vol1/graphics/Ventron_Velsicol/woodridge.apr

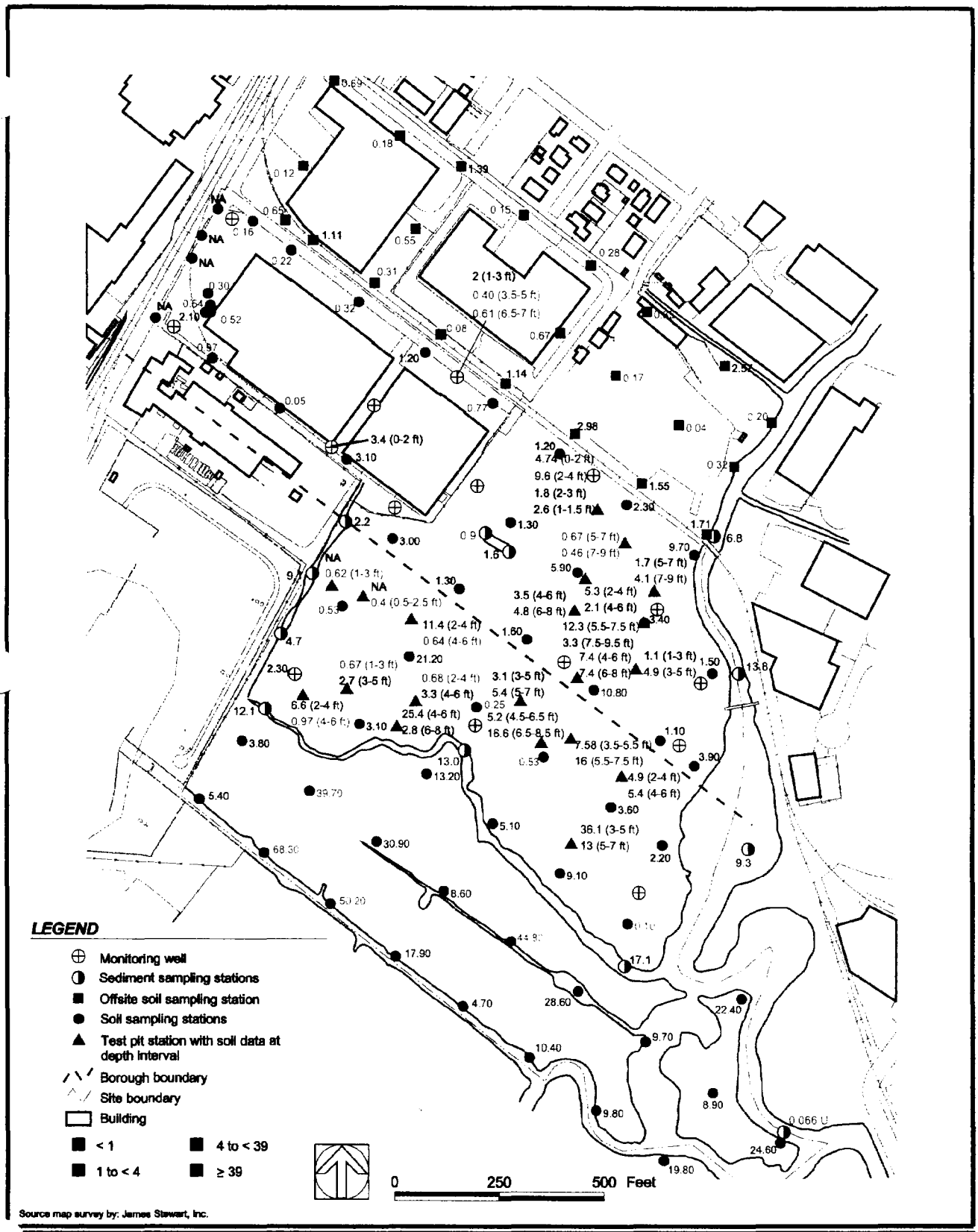


Figure 4-11. Cadmium concentrations (mg/kg) in surface and subsurface soils and sediments (color coding based on screening criteria values).

8600B3N.001.0401 09/19/00 OR / Cadmium e://Oswego1/vol1/graphics/Ventron_Velsicol/woodridge.apr

831220239

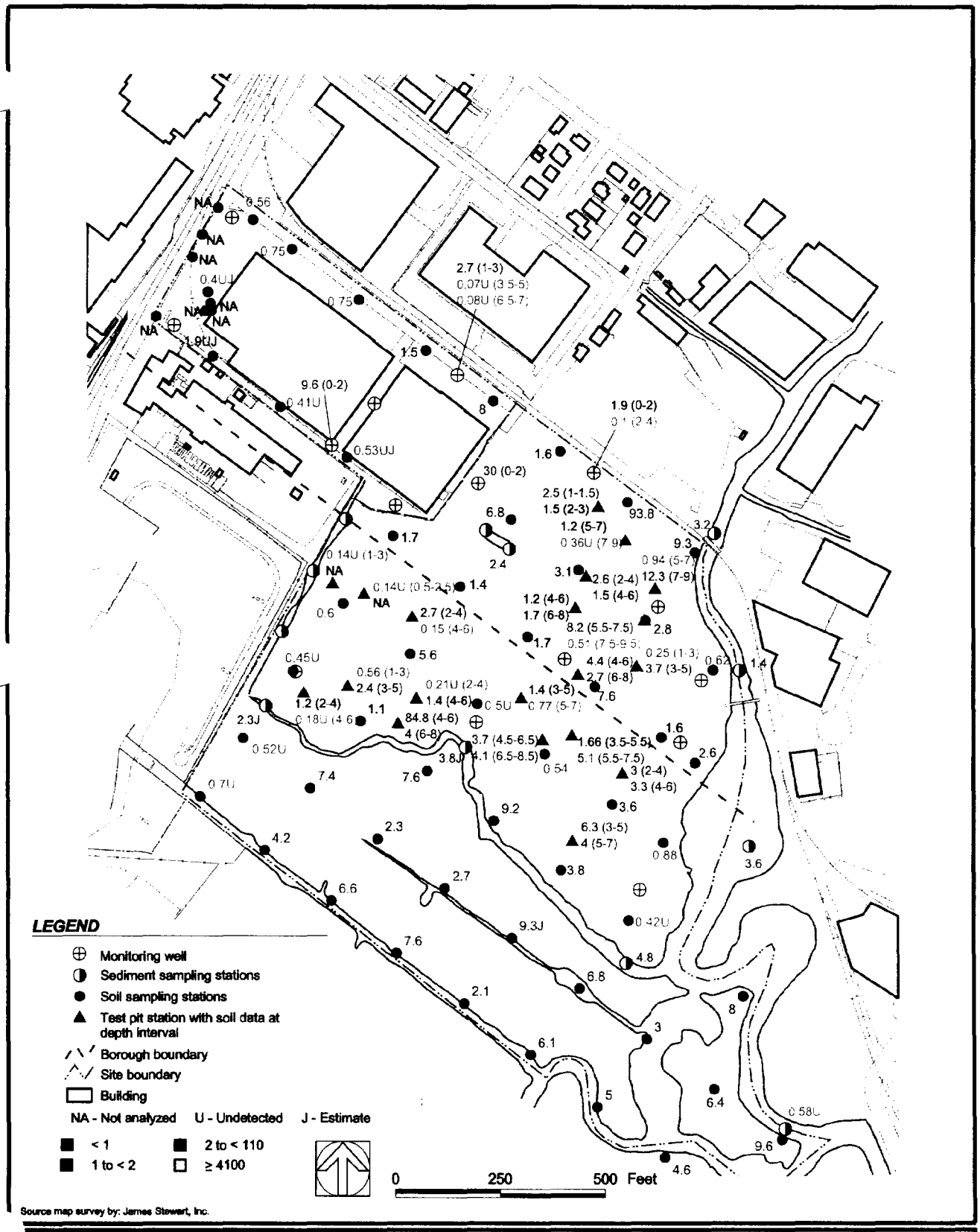


Figure 4-17. Silver concentrations (mg/kg) in surface and subsurface soils and sediments (color coding based on screening criteria values).

8600B3N.001.0401 09/26/00 OR /e:/Oswego1/vol1/graphics/Ventron_Velsicol/woodridge.apr

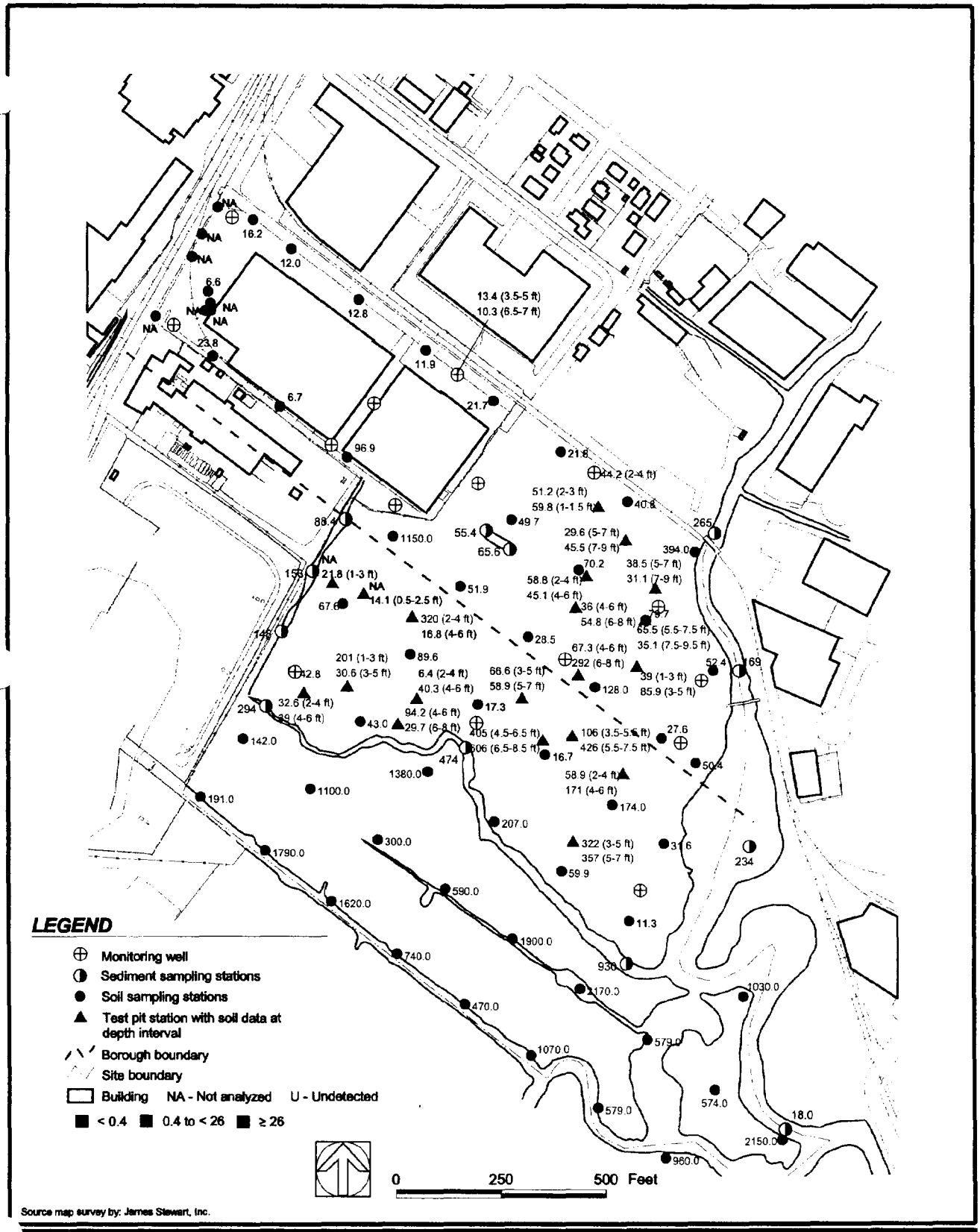


Figure 4-16. Chromium concentrations (mg/kg) in surface and subsurface soils and sediments (color coding based on screening criteria values).

8600B3N.001.0401 09/20/00 / Chromium e:/Oswego1/vol1/graphics/Ventron_Velsicol/woodridge.apr

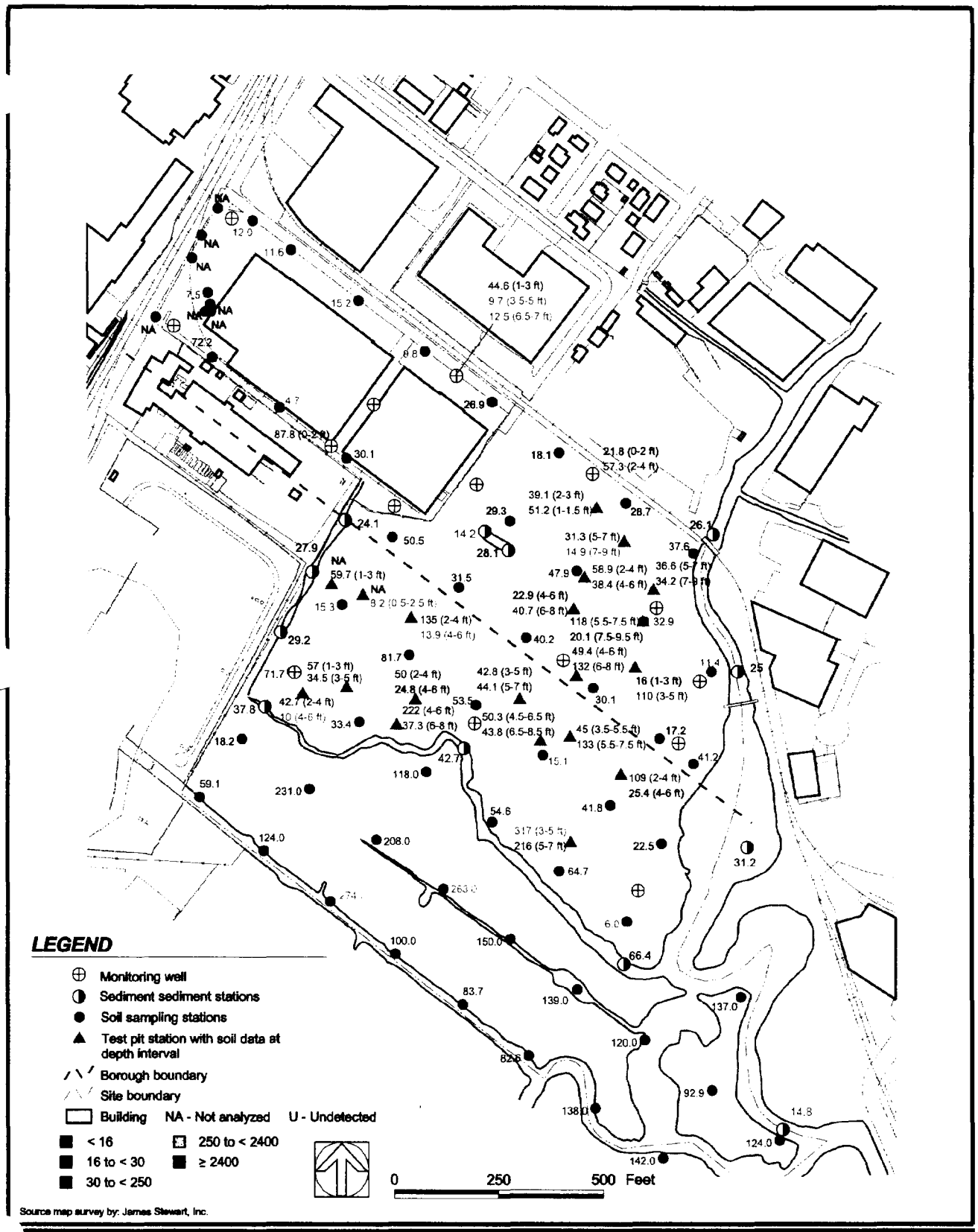


Figure 4-12. Nickel concentrations (mg/kg) in surface and subsurface soils and sediments (color coding based on screening criteria values).

8600B3N.001.0401 09/20/00 / Nickel //Oswego1/vol1/graphics/Ventron_Velsicol/woodridge.apr

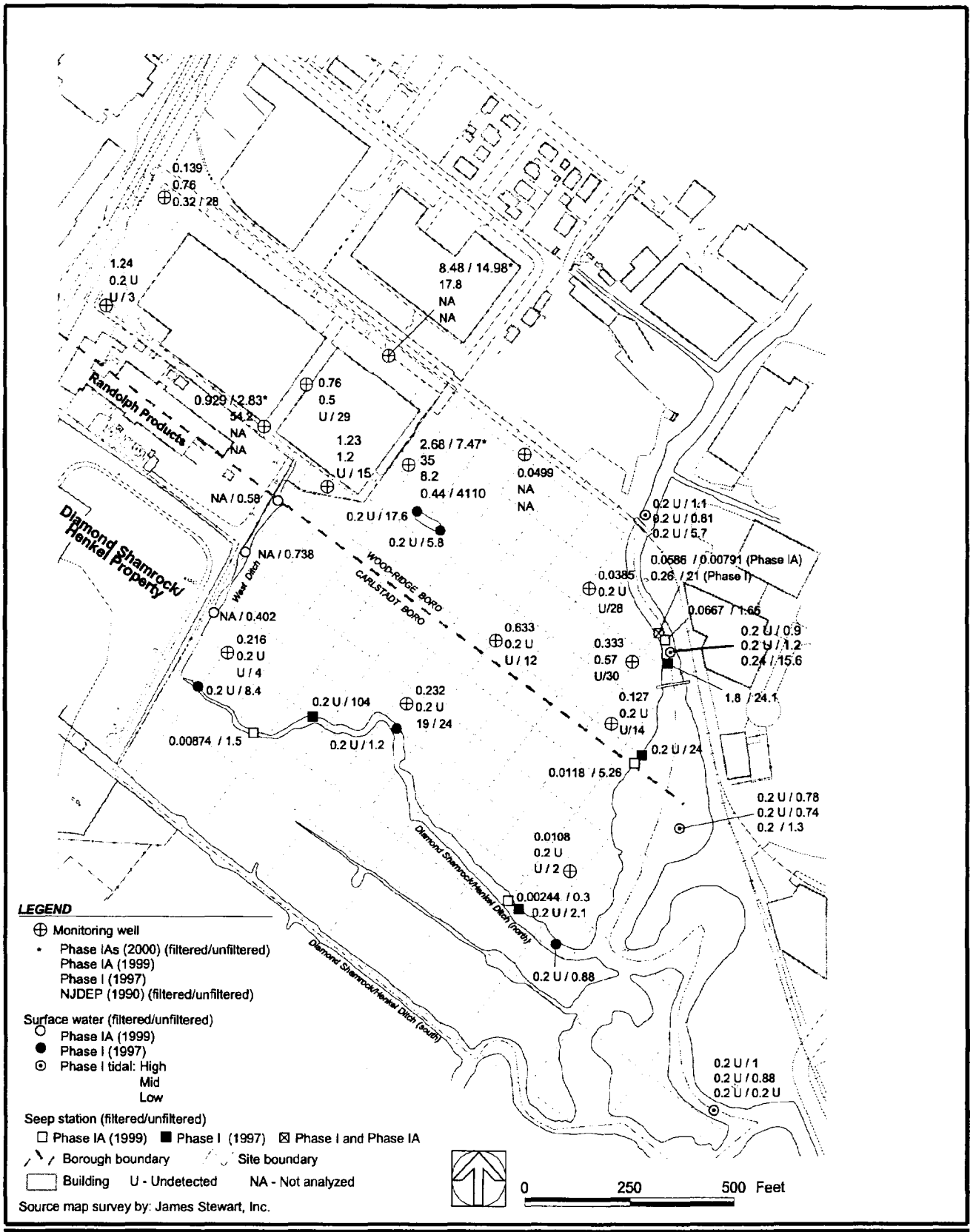


Figure 4-13. Mercury concentrations (μg/L) in surface water, seeps, and groundwater.

8600B3N.001.0401 09/20/00 OR / Mercury conc. liquid e:/graphics/ventron_velsicol/woodridge.apr

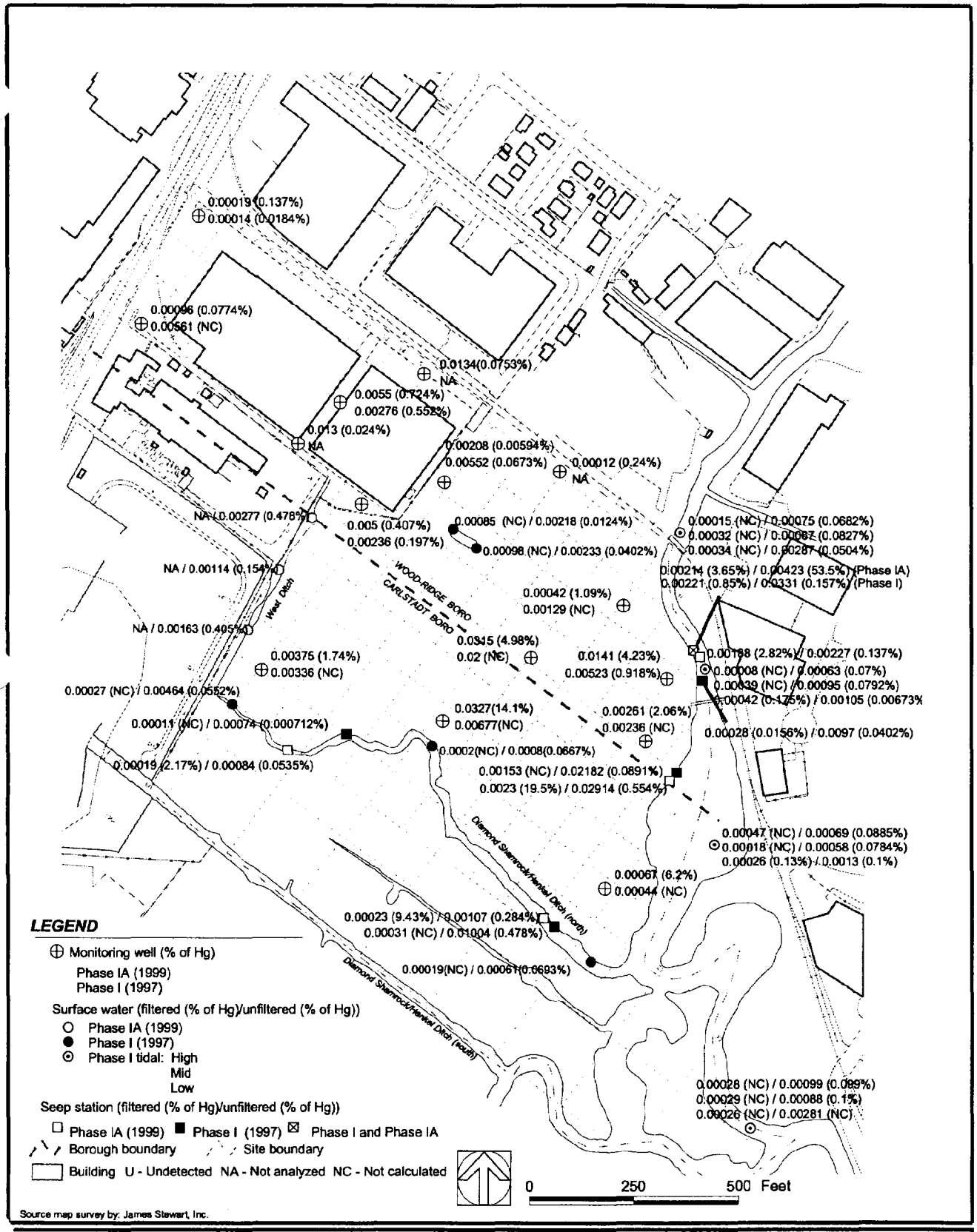
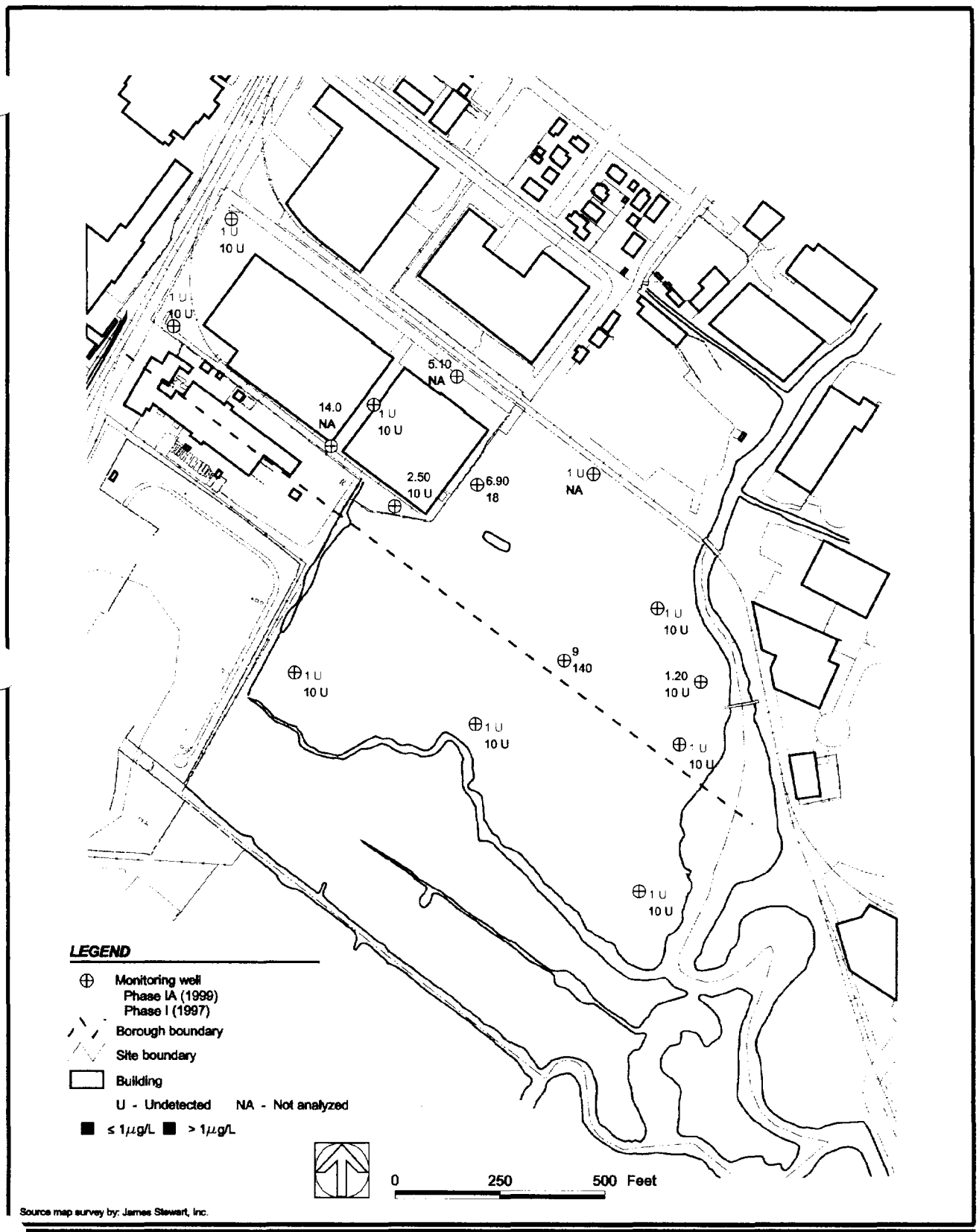


Figure 4-14. Methylmercury concentrations (μg/L and as percentage of total mercury) in surface water, seeps, and groundwater.

8600B3N.001.0401 09/27/00 OR / MeHg liquid e: graphics/Ventron_Velsicol/woodridge.apr

831220242



Source map survey by: James Stewart, Inc.

Figure 4-15. Benzene concentrations (μg/L) in groundwater (color coding based on screening criteria values).

8600B3N.001.0401 09/26/00 / Benzene e://Oswego1/vol1/graphics/Ventron_Velsicol/woodridge.apr

The attached figures and tables are reprints from the following document:

Exponent Letter & Report. 2001. "Response To Comments On The September 2000 Agency Review Draft Operable Unit 1: Remedial Investigation Report For The Ventron/Velsicol Site, Wood Ridge/Carlstadt, NJ." From: Betsy Henry, Exponent (Lake Oswego, OR). To: Gwen Zervas, NJDEP (Trenton, NJ). Document # 8600B3N.001 0104 0501 BH08

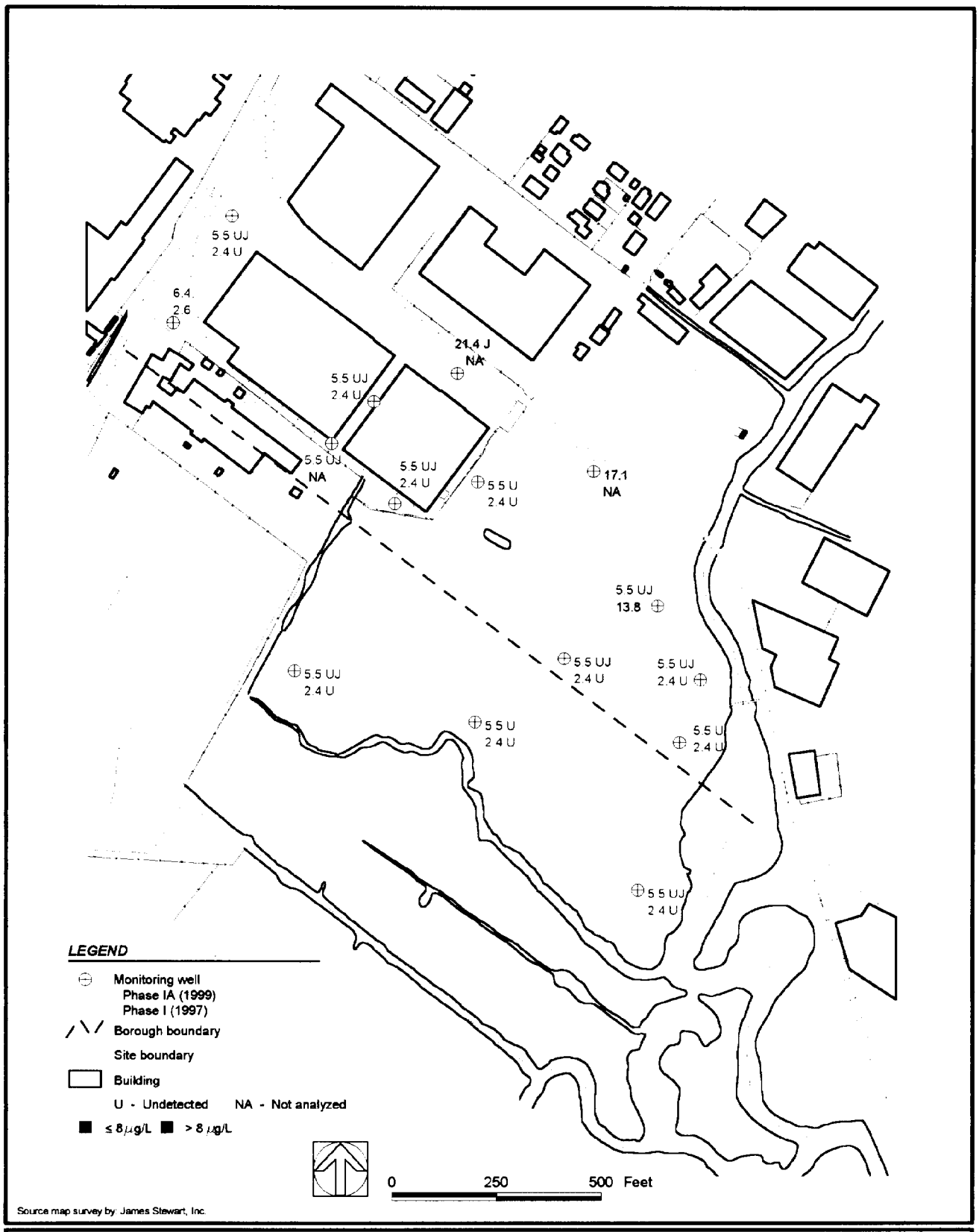


Figure 4-21. Arsenic concentrations (μg/L) in groundwater (color coding based on screening criteria values).

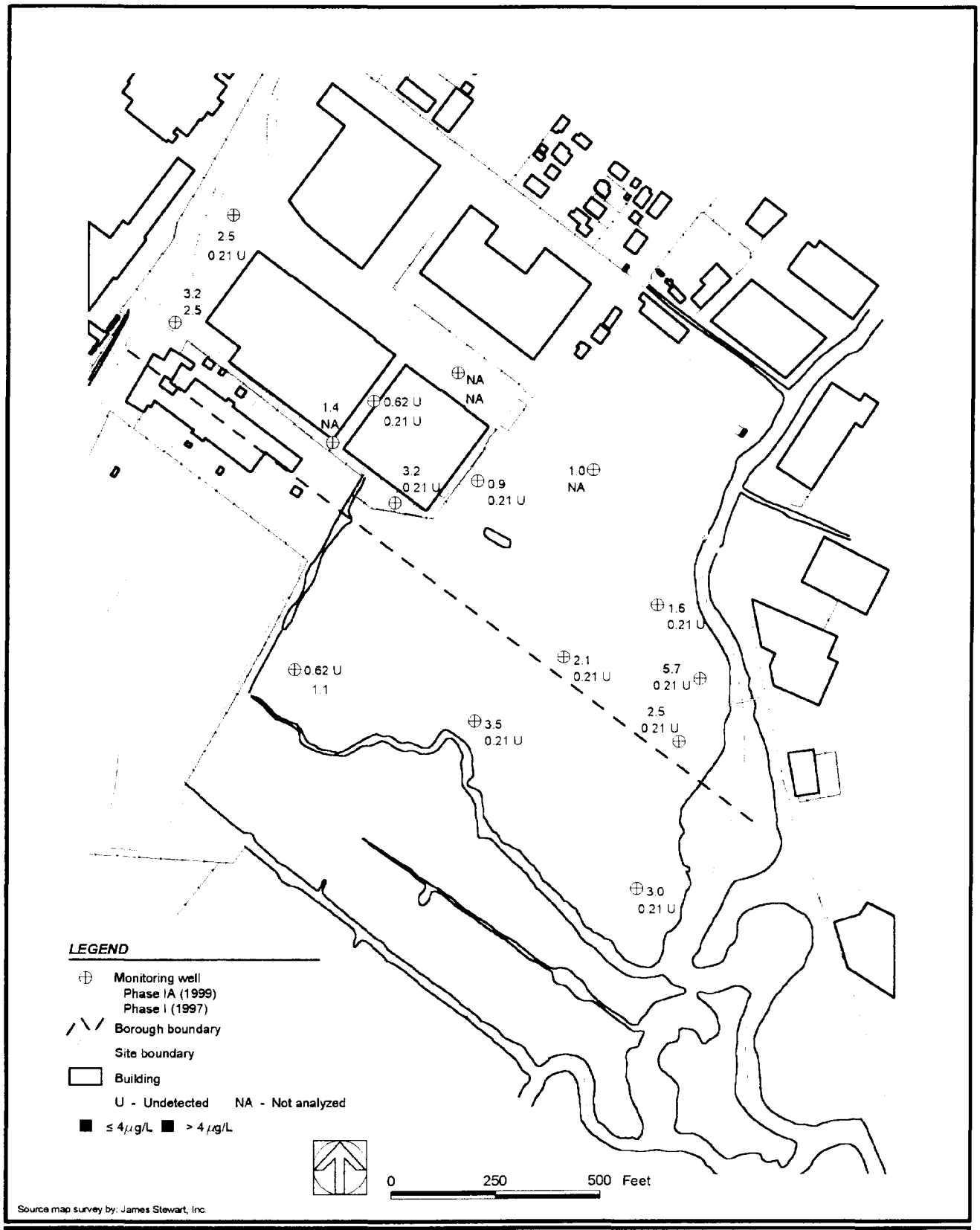


Figure 4-22. Cadmium concentrations (μ g/L) in groundwater (color coding based on screening criteria values).

8600B3N 001 0104 | May 8, 2001 | CadmiumGW | e:/graphics/ventron_velsicol/metals apr

830190021

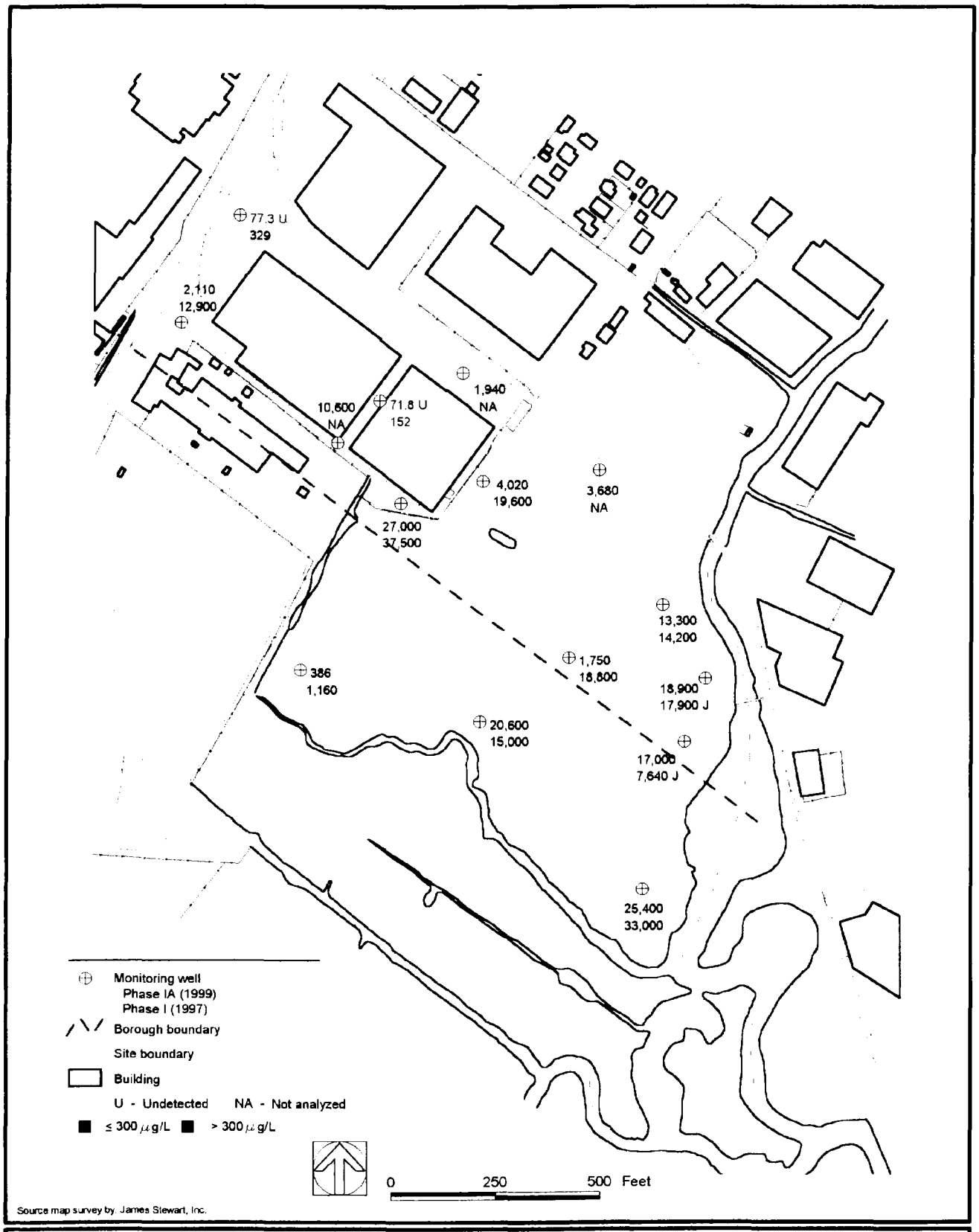


Figure 4-23. Iron concentrations (μg/L) in groundwater (color coding based on screening criteria values).

8600B3N.001 0104 | May 8, 2001 | IronGW | e:/graphics/ventron_velsicol/metals.apr

830190022

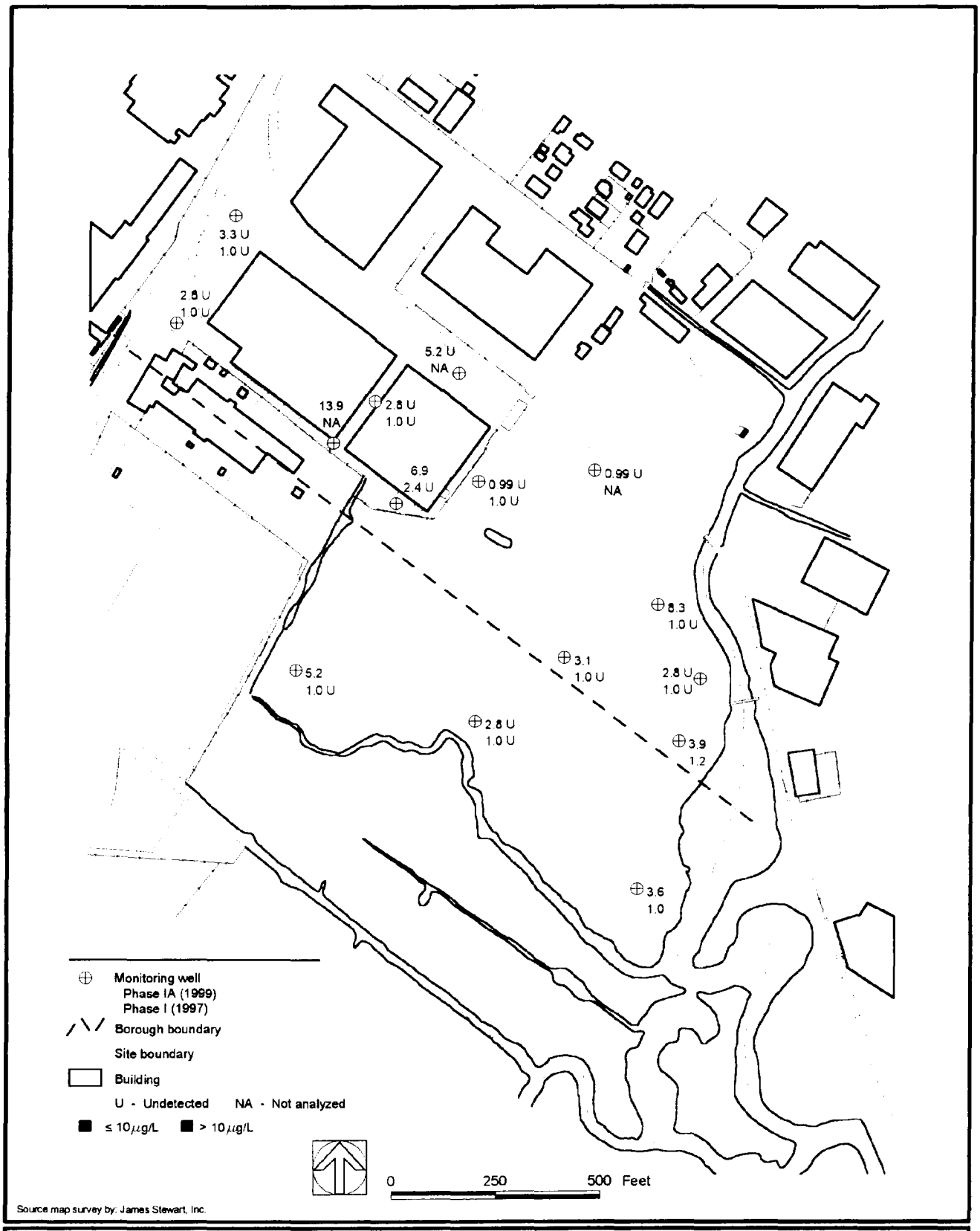


Figure 4-24. Lead concentrations (μg/L) in groundwater (color coding based on screening criteria values).

8600B3N.001.0104 | May 8, 2001 | LeadGW | e:/graphics/ventron_velsicol/metals.apr

830190023

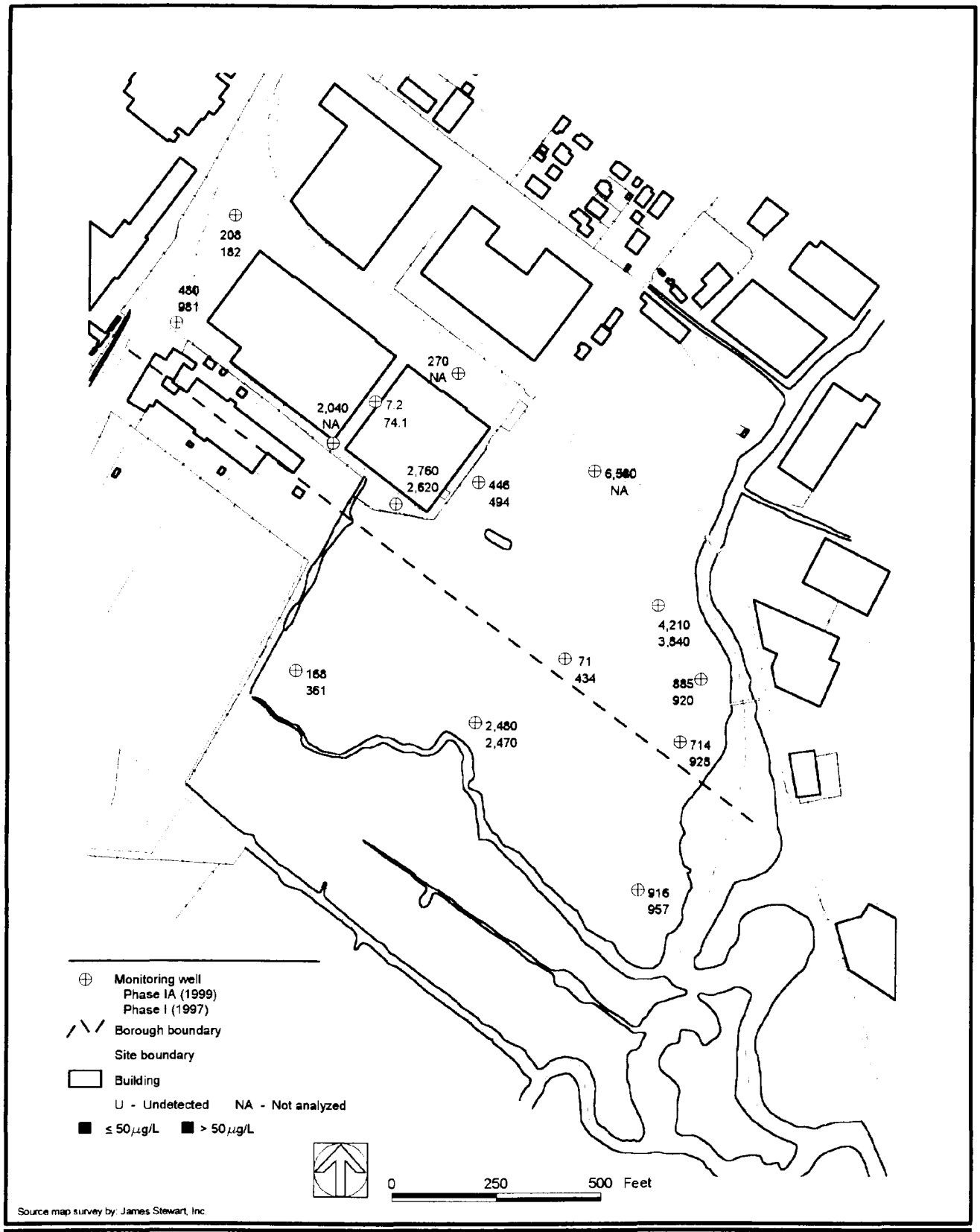


Figure 4-25. Manganese concentrations (μg/L) in groundwater (color coding based on screening criteria values).

8600B3N.001.0104 | May 8, 2001 | ManganeseGW | e:/graphics/ventron_velsicol/metals.apr

830190024

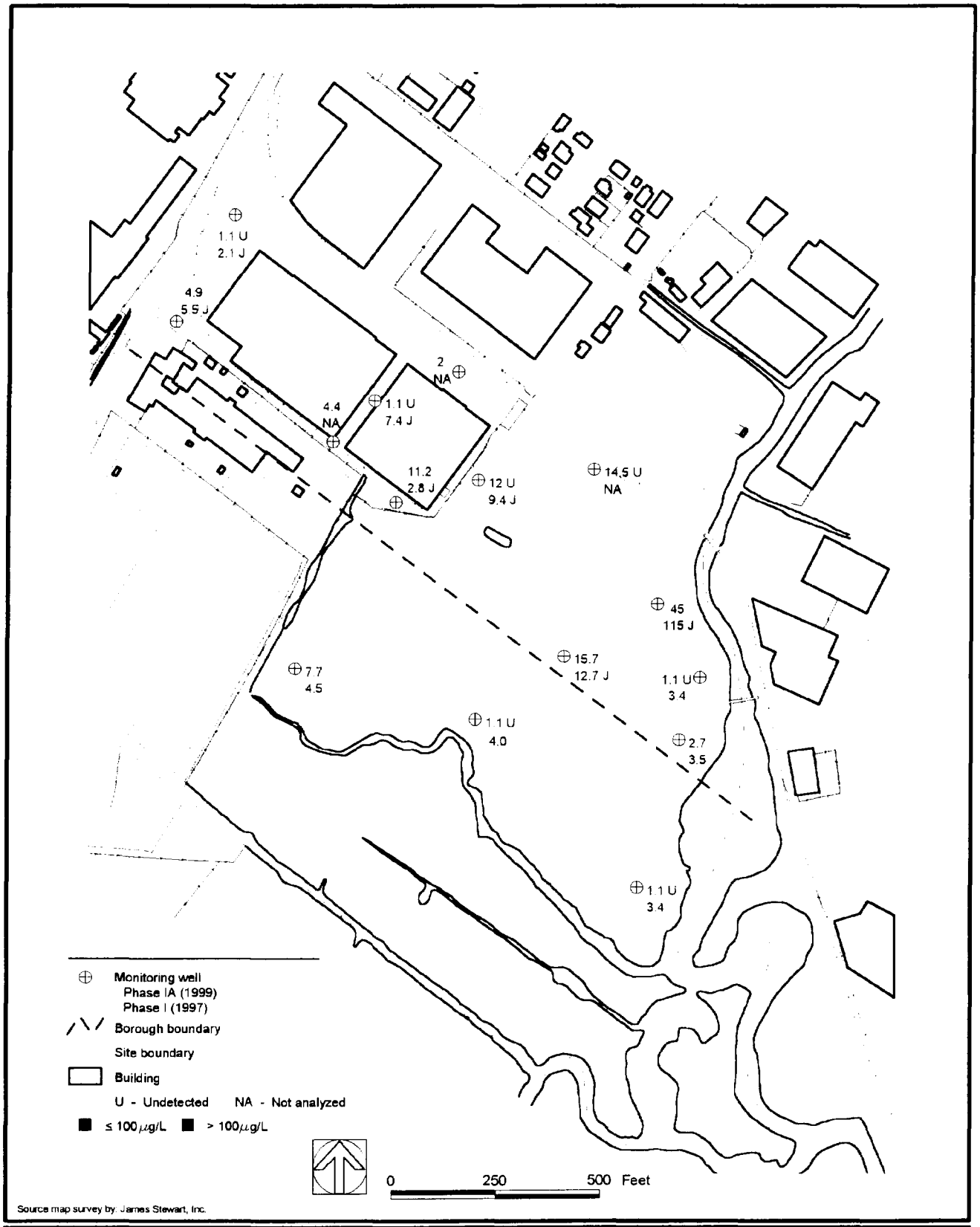


Figure 4-26. Nickel concentrations (μg/L) in groundwater (color coding based on screening criteria values).

8600B3N.001.0104 | Apr 23,2001 | NickelGW | e:/graphics/ventron_velsicol/metals.apr

830190025

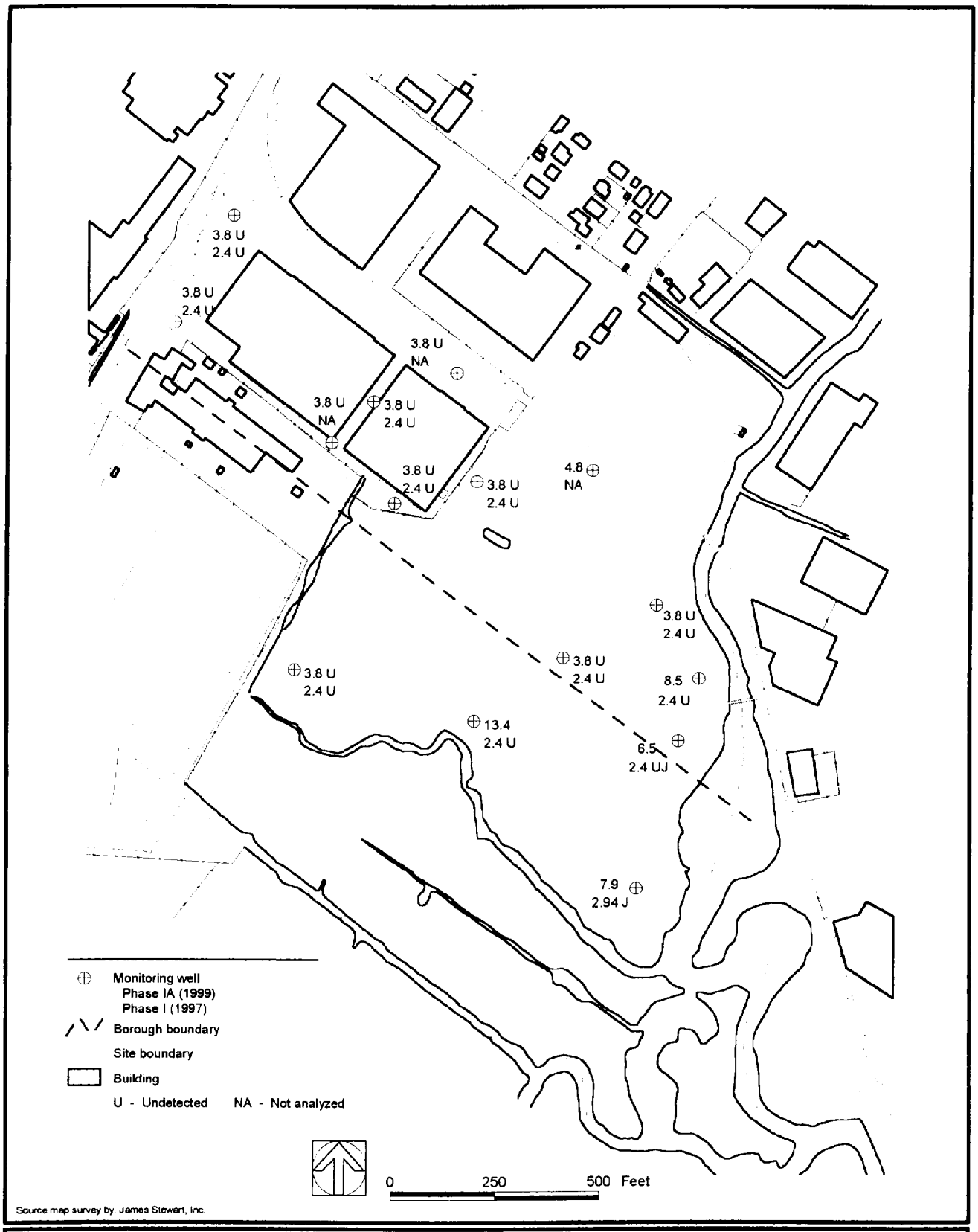


Figure 4-27. Selenium concentrations (μg/L) in groundwater (no screening criteria available).

8600B3N.001.0104 | Apr 23,2001 | Selenium | e:/graphics/ventron_velsicol/metals.apr

830190026

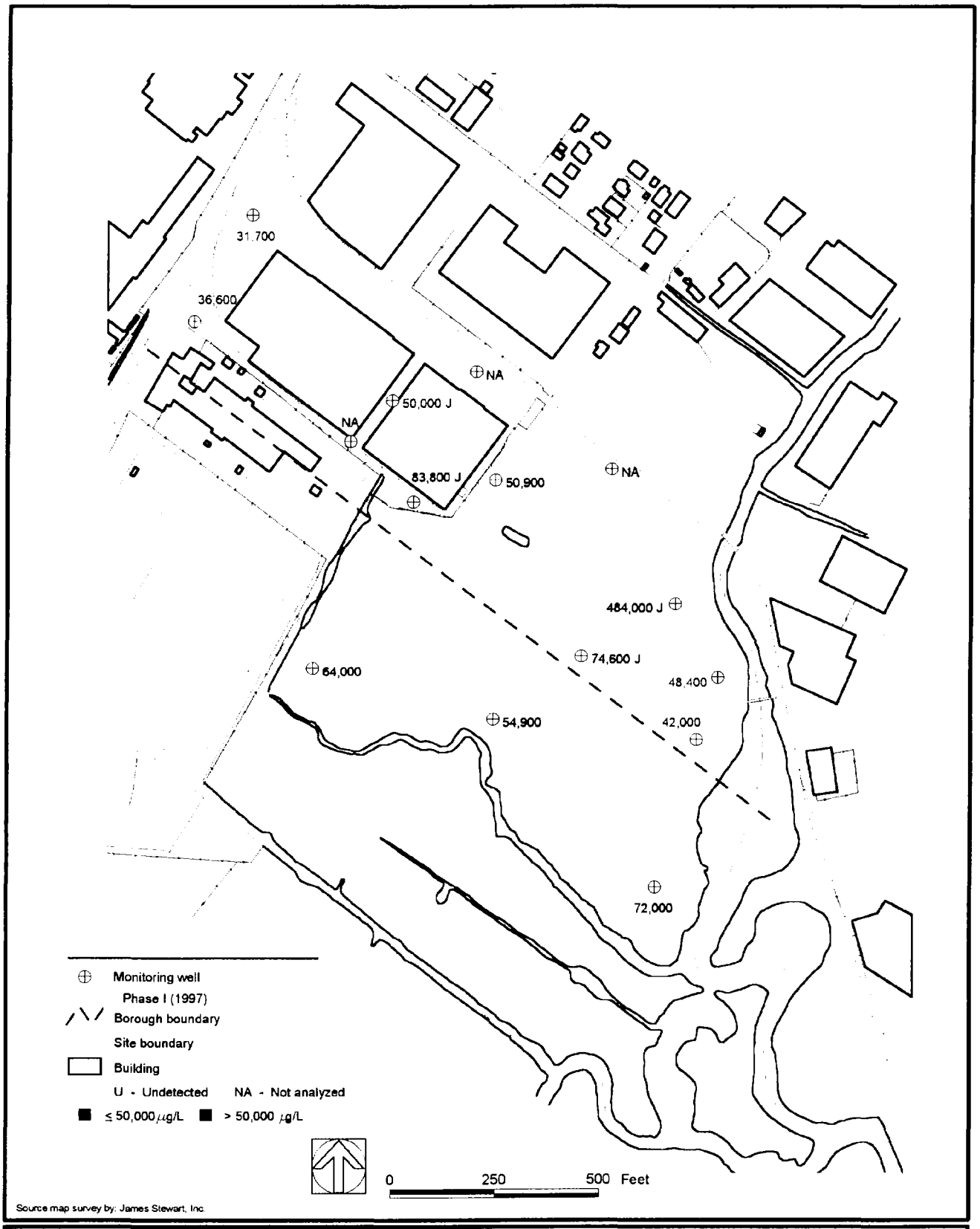


Figure 4-28. Sodium concentrations (μg/L) in groundwater (color coding based on screening criteria values).

8600B3N 001 0104 | May 8, 2001 | Sodium | e:/graphics/ventron_velsicol/metals.apr

830190027

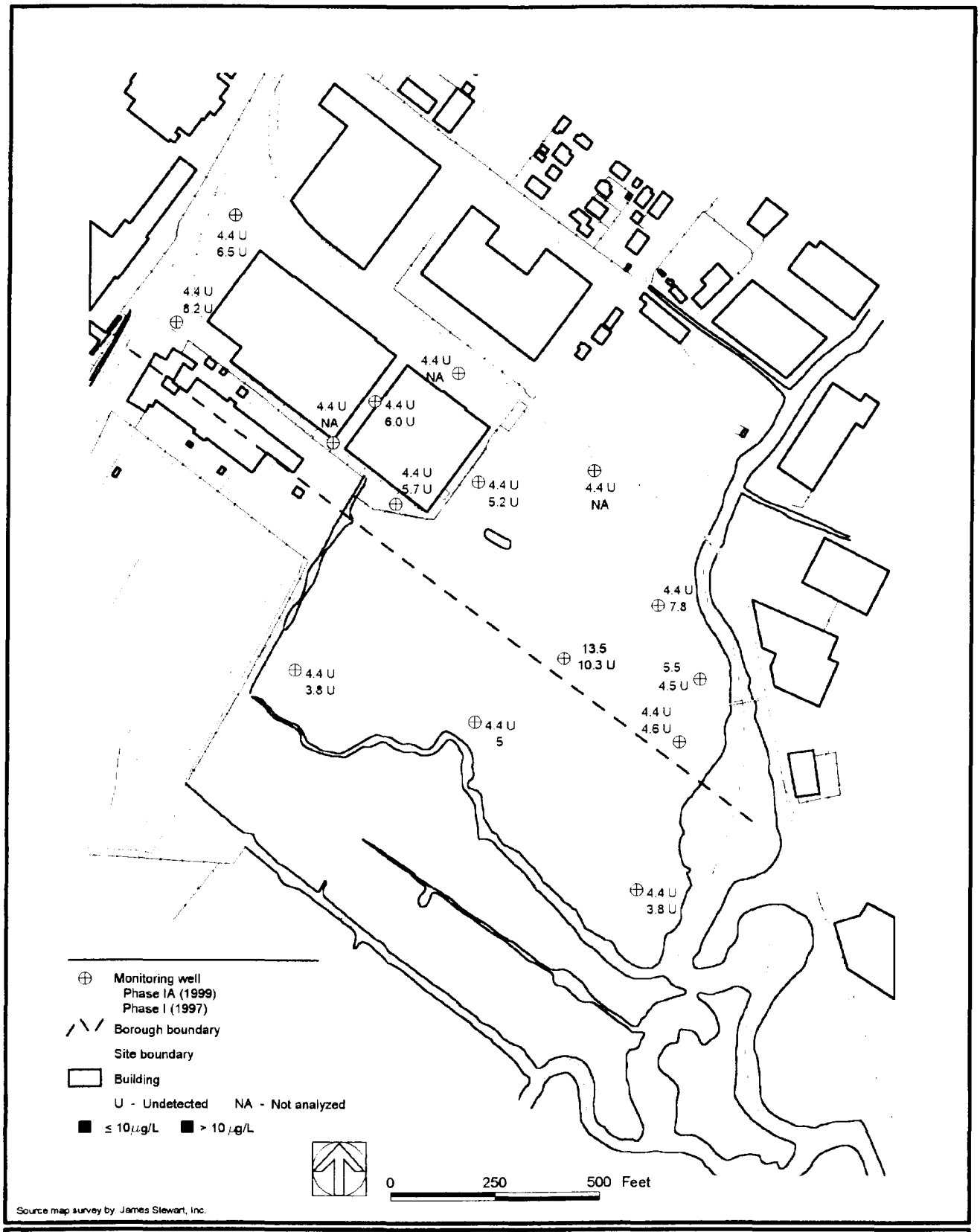


Figure 4-29. Thallium concentrations (μg/L) in groundwater (color coding based on screening criteria values).

8600B3N 001.0104 | May 8, 2001 | ThalliumGW | e:/graphics/ventron_velsicol/metals.apr

830190028

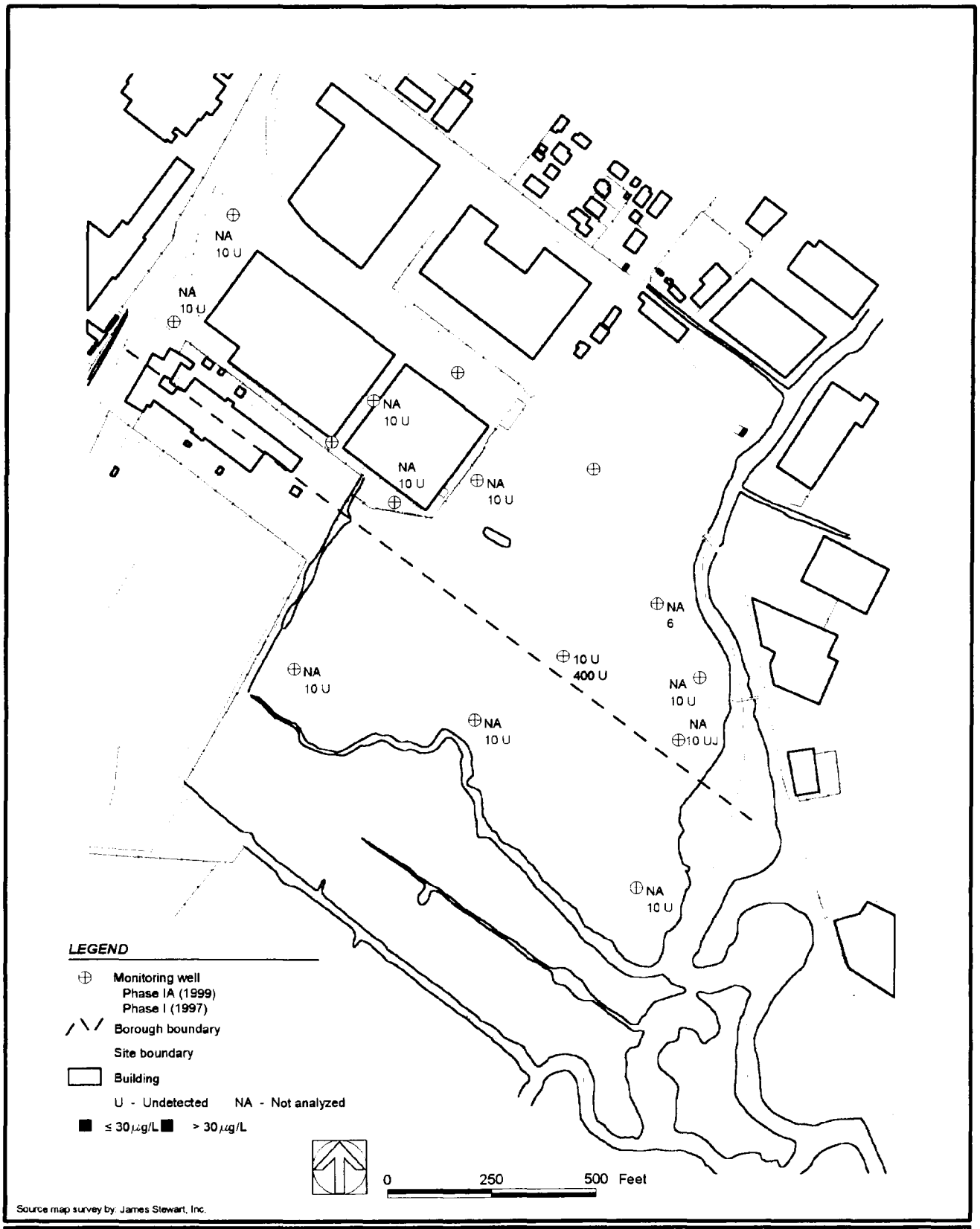


Figure 4-30. bis[2-Ethylhexyl]phthalate concentrations (µg/L) in groundwater (color coding based on screening criteria values).

8600 | Apr 23,2001 | bis(2-ethyl |e:/graphics/ventron_velsicol/semivolatiles.apr

830190029

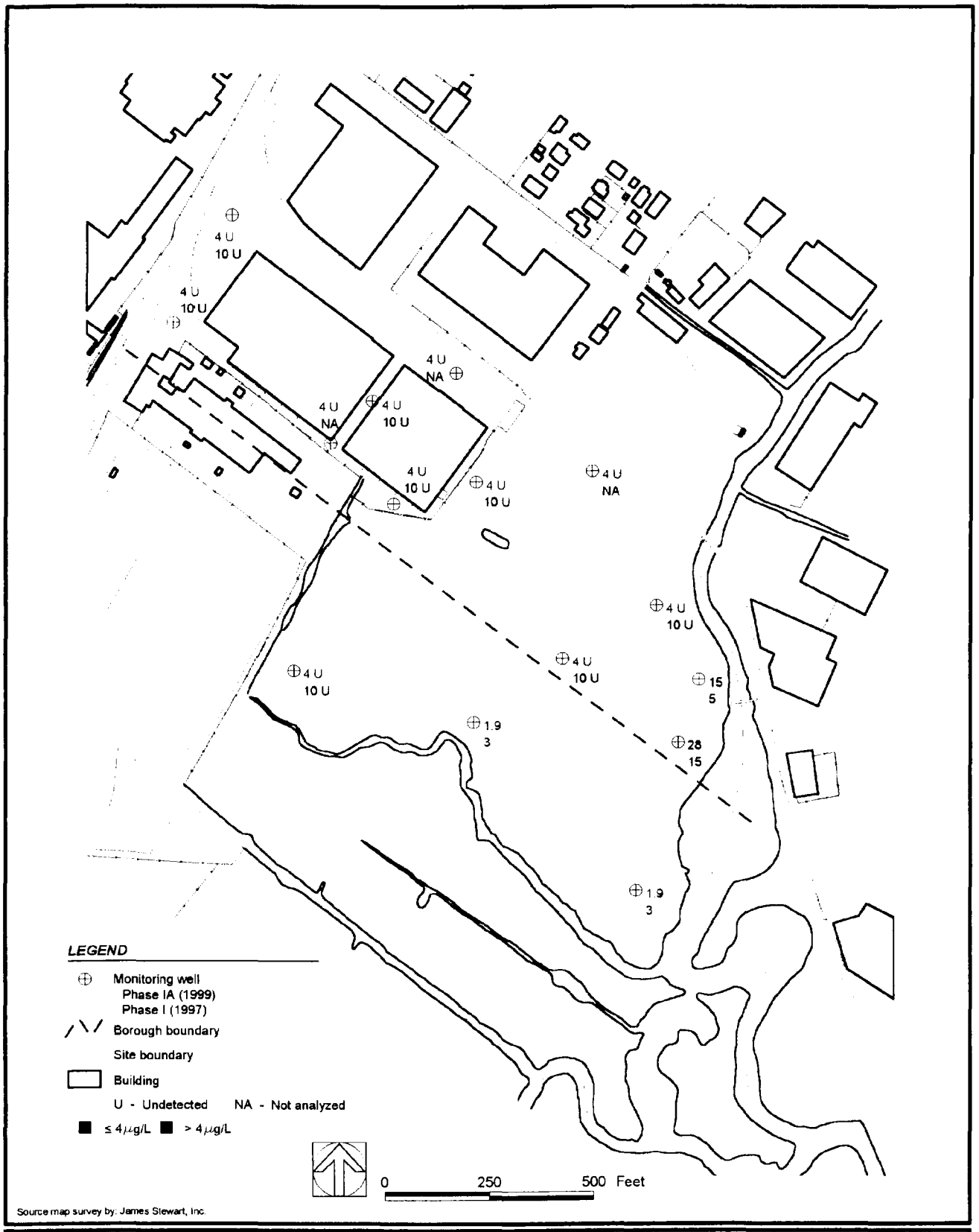


Figure 4-31. Chlorobenzene concentrations (μg/L) in groundwater (color coding based on screening criteria values).

9600 | Apr 23,2001 | ChlorobenzeneGW | e:/graphics/ventron_velsicol/volatiles.apr

830190030

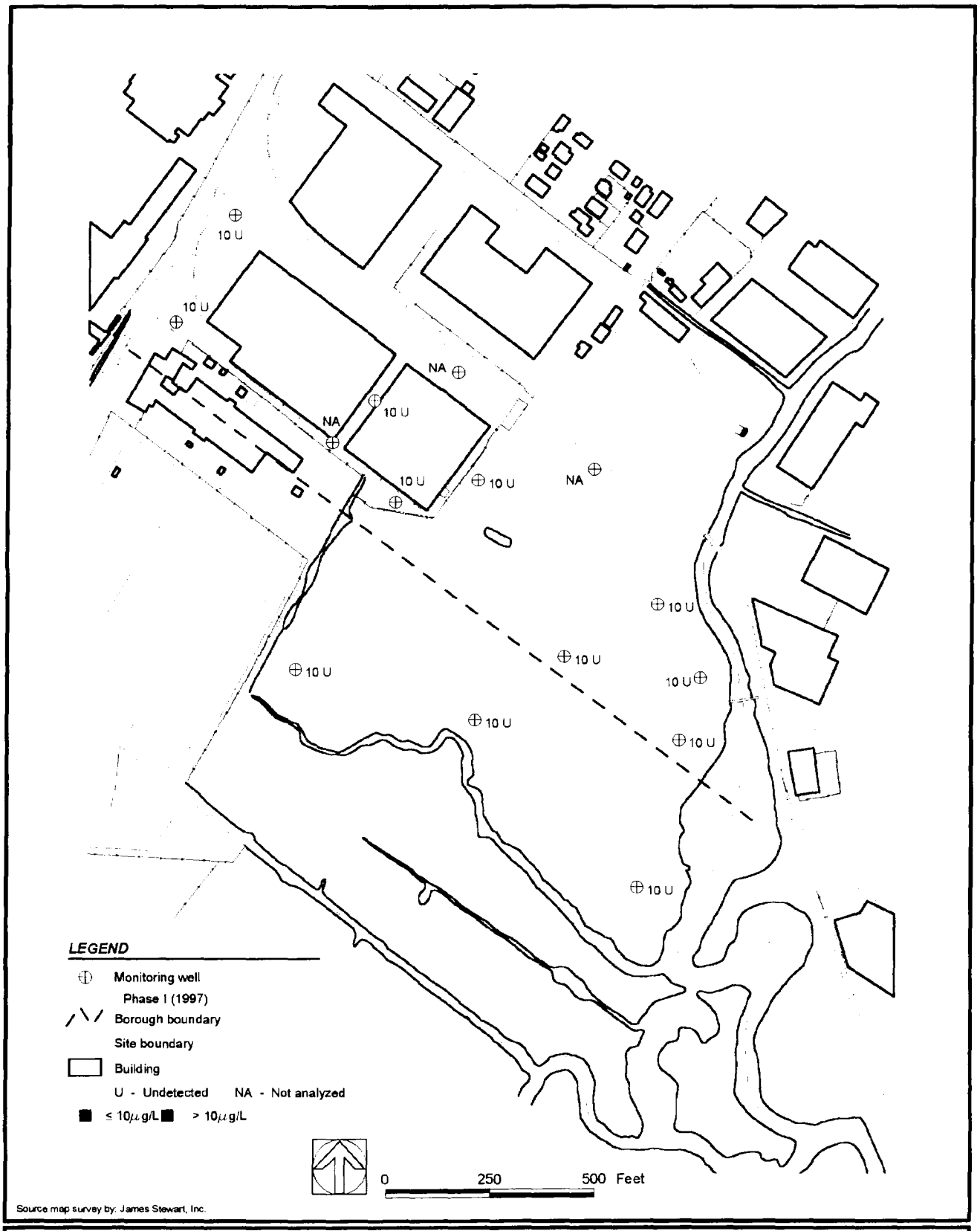


Figure 4-32. 1,2-Dichloroethane concentrations (μ g/L) in groundwater (color coding based on screening criteria values).

8600B3N.001 0104 | Apr 24,2001 | 1,2,-DichloroGW | e:/graphics/ventron_velsicol/volatiles.apr

830190031

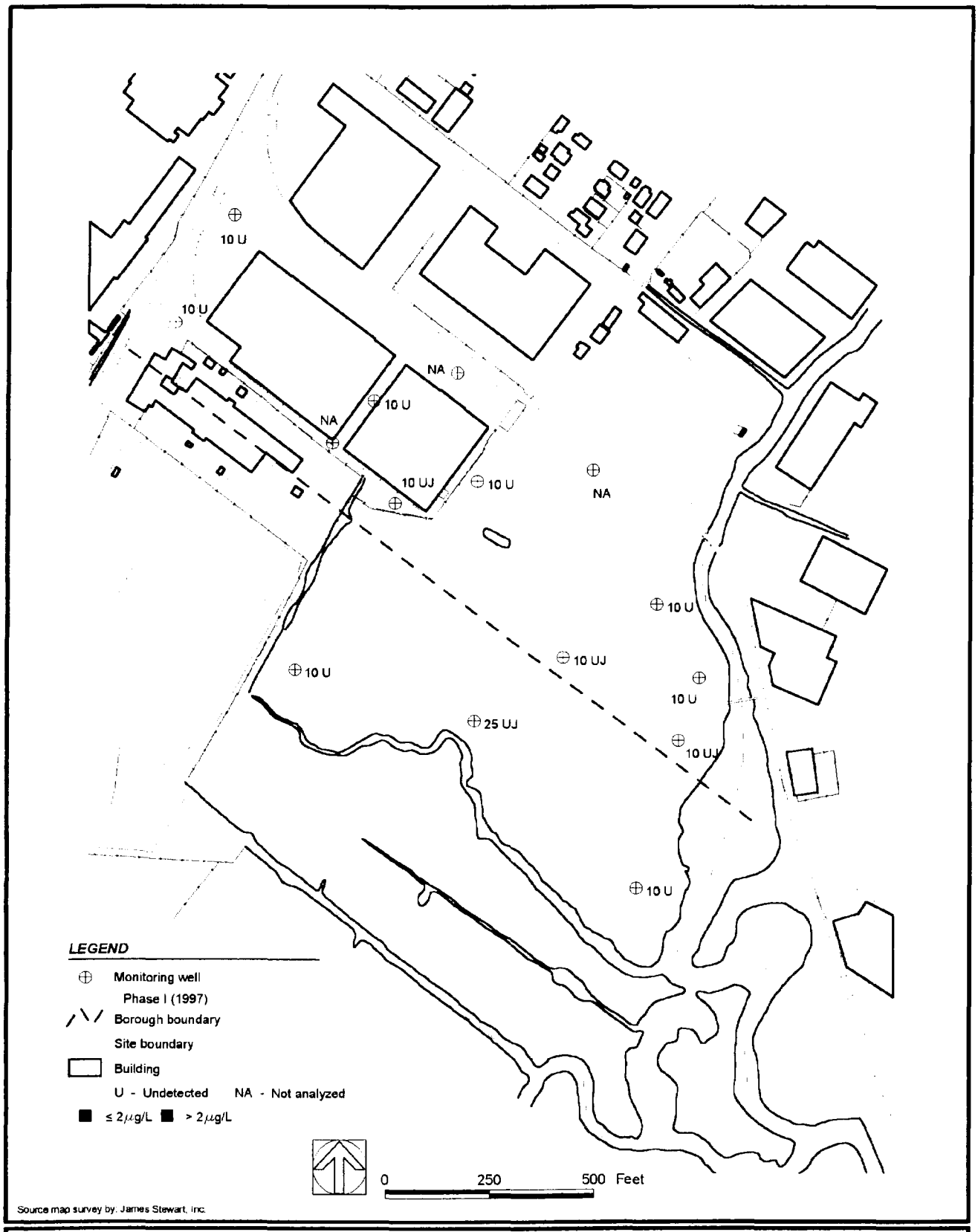


Figure 4-33. 1,1,2,2-Tetrachloroethane concentrations (μg/L) in groundwater (color coding based on screening criteria values).

8600B3N 001 0104 | Apr 24,2001 | 1,1,2,2-TetraGW | e:/graphics/ventron_velsicol/volatiles.apr

830190032

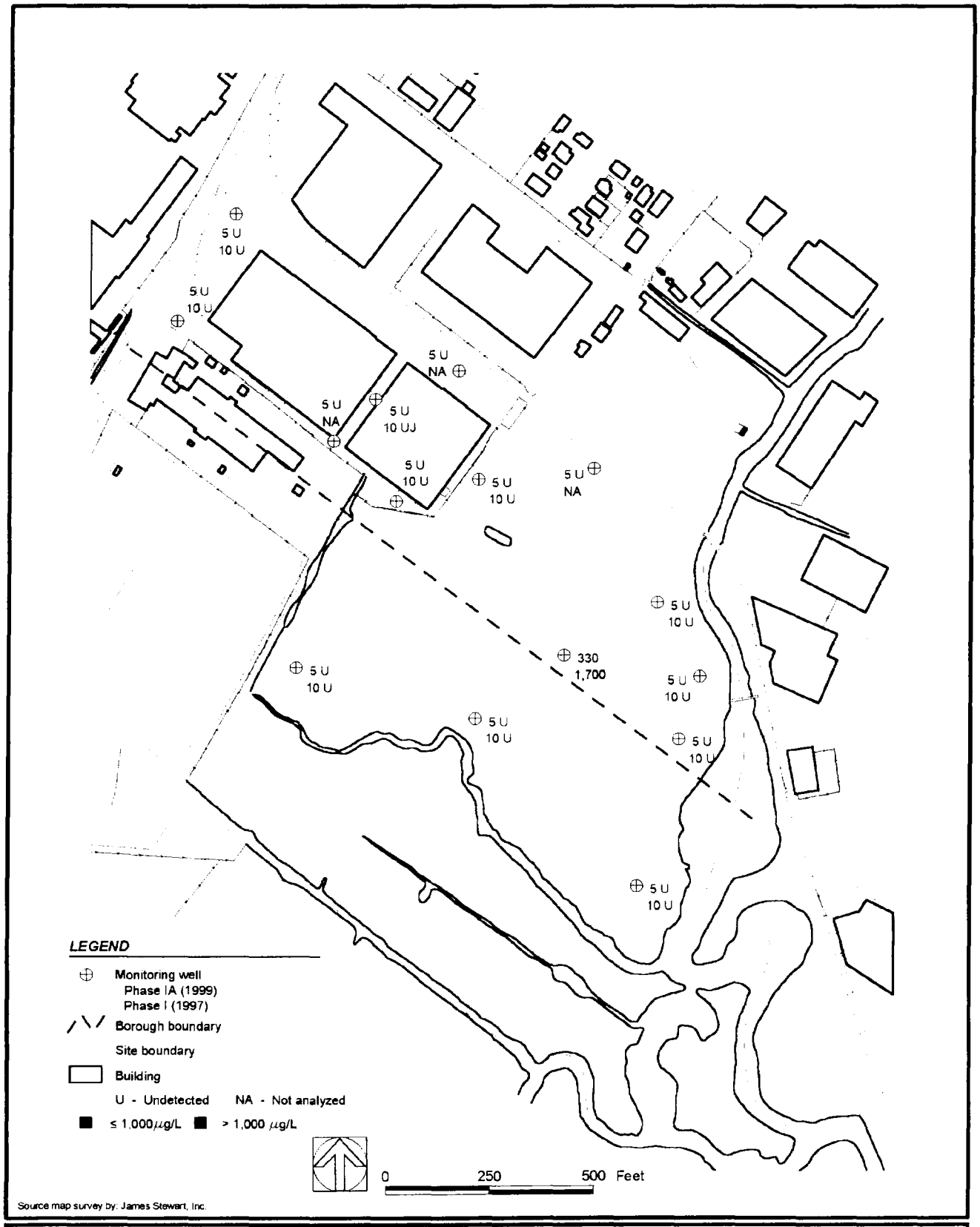


Figure 4-34. Toluene concentrations (μg/L) in groundwater (color coding based on screening criteria values).

8600B3N.001.0104 | Apr 24,2001 | ToluneGW | e:/graphics/ventron_velsicol/volatiles.apr

830190033

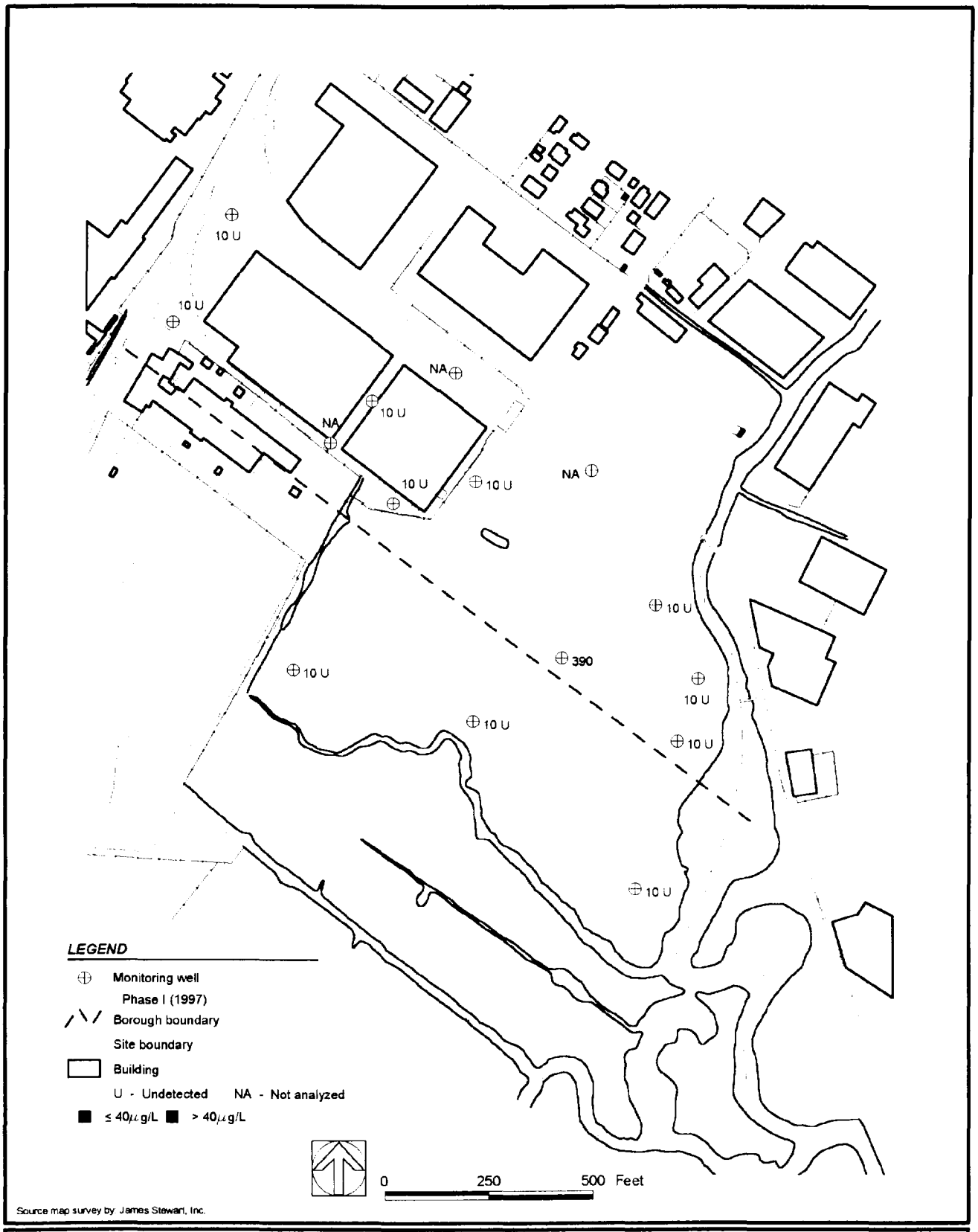


Figure 4-35. Xylene isomer concentrations (μg/L) in groundwater (color coding based on screening criteria values).

8600B3N 001 0104 | Apr 24,2001 | XyleneGW | e:/graphics/ventron_velsicol/volatiles apr

830190034

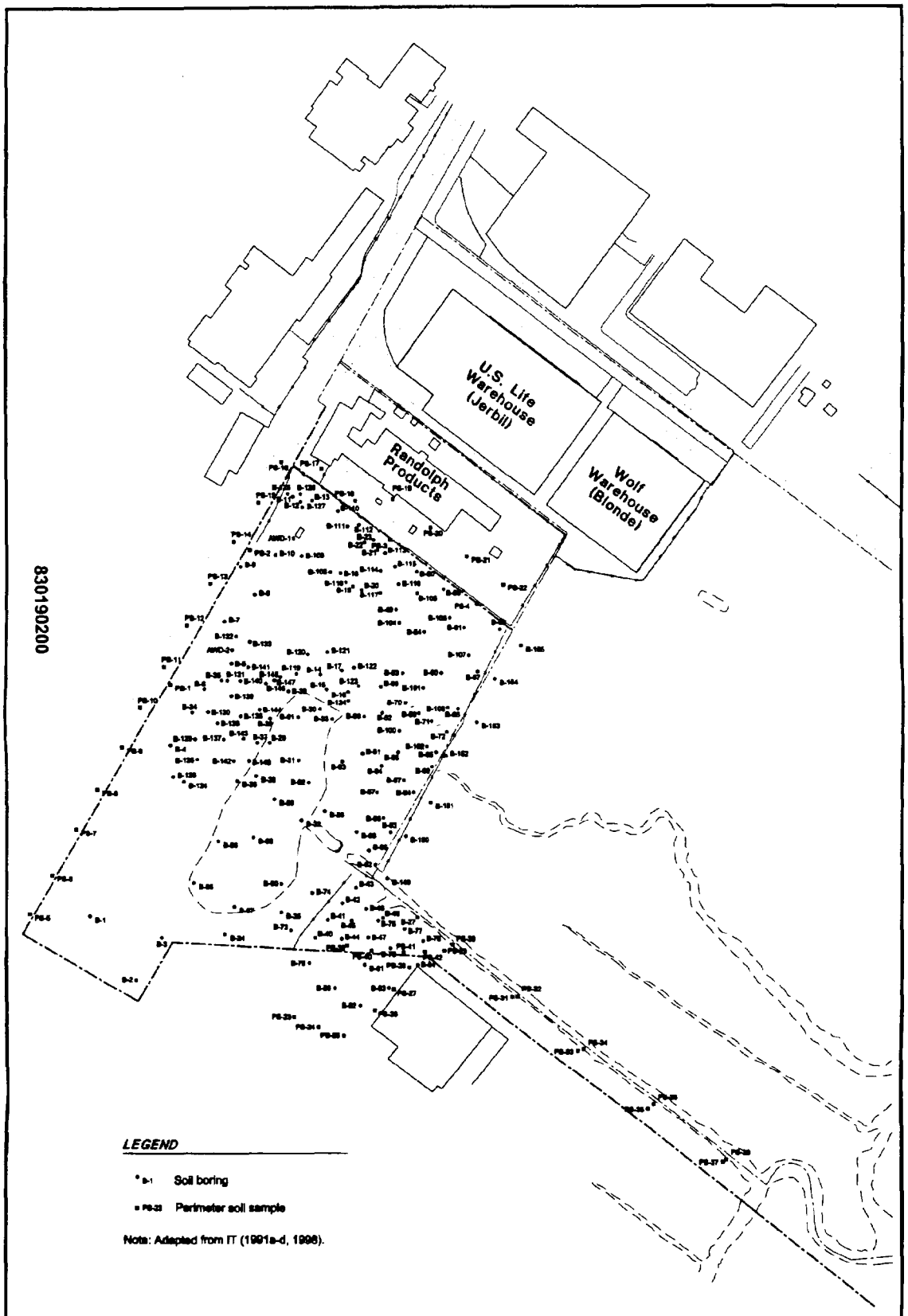


Figure Q-1. Approximate soil sample locations for Diamond Shamrock/Henkel facility.

860083N 001.0104 HENKELS.dwg 05/02/01 OR

830190200

Table Q-2. Diamond Shamrock/Henkel site soil data for metals, organics, pesticides/PCBs

Analyte	Units	Survey Station:	B-10	B-100	B-101	B-101	B-102	B-103	B-103	B-104	B-104	B-105
		Date:	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90
		Subsample:	1	1	1	2	1	1	2	1	2	2
		Upper Depth (ft):	1.5	2	2	4.5	2	2	4.5	2	4	4
		Lower Depth (ft):	2	2.5	2.5	5	2.5	2.5	5	2.5	4.5	4.5
Metals												
Antimony	mg/kg											
Arsenic	mg/kg											
Beryllium	mg/kg											
Cadmium	mg/kg				8.30						8.90	
Chromium	mg/kg				120							
Copper	mg/kg					300						
Lead	mg/kg								250			680
Mercury (total)	mg/kg				1.10					1.90	2.90	1.00
Nickel	mg/kg											
Selenium	mg/kg											
Silver	mg/kg											
Thallium	mg/kg											
Zinc	mg/kg		920	4,000	7,600	720	720	810		2,400	19,000	5,300
Volatile Organic Compounds												
Benz[a]anthracene	µg/kg											
Chrysene	µg/kg											
Benzo[b]fluoranthene	µg/kg											
Benzo[k]fluoranthene	µg/kg											
Benzo[a]pyrene	µg/kg											
Indeno[1,2,3-cd]pyrene	µg/kg											
Dibenz[a,h]anthracene	µg/kg											
bis[2-Ethylhexyl]phthalate	µg/kg											
Pesticides/Polychlorinated Biphenyls												
Aldrin	mg/kg											
Dieldrin	mg/kg											
Endosulfan sulfate	mg/kg											
4,4'-DDD	mg/kg											
4,4'-DDE	mg/kg											
4,4'-DDT	mg/kg											
Aroclor® 1248	mg/kg										8.5	4.2
Aroclor® 1254	mg/kg									5.7		
Aroclor® 1260	mg/kg											

830190207

Table Q-2. (cont.)

Analyte	Units	Survey Station:	B-105	B-106	B-110	B-111	B-112	B-113	B-113	B-114	B-114	B-115
		Date:	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90
		Subsample:	1	1	1	1	1	1	2	2	1	1
		Upper Depth (ft):	2	2	1.5	1.5	1.5	1.5	2.5	2.5	1.5	1.5
		Lower Depth (ft):	2.5	2.5	2	2	2	2	3	3	2	2
Metals												
Antimony	mg/kg											
Arsenic	mg/kg							92.0		39.0		
Beryllium	mg/kg							1.00				
Cadmium	mg/kg			76.0				7.40	20.0	18.0	4.50	5.20
Chromium	mg/kg						120	100			110	
Copper	mg/kg			720	440			230	220	2,500	190	350
Lead	mg/kg							820	530	2,400	640	900
Mercury (total)	mg/kg		1.00	1.70	13.0		4.90	17.0	4.00	1.30	3.20	2.10
Nickel	mg/kg											
Selenium	mg/kg											
Silver	mg/kg											
Thallium	mg/kg											
Zinc	mg/kg		4,400	14,000	820	450	1,100	7,500	64,000	11,000	5,300	6,300
Volatile Organic Compounds												
Benz[a]anthracene	µg/kg											
Chrysene	µg/kg											
Benzo[b]fluoranthene	µg/kg											
Benzo[k]fluoranthene	µg/kg											
Benzo[a]pyrene	µg/kg											
Indeno[1,2,3-cd]pyrene	µg/kg											
Dibenz[a,h]anthracene	µg/kg											
bis[2-Ethylhexyl]phthalate	µg/kg											
Pesticides/Polychlorinated Biphenyls												
Aldrin	mg/kg											
Dieldrin	mg/kg											
Endosulfan sulfate	mg/kg											
4,4'-DDD	mg/kg											
4,4'-DDE	mg/kg											
4,4'-DDT	mg/kg											
Aroclor® 1248	mg/kg			2.7				1.5	3.1			1.8
Aroclor® 1254	mg/kg									2.0		
Aroclor® 1260	mg/kg											

830190208

Table Q-2. (cont.)

Analyte	Units	Survey Station:	B-115	B-116	B-116	B-117	B-117	B-118	B-119	B-120	B-120	B-120
		Date:	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90
		Subsample:	2	1	2	1	2	1	3	1	1	2
		Upper Depth (ft):	2.5	1.5	2.5	1.5	2.5	1.5	3.5	1.5	1.5	2.5
		Lower Depth (ft):	3	2	3	2	3	2	4	2	2	3
Metals												
Antimony	mg/kg											
Arsenic	mg/kg											
Beryllium	mg/kg					1.40						
Cadmium	mg/kg		4.10	5.00		8.20	3.20	35.0			15.0	
Chromium	mg/kg			230					1,400	320		
Copper	mg/kg					550		640			1,000	
Lead	mg/kg		400			820		2,900	270	890	8,000	720
Mercury (total)	mg/kg		1.50	1.00		4.30	1.70			2.60	1.70	
Nickel	mg/kg											
Selenium	mg/kg											
Silver	mg/kg											
Thallium	mg/kg											
Zinc	mg/kg		1,500	9,500	1,500	9,600	2,700	39,000	900		48,000	
Volatile Organic Compounds												
Benz[a]anthracene	µg/kg											
Chrysene	µg/kg											
Benzo[b]fluoranthene	µg/kg											
Benzo[k]fluoranthene	µg/kg											
Benzo[a]pyrene	µg/kg											
Indeno[1,2,3-cd]pyrene	µg/kg											
Dibenz[a,h]anthracene	µg/kg											
bis[2-Ethylhexyl]phthalate	µg/kg											
Pesticides/Polychlorinated Biphenyls												
Aldrin	mg/kg											
Dieldrin	mg/kg									0.78		
Endosulfan sulfate	mg/kg											
4,4'-DDD	mg/kg											
4,4'-DDE	mg/kg									0.24		
4,4'-DDT	mg/kg									1.4		
Aroclor® 1248	mg/kg		3.8	1.9								
Aroclor® 1254	mg/kg				1.3	7.5	5.4			10.0		
Aroclor® 1260	mg/kg											

830190209

Table Q-2. (cont.)

Analyte	Units	Survey Station:	B-121	B-121	B-122	B-122	B-123	B-123	B-124	B-124	B-129	B-129
		Date:	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90
		Subsample:	1	2	1	2	1	2	2	1	2	1
		Upper Depth (ft):	1.5	2	1.5	2	1.5	2.5	2.5	1.5	2	1.5
		Lower Depth (ft):	2	2.5	2	2.5	2	3	3	2	2.5	2
Metals												
Antimony	mg/kg											
Arsenic	mg/kg										88.0	
Beryllium	mg/kg		1.50								1.20	
Cadmium	mg/kg		3.70			1.00						10.0
Chromium	mg/kg		330				250	240				
Copper	mg/kg		180									320
Lead	mg/kg		920									710
Mercury (total)	mg/kg		1.20	1.00		5.20			1.10		1.10	2.10
Nickel	mg/kg											
Selenium	mg/kg										16.0	
Silver	mg/kg											
Thallium	mg/kg											
Zinc	mg/kg		5,400	550	1,100	1,400				870	620	4,800
Volatile Organic Compounds												
Benz[a]anthracene	µg/kg											
Chrysene	µg/kg											
Benzo[b]fluoranthene	µg/kg											
Benzo[k]fluoranthene	µg/kg											
Benzo[a]pyrene	µg/kg											
Indeno[1,2,3-cd]pyrene	µg/kg											
Dibenz[a,h]anthracene	µg/kg											
bis[2-Ethylhexyl]phthalate	µg/kg											
Pesticides/Polychlorinated Biphenyls												
Aldrin	mg/kg											
Dieldrin	mg/kg											
Endosulfan sulfate	mg/kg											
4,4'-DDD	mg/kg		4.7									
4,4'-DDE	mg/kg		1.7									
4,4'-DDT	mg/kg		2.2									
Aroclor® 1248	mg/kg		15.0						1.3		1.1	
Aroclor® 1254	mg/kg											
Aroclor® 1260	mg/kg											

830190210

Table Q-2. (cont.)

Analyte	Units	Survey Station:	B-130	B-130	B-131	B-132	B-132	B-133	B-133	B-137	B-137	B-138
		Date:	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90
		Subsample:	1	2	1	1	2	1	2	1	2	0
		Upper Depth (ft):	1.5	2	1.5	0.5	1.5	1	1.5	0.5	1.5	1.5
		Lower Depth (ft):	2	2.5	2	1	2	1.5	2	1	2	2
Metals												
Antimony	mg/kg											
Arsenic	mg/kg		27									
Beryllium	mg/kg		2.4	2.9					1.00			
Cadmium	mg/kg					3.90						
Chromium	mg/kg											
Copper	mg/kg							1,100				
Lead	mg/kg				1,200			570		270		
Mercury (total)	mg/kg					1.20		1.20				
Nickel	mg/kg											
Selenium	mg/kg											
Silver	mg/kg											
Thallium	mg/kg											
Zinc	mg/kg				470	12,000	7,700	3,100	490	1,300	420	
Volatile Organic Compounds												
Benz[a]anthracene	µg/kg											
Chrysene	µg/kg											
Benzo[b]fluoranthene	µg/kg											
Benzo[k]fluoranthene	µg/kg											
Benzo[a]pyrene	µg/kg											
Indeno[1,2,3-cd]pyrene	µg/kg											
Dibenz[a,h]anthracene	µg/kg											
bis[2-Ethylhexyl]phthalate	µg/kg											
Pesticides/Polychlorinated Biphenyls												
Aldrin	mg/kg											2.2
Dieldrin	mg/kg											0.86
Endosulfan sulfate	mg/kg											1.2
4,4'-DDD	mg/kg											
4,4'-DDE	mg/kg											0.57
4,4'-DDT	mg/kg											1.5
Aroclor® 1248	mg/kg									1.9		40.0
Aroclor® 1254	mg/kg											
Aroclor® 1260	mg/kg											

830190211

Table Q-2. (cont.)

Analyte	Units	Survey Station:	B-139	B-139	B-14	B-140	B-140	B-141	B-141	B-142	B-142	B-143
		Date:	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90
		Subsample:	1	2	0	2	1	2	1	1	2	1
		Upper Depth (ft):	1.5	2	0	2	1.5	2	1.5	1.5	2.5	1.5
		Lower Depth (ft):	2	2.5	0.5	2.5	2	2.5	2	2	3	2
Metals												
Antimony	mg/kg											
Arsenic	mg/kg											
Beryllium	mg/kg				1.90	1.20	1.00					
Cadmium	mg/kg		8.10	21.0	8.60	17.0	3.00					92.0
Chromium	mg/kg				2,900					360	400	
Copper	mg/kg			410	350							1,300
Lead	mg/kg				640							1,700
Mercury (total)	mg/kg			1.20	12.0			1.70		1.20	1.50	27.0
Nickel	mg/kg											
Selenium	mg/kg											
Silver	mg/kg											5.00
Thallium	mg/kg											
Zinc	mg/kg		440	2,400	6,400	7,700	1,100	790	980	2,100	2,100	28,000
Volatile Organic Compounds												
Benz[a]anthracene	µg/kg											
Chrysene	µg/kg											
Benzo[b]fluoranthene	µg/kg											
Benzo[k]fluoranthene	µg/kg											
Benzo[a]pyrene	µg/kg											
Indeno[1,2,3-cd]pyrene	µg/kg											
Dibenz[a,h]anthracene	µg/kg											
bis[2-Ethylhexyl]phthalate	µg/kg											
Pesticides/Polychlorinated Biphenyls												
Aldrin	mg/kg		200.0	12.0		30.00		0.43				
Dieldrin	mg/kg		84.0	5.3		11.0		0.15				
Endosulfan sulfate	mg/kg							0.2				
4,4'-DDD	mg/kg											
4,4'-DDE	mg/kg											
4,4'-DDT	mg/kg							0.29				
Aroclor® 1248	mg/kg		3,400.0	222.0	4.8	500.0		6.1				
Aroclor® 1254	mg/kg				2.7							
Aroclor® 1260	mg/kg											

830190212

Table Q-2. (cont.)

Analyte	Units	Survey Station:	B-143	B-144	B-144	B-145	B-145	B-146	B-146	B-147	B-148	B-148
		Date:	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90
		Subsample:	2	1	2	1	2	1	2	0	1	1
		Upper Depth (ft):	2.5	1.5	3.5	1.5	2.5	1.5	2.5	1.5	1.5	1.5
		Lower Depth (ft):	3	2	4	2	3	2	3	2	2	2
Metals												
Antimony	mg/kg											
Arsenic	mg/kg											
Beryllium	mg/kg											
Cadmium	mg/kg		46.0	3.20	3.40			3.20	5.30			
Chromium	mg/kg			2,000	1,000	300	190		310			
Copper	mg/kg		600						310			
Lead	mg/kg		1,100			250		270	900			
Mercury (total)	mg/kg		13.0	3.10	4.90	3.20	1.30	4.10	5.70		1.70	
Nickel	mg/kg			180	110							
Selenium	mg/kg											
Silver	mg/kg											
Thallium	mg/kg											
Zinc	mg/kg		8,700	2,000	3,300			3,400	9,200		690	
Volatile Organic Compounds												
Benz[a]anthracene	µg/kg											
Chrysene	µg/kg											
Benzo[b]fluoranthene	µg/kg											
Benzo[k]fluoranthene	µg/kg											
Benzo[a]pyrene	µg/kg											
Indeno[1,2,3-cd]pyrene	µg/kg											
Dibenz[a,h]anthracene	µg/kg											
bis[2-Ethylhexyl]phthalate	µg/kg											
Pesticides/Polychlorinated Biphenyls												
Aldrin	mg/kg				0.65	0.65						
Dieldrin	mg/kg				0.33	0.33					0.14	
Endosulfan sulfate	mg/kg										0.22	
4,4'-DDD	mg/kg							1.1	0.91			
4,4'-DDE	mg/kg								0.83		0.72	
4,4'-DDT	mg/kg				0.52	0.52					0.6	
Aroclor® 1248	mg/kg			2.9	13.0		1.3			2.7		37
Aroclor® 1254	mg/kg					4.8	0.48	6.3	7.3		2.3	
Aroclor® 1260	mg/kg											

830190213

Table Q-2. (cont.)

Analyte	Units	Survey Station:	B-148	B-149	B-149	B-15	B-15	B-150	B-150	B-151	B-151	B-152
		Date:	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90
		Subsample:	2	1	2	1	2	1	2	1	2	2
		Upper Depth (ft):	4	0	2	0.5	3.5	0	2	0	2	1.5
		Lower Depth (ft):	4.5	0.5	2.5	1	4	0.5	2.5	0.5	2.5	2
Metals												
Antimony	mg/kg											
Arsenic	mg/kg											
Beryllium	mg/kg						2.70					
Cadmium	mg/kg				14.3	3.00	11.0					79.0
Chromium	mg/kg		130		122		790					
Copper	mg/kg						490					630
Lead	mg/kg		280				630			560		1,800
Mercury (total)	mg/kg		4.10	5.80	110	1.00	2.80	1.80	4.10	5.20	8.30	3.40
Nickel	mg/kg						110					
Selenium	mg/kg											
Silver	mg/kg											
Thallium	mg/kg											
Zinc	mg/kg		1,100	800	4,000	2,800	23,000		570			66,000
Volatile Organic Compounds												
Benz[a]anthracene	µg/kg											
Chrysene	µg/kg											
Benzo[b]fluoranthene	µg/kg											
Benzo[k]fluoranthene	µg/kg											
Benzo[a]pyrene	µg/kg											
Indeno[1,2,3-cd]pyrene	µg/kg											
Dibenz[a,h]anthracene	µg/kg											
bis[2-Ethylhexyl]phthalate	µg/kg											
Pesticides/Polychlorinated Biphenyls												
Aldrin	mg/kg											
Dieldrin	mg/kg											
Endosulfan sulfate	mg/kg											
4,4'-DDD	mg/kg											
4,4'-DDE	mg/kg											
4,4'-DDT	mg/kg											
Aroclor® 1248	mg/kg											2.5
Aroclor® 1254	mg/kg					3.0						
Aroclor® 1260	mg/kg											

830190214

Table Q-2. (cont.)

Analyte	Units	Survey Station:	B-152	B-153	B-153	B-154	B-155	B-155	B-16	B-17	B-17	B-18
		Date:	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90
		Subsample:	1	1	2	1	1	2	1	1	2	1
		Upper Depth (ft):	0	0	0.5	0	0	1	0.5	0.5	3.5	1.5
		Lower Depth (ft):	0.5	0.5	1	0.5	0.5	1.5	1	1	4	2
Metals												
Antimony	mg/kg											
Arsenic	mg/kg									230		
Beryllium	mg/kg											
Cadmium	mg/kg				18.0					11.0	260	17.0
Chromium	mg/kg							120				
Copper	mg/kg											220
Lead	mg/kg			380						600	420	1,800
Mercury (total)	mg/kg		6.30	14.0	2.80	28.0	87.0	15.0	1.1	1.60		2.20
Nickel	mg/kg							120		100		
Selenium	mg/kg				74.0							
Silver	mg/kg											
Thallium	mg/kg											
Zinc	mg/kg		2,500		350	440	1,700	460	700	17,000		23,000
Volatile Organic Compounds												
Benz[a]anthracene	µg/kg											
Chrysene	µg/kg											
Benzo[b]fluoranthene	µg/kg											
Benzo[k]fluoranthene	µg/kg											
Benzo[a]pyrene	µg/kg											
Indeno[1,2,3-cd]pyrene	µg/kg											
Dibenz[a,h]anthracene	µg/kg											
bis[2-Ethylhexyl]phthalate	µg/kg											
Pesticides/Polychlorinated Biphenyls												
Aldrin	mg/kg											
Dieldrin	mg/kg											
Endosulfan sulfate	mg/kg											
4,4'-DDD	mg/kg											
4,4'-DDE	mg/kg											
4,4'-DDT	mg/kg											
Aroclor® 1248	mg/kg									39.0		
Aroclor® 1254	mg/kg								5.0			
Aroclor® 1260	mg/kg										2.6	

830190215

Table Q-2. (cont.)

Analyte	Units	Survey Station:	B-18	B-19	B-2	B-20	B-20	B-21	B-21	B-22	B-22	B-23
		Date:	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90
		Subsample:	2	1	1	1	2	1	2	1	2	1
		Upper Depth (ft):	2.5	1.5	1.5	1.5	2	1.5	6.5	1.5	2.5	0
		Lower Depth (ft):	3	2	2	2	2.5	2	7	2	3	0.5
Metals												
Antimony	mg/kg											
Arsenic	mg/kg											
Beryllium	mg/kg											
Cadmium	mg/kg		4.70	29.0				19.0		12.0	5.10	11.0
Chromium	mg/kg				140							
Copper	mg/kg			1,500				540		3,600		440
Lead	mg/kg		1,600	11,000				2,500		1,800		2,800
Mercury (total)	mg/kg							2.90		6.00	1.20	6.30
Nickel	mg/kg			100								
Selenium	mg/kg											
Silver	mg/kg											
Thallium	mg/kg											
Zinc	mg/kg		960	100,000				30,000	520	16,000	5,500	8,400
Volatile Organic Compounds												
Benz[a]anthracene	µg/kg											
Chrysene	µg/kg											
Benzo[b]fluoranthene	µg/kg											
Benzo[k]fluoranthene	µg/kg											
Benzo[a]pyrene	µg/kg											
Indeno[1,2,3-cd]pyrene	µg/kg											
Dibenz[a,h]anthracene	µg/kg											
bis[2-Ethylhexyl]phthalate	µg/kg											
Pesticides/Polychlorinated Biphenyls												
Aldrin	mg/kg											
Dieldrin	mg/kg											
Endosulfan sulfate	mg/kg											
4,4'-DDD	mg/kg											
4,4'-DDE	mg/kg											
4,4'-DDT	mg/kg											
Aroclor® 1248	mg/kg					1.9						
Aroclor® 1254	mg/kg					4.3	2.0			1.0		
Aroclor® 1260	mg/kg							2.0				

Table Q-2. (cont.)

Analyte	Units	Survey Station:	B-24	B-24	B-25	B-25	B-27	B-28	B-29	B-3	B-30	B-31
		Date:	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90
		Subsample:	1	2	1	2	1	0	0	1	0	1
		Upper Depth (ft):	0	1.5	0	1.5	0	0	0	1.5	0	0
		Lower Depth (ft):	0.5	2	0.5	2	0.5	0.5	0.5	2	0.5	0.5
Metals												
Antimony	mg/kg											
Arsenic	mg/kg								25.0			
Beryllium	mg/kg					1.60						
Cadmium	mg/kg		13.0	15.0	3.60	7.30			23.0			21.0
Chromium	mg/kg		320	750	150	130	130		510			490
Copper	mg/kg								300			310
Lead	mg/kg		400	440								
Mercury (total)	mg/kg		4.90	2.70			5.40		190			50.0
Nickel	mg/kg											
Selenium	mg/kg											
Silver	mg/kg											
Thallium	mg/kg											
Zinc	mg/kg		9,400	8,400	2,700	8,400	380		5,100	450		5,500
Volatile Organic Compounds												
Benz[a]anthracene	µg/kg											
Chrysene	µg/kg											
Benzo[b]fluoranthene	µg/kg											
Benzo[k]fluoranthene	µg/kg											
Benzo[a]pyrene	µg/kg											
Indeno[1,2,3-cd]pyrene	µg/kg											
Dibenz[a,h]anthracene	µg/kg											
bis[2-Ethylhexyl]phthalate	µg/kg											
Pesticides/Polychlorinated Biphenyls												
Aldrin	mg/kg											
Dieldrin	mg/kg											
Endosulfan sulfate	mg/kg											
4,4'-DDD	mg/kg											
4,4'-DDE	mg/kg											
4,4'-DDT	mg/kg											
Aroclor® 1248	mg/kg							8.6	40.0		5.9	120.0
Aroclor® 1254	mg/kg											
Aroclor® 1260	mg/kg											

830190217

Table Q-2. (cont.)

Analyte	Units	Survey Station:	B-32	B-33	B-35	B-37	B-38	B-38	B-39	B-39	B-4	B-40
		Date:	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90
		Subsample:	0	0	1	1	1	2	1	2	1	1
		Upper Depth (ft):	0	0	2.5	1.5	1.5	4	1.5	4	0.5	1.5
		Lower Depth (ft):	0.5	0.5	3	2	2	4.5	2	4.5	1	2
Metals												
Antimony	mg/kg											
Arsenic	mg/kg										22.0	
Beryllium	mg/kg											
Cadmium	mg/kg		6.90	21.0	3.60							220
Chromium	mg/kg		380	390								
Copper	mg/kg			350								
Lead	mg/kg			270								1,900
Mercury (total)	mg/kg		13.0	40.0								
Nickel	mg/kg											
Selenium	mg/kg											
Silver	mg/kg											
Thallium	mg/kg											
Zinc	mg/kg		4,300	12,000	3,200							110,000
Volatile Organic Compounds												
Benz[a]anthracene	µg/kg											
Chrysene	µg/kg											
Benzo[b]fluoranthene	µg/kg											
Benzo[k]fluoranthene	µg/kg											
Benzo[a]pyrene	µg/kg											
Indeno[1,2,3-cd]pyrene	µg/kg											
Dibenz[a,h]anthracene	µg/kg											
bis[2-Ethylhexyl]phthalate	µg/kg											
Pesticides/Polychlorinated Biphenyls												
Aldrin	mg/kg											
Dieldrin	mg/kg											
Endosulfan sulfate	mg/kg											
4,4'-DDD	mg/kg											
4,4'-DDE	mg/kg											
4,4'-DDT	mg/kg											
Aroclor® 1248	mg/kg		5.8	110.0		1.1	820.0	117.0	3.7	81.0		
Aroclor® 1254	mg/kg											
Aroclor® 1260	mg/kg											

830190218

Table Q-2. (cont.)

Analyte	Units	Survey Station:	B-40	B-40	B-41	B-41	B-42	B-42	B-43	B-43	B-44	B-44
		Date:	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90
		Subsample:	2	3	1	2	1	2	1	2	1	2
		Upper Depth (ft):	2	2.5	0	2	1.5	2.5	0	2	0.5	4
		Lower Depth (ft):	2.5	3	0.5	2.5	2	3	0.5	2.5	1	4.5
Metals												
Antimony	mg/kg											
Arsenic	mg/kg											
Beryllium	mg/kg											
Cadmium	mg/kg		12.0			59.0			11.0		170	
Chromium	mg/kg					100		300	800	260		
Copper	mg/kg					600						
Lead	mg/kg			260	3,900	18,000			760		1,100	
Mercury (total)	mg/kg		2.70		4.00	16.0	2.90	54.0	29.0		140	
Nickel	mg/kg					130						
Selenium	mg/kg											
Silver	mg/kg						14.0					
Thallium	mg/kg											
Zinc	mg/kg		39,000		1,400	1,900		520	41,000	3,500	130,000	1,500
Volatile Organic Compounds												
Benz[a]anthracene	µg/kg											
Chrysene	µg/kg											
Benzo[b]fluoranthene	µg/kg											
Benzo[k]fluoranthene	µg/kg											
Benzo[a]pyrene	µg/kg											
Indeno[1,2,3-cd]pyrene	µg/kg											
Dibenz[a,h]anthracene	µg/kg											
bis[2-Ethylhexyl]phthalate	µg/kg											
Pesticides/Polychlorinated Biphenyls												
Aldrin	mg/kg											
Dieldrin	mg/kg											
Endosulfan sulfate	mg/kg											
4,4'-DDD	mg/kg											
4,4'-DDE	mg/kg											
4,4'-DDT	mg/kg											
Aroclor® 1248	mg/kg											
Aroclor® 1254	mg/kg											
Aroclor® 1260	mg/kg											

830190219

Table Q-2. (cont.)

Analyte	Units	Survey Station:	B-45	B-45	B-46	B-46	B-47	B-47	B-48	B-48	B-49	B-5
		Date:	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90
		Subsample:	1	2	1	2	1	2	2	1	1	2
		Upper Depth (ft):	0	2	0	2	2	4	2	0.5	2	3.5
		Lower Depth (ft):	0.5	2.5	0.5	2.5	2.5	4.5	2.5	1	2.5	4
Metals												
Antimony	mg/kg											
Arsenic	mg/kg								39.0		23.0	
Beryllium	mg/kg		1.00									
Cadmium	mg/kg		24.0	8.20			15.0	8.00	3.30	25.0	9.20	
Chromium	mg/kg				280			150				
Copper	mg/kg											
Lead	mg/kg		860							690	250	
Mercury (total)	mg/kg		1.90	11.0	40.0	3.60	1.80	27.0	5.90	7.30	11.0	11.0
Nickel	mg/kg											
Selenium	mg/kg											
Silver	mg/kg											
Thallium	mg/kg											
Zinc	mg/kg		15,000	20,000	1,700		33,000	14,000	22,000	12,000	3,100	
Volatile Organic Compounds												
Benz[a]anthracene	µg/kg											
Chrysene	µg/kg											
Benzo[b]fluoranthene	µg/kg											
Benzo[k]fluoranthene	µg/kg											
Benzo[a]pyrene	µg/kg											
Indeno[1,2,3-cd]pyrene	µg/kg											
Dibenz[a,h]anthracene	µg/kg											
bis[2-Ethylhexyl]phthalate	µg/kg											
Pesticides/Polychlorinated Biphenyls												
Aldrin	mg/kg											
Dieldrin	mg/kg											
Endosulfan sulfate	mg/kg											
4,4'-DDD	mg/kg											
4,4'-DDE	mg/kg											
4,4'-DDT	mg/kg											
Aroclor® 1248	mg/kg								8.7			
Aroclor® 1254	mg/kg										10.0	
Aroclor® 1260	mg/kg											

830190220

Table Q-2. (cont.)

Analyte	Units	Survey Station:	B-50	B-51	B-52	B-52	B-53	B-53	B-54	B-55	B-55	B-56
		Date:	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90
		Subsample:	1	1	1	2	1	2	2	1	2	1
		Upper Depth (ft):	1	2	2	3.5	2	8.5	2	2	5	2
		Lower Depth (ft):	1.5	2.5	2.5	4	2.5	9	2.5	2.5	5.5	2.5
Metals												
Antimony	mg/kg											
Arsenic	mg/kg											
Beryllium	mg/kg											
Cadmium	mg/kg		8.00	6.60	11.0				4.10			4.40
Chromium	mg/kg		130									
Copper	mg/kg											
Lead	mg/kg			630	340							
Mercury (total)	mg/kg		4.00	2.00							1.00	15.0
Nickel	mg/kg											
Selenium	mg/kg											
Silver	mg/kg											
Thallium	mg/kg											
Zinc	mg/kg		24,000	2,400	5,000	1,500	1,400	880	3,100	600		3,900
Volatile Organic Compounds												
Benz[a]anthracene	µg/kg											
Chrysene	µg/kg											
Benzo[b]fluoranthene	µg/kg											
Benzo[k]fluoranthene	µg/kg											
Benzo[a]pyrene	µg/kg											
Indeno[1,2,3-cd]pyrene	µg/kg											
Dibenz[a,h]anthracene	µg/kg											
bis[2-Ethylhexyl]phthalate	µg/kg											
Pesticides/Polychlorinated Biphenyls												
Aldrin	mg/kg											
Dieldrin	mg/kg											
Endosulfan sulfate	mg/kg											
4,4'-DDD	mg/kg											
4,4'-DDE	mg/kg											
4,4'-DDT	mg/kg											
Aroclor® 1248	mg/kg		55.0									
Aroclor® 1254	mg/kg											
Aroclor® 1260	mg/kg											

830190221

Table Q-2. (cont.)

Analyte	Units	Survey Station:	B-56	B-57	B-58	B-58	B-59	B-59	B-6	B-6	B-61	B-61
		Date:	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90
		Subsample:	2	1	1	2	1	2	1	2	1	2
		Upper Depth (ft):	4	2	2	4	2	5	1.5	3.5	2	5
		Lower Depth (ft):	4.5	2.5	2.5	4.5	2.5	5.5	2	4	2.5	5.5
Metals												
Antimony	mg/kg											
Arsenic	mg/kg											
Beryllium	mg/kg											
Cadmium	mg/kg		8.00									
Chromium	mg/kg		100									
Copper	mg/kg			650							210	
Lead	mg/kg		770									
Mercury (total)	mg/kg		9.40	1.00	2.00	2.40		1.70				
Nickel	mg/kg											110
Selenium	mg/kg											
Silver	mg/kg											
Thallium	mg/kg											
Zinc	mg/kg		4,500	750	3,000	1,300	560	2,000	4,000	1,400	3,000	
Volatile Organic Compounds												
Benz[a]anthracene	µg/kg											
Chrysene	µg/kg											
Benzo[b]fluoranthene	µg/kg											
Benzo[k]fluoranthene	µg/kg											
Benzo[a]pyrene	µg/kg											
Indeno[1,2,3-cd]pyrene	µg/kg											
Dibenz[a,h]anthracene	µg/kg											
bis[2-Ethylhexyl]phthalate	µg/kg											
Pesticides/Polychlorinated Biphenyls												
Aldrin	mg/kg											
Dieldrin	mg/kg											
Endosulfan sulfate	mg/kg											
4,4'-DDD	mg/kg											
4,4'-DDE	mg/kg											
4,4'-DDT	mg/kg											
Aroclor® 1248	mg/kg											
Aroclor® 1254	mg/kg											
Aroclor® 1260	mg/kg											

830190222

Table Q-2. (cont.)

Analyte	Units	Survey Station:	B-62	B-64	B-65	B-65	B-66	B-66	B-67	B-68	B-68	B-69
		Date:	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90
		Subsample:	2	1	1	2	1	2	2	1	2	1
		Upper Depth (ft):	4	2	2	4	2	6.5	5.5	2	4	0
		Lower Depth (ft):	4.5	2.5	2.5	4.5	2.5	7	6	2.5	4.5	0.5
Metals												
Antimony	mg/kg											
Arsenic	mg/kg											
Beryllium	mg/kg											
Cadmium	mg/kg		9.40		3.50		10.0					4.30
Chromium	mg/kg		390									
Copper	mg/kg				1,400			190				
Lead	mg/kg				1,900							260
Mercury (total)	mg/kg		82.0	3.20	3.30	1.30	1.00	1.10	4.40	2.30	8.20	1,300
Nickel	mg/kg							220				
Selenium	mg/kg											
Silver	mg/kg											
Thallium	mg/kg											
Zinc	mg/kg		2,800	1,500	1,400		9,600		4,200	860		12,000
Volatile Organic Compounds												
Benz[a]anthracene	µg/kg											
Chrysene	µg/kg											
Benzo[b]fluoranthene	µg/kg											
Benzo[k]fluoranthene	µg/kg											
Benzo[a]pyrene	µg/kg											
Indeno[1,2,3-cd]pyrene	µg/kg											
Dibenz[a,h]anthracene	µg/kg											
bis[2-Ethylhexyl]phthalate	µg/kg											
Pesticides/Polychlorinated Biphenyls												
Aldrin	mg/kg											
Dieldrin	mg/kg											
Endosulfan sulfate	mg/kg											
4,4'-DDD	mg/kg											
4,4'-DDE	mg/kg											
4,4'-DDT	mg/kg											
Aroclor® 1248	mg/kg											
Aroclor® 1254	mg/kg				4.0							
Aroclor® 1260	mg/kg											

830190223

Table Q-2. (cont.)

Analyte	Units	Survey Station:	B-7	B-7	B-7	B-70	B-70	B-71	B-71	B-72	B-72	B-73
		Date:	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90
		Subsample:	3	1	2	1	2	1	2	2	1	1
		Upper Depth (ft):	1.5	0.5	1	1.5	4	2	6	4.5	2	0
		Lower Depth (ft):	2	1	1.5	2	4.5	2.5	6.5	5	2.5	0.5
Metals												
Antimony	mg/kg											
Arsenic	mg/kg											
Beryllium	mg/kg											
Cadmium	mg/kg		3.20		5.60	3.90	14.0			4.5		
Chromium	mg/kg											
Copper	mg/kg						1,000					
Lead	mg/kg											
Mercury (total)	mg/kg		1.90			3.80				20		1.90
Nickel	mg/kg			0								
Selenium	mg/kg											
Silver	mg/kg											
Thallium	mg/kg											
Zinc	mg/kg		2,100		22,000	2,700	17,000	4,000	650	830	3,000	1,300
Volatile Organic Compounds												
Benz[a]anthracene	µg/kg											
Chrysene	µg/kg											
Benzo[b]fluoranthene	µg/kg											
Benzo[k]fluoranthene	µg/kg											
Benzo[a]pyrene	µg/kg											
Indeno[1,2,3-cd]pyrene	µg/kg											
Dibenz[a,h]anthracene	µg/kg											
bis[2-Ethylhexyl]phthalate	µg/kg											
Pesticides/Polychlorinated Biphenyls												
Aldrin	mg/kg											
Dieldrin	mg/kg											
Endosulfan sulfate	mg/kg											
4,4'-DDD	mg/kg						3.7					
4,4'-DDE	mg/kg						9.1					
4,4'-DDT	mg/kg						3.4					
Aroclor® 1248	mg/kg						6.4			8.9		12.0
Aroclor® 1254	mg/kg		2.3			4.0				27.0		4.4
Aroclor® 1260	mg/kg											

830190224

Table Q-2. (cont.)

Analyte	Units	Survey Station:	B-73	B-73	B-73	B-74	B-74	B-74	B-75	B-75	B-75	B-75
		Date:	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90
		Subsample:	2	3	4	1	2	3	2	3	1	4
		Upper Depth (ft):	2	3.5	5.5	0	2	3.5	2	3.5	0	5.5
		Lower Depth (ft):	2.5	4	6	0.5	2.5	4	2.5	4	0.5	6
Metals												
Antimony	mg/kg											
Arsenic	mg/kg					52.0						
Beryllium	mg/kg											
Cadmium	mg/kg		910	11.0		28.0			20.0	6.40		
Chromium	mg/kg		140			150			350			
Copper	mg/kg		310			350			190			
Lead	mg/kg		4,400	290		500					1,400	
Mercury (total)	mg/kg		1.10	2.70		1.90	1.40		42.0	11.0	3.60	
Nickel	mg/kg											
Selenium	mg/kg											
Silver	mg/kg											
Thallium	mg/kg											
Zinc	mg/kg		260,000	36,000	6,100	30,000	3,600	380	14,000	8,300		540
Volatile Organic Compounds												
Benz[a]anthracene	µg/kg											
Chrysene	µg/kg											
Benzo[b]fluoranthene	µg/kg											
Benzo[k]fluoranthene	µg/kg											
Benzo[a]pyrene	µg/kg											
Indeno[1,2,3-cd]pyrene	µg/kg											
Dibenz[a,h]anthracene	µg/kg											
bis[2-Ethylhexyl]phthalate	µg/kg											
Pesticides/Polychlorinated Biphenyls												
Aldrin	mg/kg											
Dieldrin	mg/kg											
Endosulfan sulfate	mg/kg											
4,4'-DDD	mg/kg											
4,4'-DDE	mg/kg											
4,4'-DDT	mg/kg											
Aroclor® 1248	mg/kg		2.1	2.7		11.0			4.6	1.4		
Aroclor® 1254	mg/kg		2.3	1.3		4.0						
Aroclor® 1260	mg/kg											

830190225

Table Q-2. (cont.)

Analyte	Units	Survey Station:	B-76	B-76	B-77	B-78	B-79	B-79	B-8	B-8	B-80	B-81
		Date:	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90
		Subsample:	1	2	1	1	1	2	1	2	0	1
		Upper Depth (ft):	0	2	0	0	0	1.5	0.5	3	0	0
		Lower Depth (ft):	0.5	2.5	0.5	0.5	0.5	2	1	3.5	0.5	0.5
Metals												
Antimony	mg/kg											
Arsenic	mg/kg		21.0	200		85.0						
Beryllium	mg/kg			2.20								1.60
Cadmium	mg/kg		3.90	42.0		16.0	8.60		110		10.0	10.0
Chromium	mg/kg		370	5,700		210					450	270
Copper	mg/kg			980		370				290	210	210
Lead	mg/kg			370		300						
Mercury (total)	mg/kg		23.0	17.0	4.00	75.0				2.90	180	38.0
Nickel	mg/kg			140		120						
Selenium	mg/kg											
Silver	mg/kg			15.0							8.50	
Thallium	mg/kg											
Zinc	mg/kg		890	4,200		1,400	5,300	520	15,000		5,100	4,000
Volatile Organic Compounds												
Benz[a]anthracene	µg/kg											
Chrysene	µg/kg											
Benzo[b]fluoranthene	µg/kg											
Benzo[k]fluoranthene	µg/kg											
Benzo[a]pyrene	µg/kg											
Indeno[1,2,3-cd]pyrene	µg/kg											
Dibenz[a,h]anthracene	µg/kg											
bis[2-Ethylhexyl]phthalate	µg/kg											
Pesticides/Polychlorinated Biphenyls												
Aldrin	mg/kg											
Dieldrin	mg/kg											
Endosulfan sulfate	mg/kg											
4,4'-DDD	mg/kg											
4,4'-DDE	mg/kg											
4,4'-DDT	mg/kg											
Aroclor® 1248	mg/kg		1.7				0.450				3.7	55.0
Aroclor® 1254	mg/kg						0.720					
Aroclor® 1260	mg/kg											

830190226

Table Q-2. (cont.)

Analyte	Units	Survey Station:	B-81	B-82	B-82	B-83	B-83	B-84	B-84	B-85	B-85	B-86
		Date:	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90
		Subsample:	2	1	2	1	2	1	2	1	3	2
		Upper Depth (ft):	2	0	1.5	0	1.5	0	1.5	1.9	4	3
		Lower Depth (ft):	2.5	0.5	2	0.5	2	0.5	2	2.4	4.5	3.5
Metals												
Antimony	mg/kg											
Arsenic	mg/kg									290		
Beryllium	mg/kg			95.0						1.90	1.10	1.00
Cadmium	mg/kg			10.0		8.20		5.00	4.00	130	4.40	15.0
Chromium	mg/kg			320				160		1,900	110	220
Copper	mg/kg									650		
Lead	mg/kg				290	420	420	360	550	470		
Mercury (total)	mg/kg		2.50	43.0				20.0		740	21.0	92.0
Nickel	mg/kg									150		
Selenium	mg/kg											
Silver	mg/kg									6.00		
Thallium	mg/kg									11.0		
Zinc	mg/kg		2,600	2,100	650	2,500	890	960	3,000	63,000	5,700	7,300
Volatile Organic Compounds												
Benz[a]anthracene	µg/kg											
Chrysene	µg/kg											
Benzo[b]fluoranthene	µg/kg											
Benzo[k]fluoranthene	µg/kg											
Benzo[a]pyrene	µg/kg											
Indeno[1,2,3-cd]pyrene	µg/kg											
Dibenz[a,h]anthracene	µg/kg											
bis[2-Ethylhexyl]phthalate	µg/kg											
Pesticides/Polychlorinated Biphenyls												
Aldrin	mg/kg											
Dieldrin	mg/kg											
Endosulfan sulfate	mg/kg											
4,4'-DDD	mg/kg											
4,4'-DDE	mg/kg											
4,4'-DDT	mg/kg											
Aroclor® 1248	mg/kg		290							37.0	1.2	
Aroclor® 1254	mg/kg					2.3						
Aroclor® 1260	mg/kg											

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Table Q-2. (cont.)

Analyte	Units	Survey Station:	B-87	B-88	B-89	B-89	B-9	B-9	B-90	B-90	B-91	B-91
		Date:	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90
		Subsample:	0	0	1	2	1	2	1	2	1	2
		Upper Depth (ft):	2	1.5	1.5	3	1	3.5	1	1.5	1.5	3.5
		Lower Depth (ft):	2.5	2	2	3.5	1.5	4	1.5	2	2	4
Metals												
Antimony	mg/kg											
Arsenic	mg/kg		66.0	330	74.0	26.0			82.0		37.0	
Beryllium	mg/kg		1.80	2.10		1.40						
Cadmium	mg/kg		58.0	140	94.0	5.20	8.40		39.0		70.0	
Chromium	mg/kg		1,300	2,300	1,600	110	850		760		550	
Copper	mg/kg		670	1,100	1,200	460			480		680	
Lead	mg/kg		360	420	610	250			410		400	
Mercury (total)	mg/kg		230	800	330	21.0	1.60		150	10.0	96.0	
Nickel	mg/kg		100	230								
Selenium	mg/kg											
Silver	mg/kg		5.00	10.0	5.00						10.0	
Thallium	mg/kg			13.0	5.00						18.0	
Zinc	mg/kg		34,000	100,000	36,000	2,700	18,000	480	25,000	580	62,000	
Volatile Organic Compounds												
Benz[a]anthracene	µg/kg											
Chrysene	µg/kg											
Benzo[b]fluoranthene	µg/kg											
Benzo[k]fluoranthene	µg/kg											
Benzo[a]pyrene	µg/kg											
Indeno[1,2,3-cd]pyrene	µg/kg											
Dibenz[a,h]anthracene	µg/kg											
bis[2-Ethylhexyl]phthalate	µg/kg											
Pesticides/Polychlorinated Biphenyls												
Aldrin	mg/kg		2.0	4.3					2.3			
Dieldrin	mg/kg											
Endosulfan sulfate	mg/kg											
4,4'-DDD	mg/kg											
4,4'-DDE	mg/kg			0.86								
4,4'-DDT	mg/kg			1.4								
Aroclor® 1248	mg/kg		30.0	75.0	6.5				37.0		180.0	33.0
Aroclor® 1254	mg/kg											
Aroclor® 1260	mg/kg											

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Table Q-2. (cont.)

Analyte	Units	Survey Station:	B-91	B-92	B-92	B-93	B-93	B-95	B-95	B-96	B-98	B-99
		Date:	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90	4/10/90
		Subsample:	3	1	2	1	2	1	2	1	1	1
		Upper Depth (ft):	5.7	1.5	4	2	3.5	2	9.5	11.5	2	2
		Lower Depth (ft):	6.2	2	4.5	2.5	4	2.5	10	12	2.5	2.5
Metals												
Antimony	mg/kg											
Arsenic	mg/kg		26.0	47.0	160							
Beryllium	mg/kg		1.40		1.40	1.00						
Cadmium	mg/kg		16.0	66.0	53.0	17.0						
Chromium	mg/kg		220	780	590	120						200
Copper	mg/kg		800	430	320			200				
Lead	mg/kg		330	430		440						
Mercury (total)	mg/kg		63.0	140	210	33.0			1.10	7.40	1.00	9.00
Nickel	mg/kg			140				110	170			
Selenium	mg/kg											
Silver	mg/kg			5.00								
Thallium	mg/kg											
Zinc	mg/kg		46,000	150,000	38,000	1,100	610	520		570	530	650
Volatile Organic Compounds												
Benz[a]anthracene	µg/kg											
Chrysene	µg/kg											
Benzo[b]fluoranthene	µg/kg											
Benzo[k]fluoranthene	µg/kg											
Benzo[a]pyrene	µg/kg											
Indeno[1,2,3-cd]pyrene	µg/kg											
Dibenz[a,h]anthracene	µg/kg											
bis[2-Ethylhexyl]phthalate	µg/kg											
Pesticides/Polychlorinated Biphenyls												
Aldrin	mg/kg			24.0	1.8							
Dieldrin	mg/kg											
Endosulfan sulfate	mg/kg											
4,4'-DDD	mg/kg											5.3
4,4'-DDE	mg/kg											0.8
4,4'-DDT	mg/kg											18.0
Aroclor® 1248	mg/kg		4.1	330.0	29.0			1.1				
Aroclor® 1254	mg/kg											
Aroclor® 1260	mg/kg											

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Table Q-2. (cont.)

Analyte	Units	Survey Station: B-99 Date: 4/10/90 Subsample: 2 Upper Depth (ft): 4 Lower Depth (ft): 4.5
Metals		
Antimony	mg/kg	
Arsenic	mg/kg	
Beryllium	mg/kg	
Cadmium	mg/kg	
Chromium	mg/kg	
Copper	mg/kg	
Lead	mg/kg	
Mercury (total)	mg/kg	
Nickel	mg/kg	
Selenium	mg/kg	
Silver	mg/kg	
Thallium	mg/kg	
Zinc	mg/kg	
Volatile Organic Compounds		
Benz[a]anthracene	µg/kg	
Chrysene	µg/kg	
Benzo[b]fluoranthene	µg/kg	
Benzo[k]fluoranthene	µg/kg	
Benzo[a]pyrene	µg/kg	
Indeno[1,2,3-cd]pyrene	µg/kg	
Dibenz[a,h]anthracene	µg/kg	
bis[2-Ethylhexyl]phthalate	µg/kg	
Pesticides/Polychlorinated Biphenyls		
Aldrin	mg/kg	
Dieldrin	mg/kg	
Endosulfan sulfate	mg/kg	
4,4'-DDD	mg/kg	0.56
4,4'-DDE	mg/kg	0.14
4,4'-DDT	mg/kg	1.5
Aroclor® 1248	mg/kg	
Aroclor® 1254	mg/kg	
Aroclor® 1260	mg/kg	

Note: Only data that exceeded Environmental Cleanup Responsibility Act guidelines were reported.

Source: IT (1991c,d).

830190230

Table Q-3. Diamond Shamrock/Henkel perimeter soil data for metals, organics, pesticides/PCBs

Analyte	Units	Survey Station:	PS-11	PS-11	PS-12	PS-13	PS-13	PS-13	PS-14	PS-14
		Date:	8/18/98	8/18/98	8/18/98	8/18/98	8/18/98	8/18/98	8/18/98	8/18/98
		Subsample:	1	2	0	1	2	3	1	2
		Upper Depth (ft):	0.5	2	0.5	0.5	2	3.5	0.5	2
		Lower Depth (ft):	1	2.5	1	1	2.5	4	1	2.5
Metals										
Antimony	mg/kg									
Arsenic	mg/kg									
Beryllium	mg/kg									
Cadmium	mg/kg			57.0			17.7	1.40		8.20
Chromium	mg/kg									
Copper	mg/kg									
Lead	mg/kg									
Mercury (total)	mg/kg		16.2							
Nickel	mg/kg									
Selenium	mg/kg									
Silver	mg/kg									
Thallium	mg/kg									
Zinc	mg/kg		1,950	56,400			45,400	1,710		17,100
Semivolatile Organic Compounds										
Benz[a]anthracene	µg/kg					14,000			8,300	
Chrysene	µg/kg					16,000			9,400	
Benzo[b]fluoranthene	µg/kg		1,200		1,600	14,000	1,200		9,700	1,400
Benzo[k]fluoranthene	µg/kg					5,000			3,700	
Benzo[a]pyrene	µg/kg		670		780	12,000			6,900	690
Indeno[1,2,3-cd]pyrene	µg/kg					2,800			2,800	
Dibenz[a,h]anthracene	µg/kg					830			790	
bis[2-Ethylhexyl]phthalate	µg/kg									
Pesticides/Polychlorinated Biphenyls										
Aldrin	mg/kg									
Dieldrin	mg/kg									
Endosulfan sulfate	mg/kg									
4,4'-DDD	mg/kg									
4,4'-DDE	mg/kg									
4,4'-DDT	mg/kg									
Aroclor® 1248	mg/kg									
Aroclor® 1254	mg/kg						0.780			0.740
Aroclor® 1260	mg/kg									

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Table Q-3. (cont.)

Analyte	Units	Survey Station:	PS-15	PS-15	PS-16	PS-18	PS-18	PS-18	PS-19	PS-21
		Date:	8/18/98	8/18/98	8/18/98	8/18/98	8/18/98	8/18/98	8/18/98	8/18/98
		Subsample:	1	2	0	1	2	3	0	0
		Upper Depth (ft):	0.5	2	0.5	0.5	2	3.5	0.5	2
		Lower Depth (ft):	1	2.5	1	1	2.5	4	1	2.5
Metals										
Antimony	mg/kg									
Arsenic	mg/kg							120		
Beryllium	mg/kg									
Cadmium	mg/kg			8.60	1.10	1.30	2.30		1.40	
Chromium	mg/kg									
Copper	mg/kg									1,910
Lead	mg/kg					824	1,660			
Mercury (total)	mg/kg									
Nickel	mg/kg									
Selenium	mg/kg									
Silver	mg/kg									
Thallium	mg/kg							3.20		
Zinc	mg/kg			13,900	1,900					
Semivolatile Organic Compounds										
Benz[a]anthracene	µg/kg		2,800	18,000			1,700			
Chrysene	µg/kg			18,000						
Benzo[b]fluoranthene	µg/kg		5,200	18,000		960	2,200			
Benzo[k]fluoranthene	µg/kg		1,800	7,400						
Benzo[a]pyrene	µg/kg		2,800	14,000			1,700			
Indeno[1,2,3-cd]pyrene	µg/kg			5,700			940			
Dibenz[a,h]anthracene	µg/kg			1,400						
bis[2-Ethylhexyl]phthalate	µg/kg						110,000		130,000	
Pesticides/Polychlorinated Biphenyls										
Aldrin	mg/kg									
Dieldrin	mg/kg									
Endosulfan sulfate	mg/kg									
4,4'-DDD	mg/kg									
4,4'-DDE	mg/kg									
4,4'-DDT	mg/kg									
Aroclor® 1248	mg/kg									
Aroclor® 1254	mg/kg								0.630	
Aroclor® 1260	mg/kg									

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Table Q-3. (cont.)

Analyte	Units	Survey Station:	PS-22	PS-22	PS-23	PS-23	PS-24	PS-24	PS-24	PS-25
		Date:	8/18/98	8/18/98	8/18/98	8/18/98	8/18/98	8/18/98	8/18/98	8/18/98
		Subsample:	1	2	1	2	1	2	3	1
		Upper Depth (ft):	0.5	3.5	0.5	2	0.5	2	3.5	0.5
		Lower Depth (ft):	1	4	1	2.5	1	2.5	4	1
Metals										
Antimony	mg/kg		277							
Arsenic	mg/kg									
Beryllium	mg/kg									
Cadmium	mg/kg		9.40	2.50						
Chromium	mg/kg									
Copper	mg/kg									
Lead	mg/kg		32,200							
Mercury (total)	mg/kg									
Nickel	mg/kg									
Selenium	mg/kg									
Silver	mg/kg									
Thallium	mg/kg									
Zinc	mg/kg		5,710							
Semivolatile Organic Compounds										
Benz[a]anthracene	µg/kg		2,600		7,300	18,000	1,500	5,800	3,800	6,800
Chrysene	µg/kg					18,000				
Benzo[b]fluoranthene	µg/kg		4,400		10,000	22,000	2,300	8,400	5,400	9,100
Benzo[k]fluoranthene	µg/kg		1,800		3,800	9,000	940	3,200	2,100	3,900
Benzo[a]pyrene	µg/kg		3,000		7,600	17,000	1,700	6,000	4,100	7,000
Indeno[1,2,3-cd]pyrene	µg/kg		2,000		2,800	7,100		1,900	1,500	2,600
Dibenz[a,h]anthracene	µg/kg				680	1,600				
bis[2-Ethylhexyl]phthalate	µg/kg		110,000							
Pesticides/Polychlorinated Biphenyls										
Aldrin	mg/kg									
Dieldrin	mg/kg									
Endosulfan sulfate	mg/kg									
4,4'-DDD	mg/kg									
4,4'-DDE	mg/kg									
4,4'-DDT	mg/kg									
Aroclor® 1248	mg/kg					1.00			0.610	
Aroclor® 1254	mg/kg		0.540							
Aroclor® 1260	mg/kg		1.30							

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Table Q-3. (cont.)

Analyte	Units	Survey Station:	PS-25	PS-26	PS-26	PS-26	PS-27	PS-27	PS-27
		Date:	8/18/98	8/18/98	8/18/98	8/18/98	8/18/98	8/18/98	8/18/98
		Subsample:	2	1	2	3	1	2	3
		Upper Depth (ft):	2	0.5	2	3.5	0.5	2	3.5
		Lower Depth (ft):	2.5	1	2.5	4	1	2.5	4
Metals									
Antimony	mg/kg								
Arsenic	mg/kg								
Beryllium	mg/kg								
Cadmium	mg/kg			4.10	1.10		2.30		
Chromium	mg/kg								
Copper	mg/kg								
Lead	mg/kg								
Mercury (total)	mg/kg			55.4			18.4		
Nickel	mg/kg								
Selenium	mg/kg								
Silver	mg/kg								
Thallium	mg/kg								
Zinc	mg/kg								
Semivolatile Organic Compounds									
Benz[a]anthracene	µg/kg		8,500		1,400	5,900	1,800	6,900	
Chrysene	µg/kg							9,200	
Benzo[b]fluoranthene	µg/kg		10,000	1,300	2,400	6,900	2,000	6,600	1,200
Benzo[k]fluoranthene	µg/kg		4,300		1,100	3,200		2,200	
Benzo[a]pyrene	µg/kg		8,500	870	1,500	6,400	1,900	5,400	900
Indeno[1,2,3-cd]pyrene	µg/kg		3,300			3,600		1,600	
Dibenz[a,h]anthracene	µg/kg		700			820			
bis[2-Ethylhexyl]phthalate	µg/kg								
Pesticides/Polychlorinated Biphenyls									
Aldrin	mg/kg								
Dieldrin	mg/kg								
Endosulfan sulfate	mg/kg								
4,4'-DDD	mg/kg								
4,4'-DDE	mg/kg								
4,4'-DDT	mg/kg								
Aroclor® 1248	mg/kg		0.830	1.80					
Aroclor® 1254	mg/kg			1.40					
Aroclor® 1260	mg/kg								

830190234

Table Q-3. (cont.)

Analyte	Units	Survey Station:	PS-28	PS-28	PS-28	PS-28	PS-29	PS-29	PS-31	PS-31
		Date:	8/18/98	8/18/98	8/18/98	8/18/98	8/18/98	8/18/98	8/18/98	8/18/98
		Subsample:	1	2	3	4	1	2	1	2
		Upper Depth (ft):	0.5	2	3.5	7	0	1.5	0	1.5
		Lower Depth (ft):	1	2.5	4	7.5	0.5	2	0.5	2
Metals										
Antimony	mg/kg									
Arsenic	mg/kg							26.9	57.8	105
Beryllium	mg/kg									
Cadmium	mg/kg						3.50	3.30	15.1	33.5
Chromium	mg/kg									
Copper	mg/kg									
Lead	mg/kg								441	
Mercury (total)	mg/kg						25.5	21.6	202	150
Nickel	mg/kg								389	
Selenium	mg/kg									
Silver	mg/kg									
Thallium	mg/kg									
Zinc	mg/kg								3,280	3,330
Semivolatile Organic Compounds										
Benz[a]anthracene	µg/kg		2,300	7,500	2,300	3,500	1,300			
Chrysene	µg/kg			9,900						
Benzo[b]fluoranthene	µg/kg		2,700	7,100	2,900	3,800	1,800		1,600	
Benzo[k]fluoranthene	µg/kg		940	2,900	1,100	1,600				
Benzo[a]pyrene	µg/kg		2,300	6,400	2,300	2,800	1,300		740	
Indeno[1,2,3-cd]pyrene	µg/kg			1,800		1,000				
Dibenz[a,h]anthracene	µg/kg									
bis[2-Ethylhexyl]phthalate	µg/kg									
Pesticides/Polychlorinated Biphenyls										
Aldrin	mg/kg									
Dieldrin	mg/kg								0.0490	
Endosulfan sulfate	mg/kg									
4,4'-DDD	mg/kg									
4,4'-DDE	mg/kg									
4,4'-DDT	mg/kg									
Aroclor® 1248	mg/kg						2.20	0.680	5.50	2.00
Aroclor® 1254	mg/kg									
Aroclor® 1260	mg/kg									

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Table Q-3. (cont.)

Analyte	Units	Survey Station:	PS-32	PS-33	PS-34	PS-35	PS-35	PS-36	PS-36	PS-37
		Date:	8/18/98	8/18/98	8/18/98	8/18/98	8/18/98	8/18/98	8/18/98	8/18/98
		Subsample:	0	0	0	1	2	1	2	1
		Upper Depth (ft):	0	0	0	0	1.5	0	1.5	0
		Lower Depth (ft):	0.5	0.5	0.5	0.5	2	0.5	2	0.5
Metals										
Antimony	mg/kg									
Arsenic	mg/kg		48.8	27.0	49.3	33.2	49.3	38.0	24.7	59.1
Beryllium	mg/kg									
Cadmium	mg/kg		11.1	10.8	11.9	12.1	15.5	15.1	2.70	23.3
Chromium	mg/kg									
Copper	mg/kg									
Lead	mg/kg									
Mercury (total)	mg/kg		34.5	77.0	63.4	116		74.0		334
Nickel	mg/kg			336						
Selenium	mg/kg									
Silver	mg/kg									
Thallium	mg/kg									
Zinc	mg/kg			1,890		1,980		1,720		3,240
Semivolatile Organic Compounds										
Benz[a]anthracene	µg/kg									
Chrysene	µg/kg									
Benzo[b]fluoranthene	µg/kg			1,200		1,300				1,400
Benzo[k]fluoranthene	µg/kg									
Benzo[a]pyrene	µg/kg									670
Indeno[1,2,3-cd]pyrene	µg/kg									
Dibenz[a,h]anthracene	µg/kg									
bis[2-Ethylhexyl]phthalate	µg/kg									
Pesticides/Polychlorinated Biphenyls										
Aldrin	mg/kg									
Dieldrin	mg/kg									
Endosulfan sulfate	mg/kg									
4,4'-DDD	mg/kg									
4,4'-DDE	mg/kg									
4,4'-DDT	mg/kg									
Aroclor® 1248	mg/kg		1.10	2.80	1.80	2.30		4.30	0.840	6.10
Aroclor® 1254	mg/kg									
Aroclor® 1260	mg/kg									

Table Q-3. (cont.)

Analyte	Units	Survey Station:	PS-37	PS-38	PS-38	PS-39	PS-40	PS-7	PS-8
		Date:	8/18/98	8/18/98	8/18/98	8/18/98	8/18/98	8/18/98	8/18/98
		Subsample:	2	1	2	0	0	0	0
		Upper Depth (ft):	1.5	0	1.5	6	7.5	2	0.5
		Lower Depth (ft):	2	0.5	2	6.5	8	2.5	1
Metals									
Antimony	mg/kg								
Arsenic	mg/kg		53.8	24.5	21.7				
Beryllium	mg/kg								
Cadmium	mg/kg		11.8	12.9	7.20		1.90		1.50
Chromium	mg/kg								
Copper	mg/kg								
Lead	mg/kg								
Mercury (total)	mg/kg		87.4	97.8	57.7				
Nickel	mg/kg								
Selenium	mg/kg								
Silver	mg/kg								
Thallium	mg/kg								
Zinc	mg/kg		1,890	1,840		1,650	2,120		2,100
Semivolatile Organic Compounds									
Benz[a]anthracene	µg/kg								
Chrysene	µg/kg								
Benzo[b]fluoranthene	µg/kg			1,900					
Benzo[k]fluoranthene	µg/kg								
Benzo[a]pyrene	µg/kg			900				770	
Indeno[1,2,3-cd]pyrene	µg/kg								
Dibenz[a,h]anthracene	µg/kg								
bis[2-Ethylhexyl]phthalate	µg/kg								
Pesticides/Polychlorinated Biphenyls									
Aldrin	mg/kg								
Dieldrin	mg/kg								
Endosulfan sulfate	mg/kg								
4,4'-DDD	mg/kg								
4,4'-DDE	mg/kg								
4,4'-DDT	mg/kg								
Aroclor® 1248	mg/kg		5.40	6.00	4.90				
Aroclor® 1254	mg/kg								
Aroclor® 1260	mg/kg								

Note: Only data that exceeded New Jersey Department of Environmental Protection residential cleanup criteria were reported.

Source: IT (1998).

\\oswego2\data\docs\8600B3N.001 0104\Tables.xls\Table Q-3

830190237

The attached figures and tables are reprints from the following document:

Exponent. 2003a. "Operable Unit 1: Phase 1A Supplemental Field Investigation Data Report For The Ventron/Velsicol Site, Wood Ridge/Carlstadt, NJ." Prepared by Exponent (Lake Oswego, OR) for Rohm and Haas Company (Mt. Prospect, IL). Doc #8600B3N.005 0404 1202 DL01

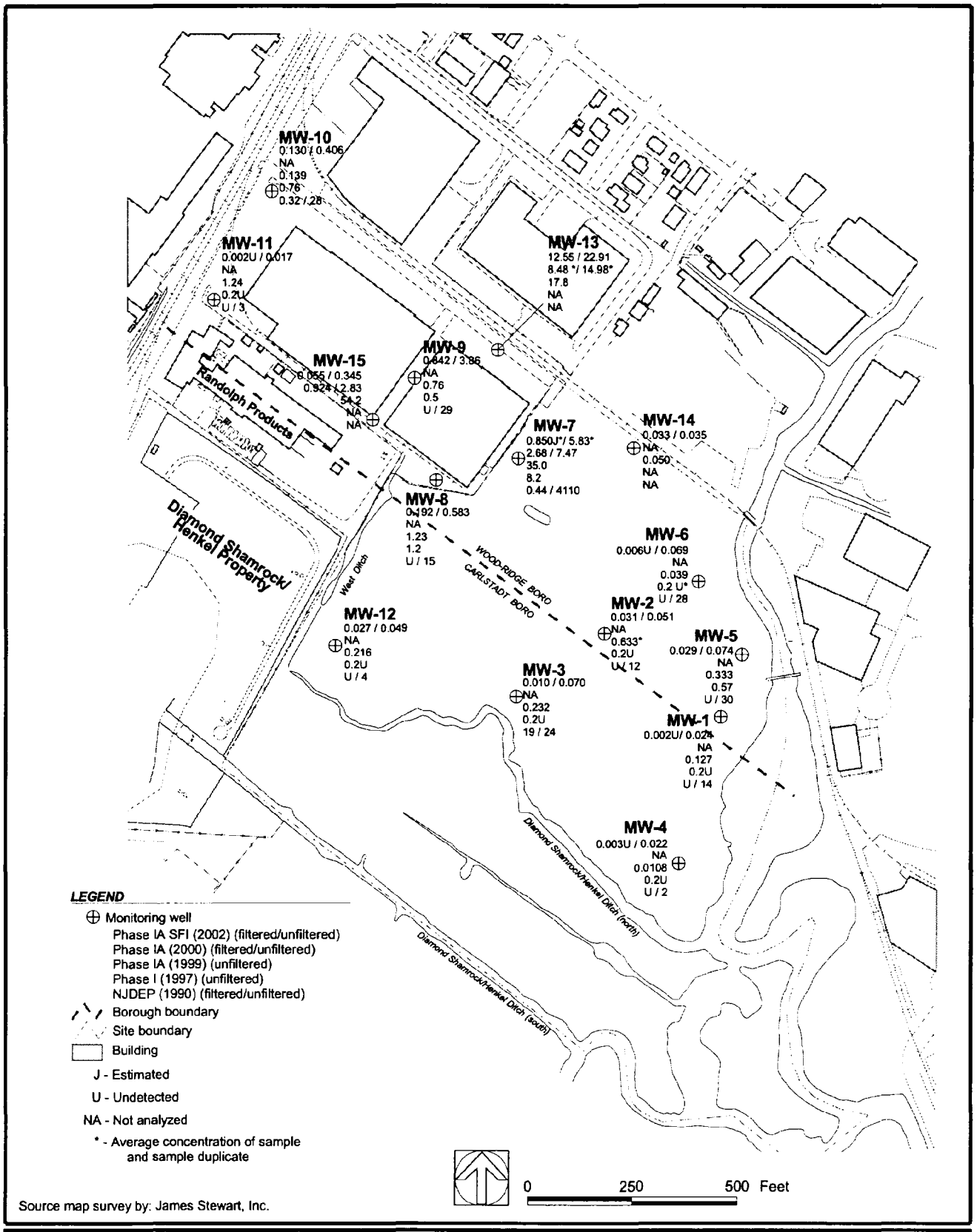
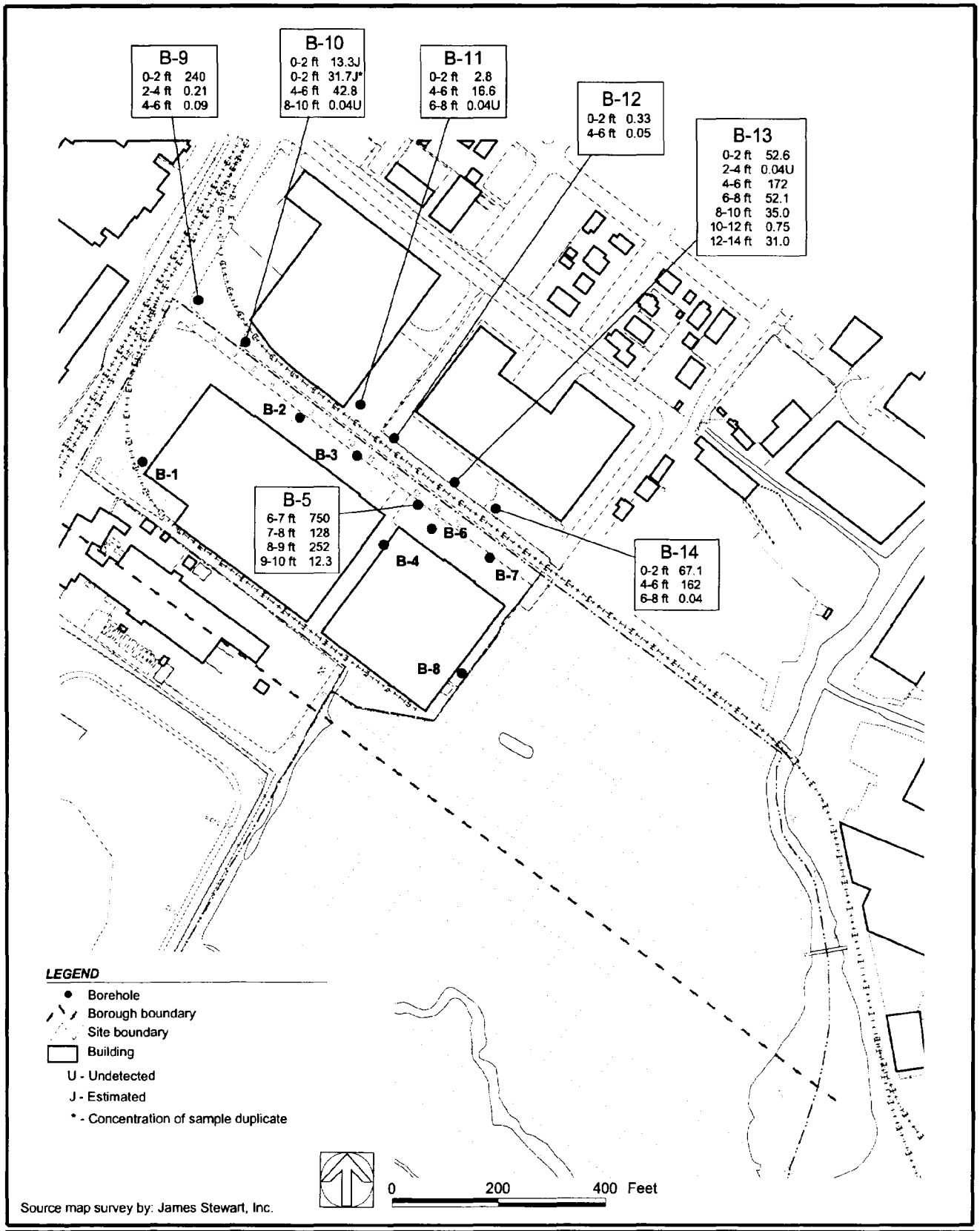


Figure 1. Mercury concentrations (μg/L) in groundwater

8600B3N.005.0404 12/6/02 OR / Mercury conc. liquid :/graphics/ventron_velsicol/woodridge_2.apr

825840014



Source map survey by: James Stewart, Inc.

Figure 3. Borehole locations and mercury concentrations (mg/kg) in soil

8600B3N.005.0404 | Dec 16,2002 | New boreholes | Preview | e:\graphics\ventron_velsicol\woodridge_2.apr

825840016

Table 2. Phase IA SFI groundwater analytical results with GWQS comparisons

			Sample Location and Date of Sample Collection							
			MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-7 (dup)
		NJ	GW0302	GW0304	GW0306	GW0305	GW0303	GW0310	GW0311	GW0312
Analyte	Units	GWQS	9/24/2002	9/25/2002	9/25/2002	9/25/2002	9/25/2002	9/26/2002	9/26/2002	9/26/2002
Metals										
Arsenic	µg/L	8	3.21 *U*	6.67 *U*	2.52 *U*	2.82 *U*	3.01 *U*	12.2	3.55 *U*	3.33 *U*
Barium	µg/L	2,000	493	1,100	150	592	670	194	363	372
Cadmium	µg/L	4	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.831	0.851
Copper	µg/L	1,000	20 *U*	20 *U*	20 *U*	20 *U*	20 *U*	20 *U*	20 *U*	20 *U*
Iron	µg/L	300	18,100	17,300	15,800	19,400	20,700	17,300	27,100	27,600
Lead	µg/L	10	5 *U*	5 *U*	5 *U*	5 *U*	5 *U*	5 *U*	5 *U*	5 *U*
Manganese	µg/L	50	838	1,200	2,820	1,050	1,040	3,730	861	889
Mercury (dissolved, filtered)	µg/L	2	0.002 *U*	0.031	0.010	0.003 *U*	0.029	0.006 *U*	1.06 *J*	0.637 *J*
Mercury (total, unfiltered)	µg/L	2	0.024	0.051	0.070	0.022	0.074	0.069	6.16	5.49
Nickel	µg/L	100	40 *U*	40 *U*	40 *U*	40 *U*	40 *U*	40 *U*	40 *U*	40 *U*
Thallium	µg/L	10	0.2 *U*	0.2973	0.2 *U*	0.2 *U*	0.2 *U*	0.2 *U*	0.2 *U*	0.2 *U*
Vanadium	µg/L	--	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*

825840021

Table 2. (cont.)

Analyte	Units	NJ GWQS	MW-8 GW0313 9/26/2002	MW-9 GW0316 9/27/2002	MW-10 GW0315 9/27/2002	MW-11 GW0301 9/24/2002	MW-12 GW0307 9/25/2002	MW-13 GW0314 9/26/2002	MW-14 GW0309 9/26/2002	MW-15 GW0317 9/27/2002
			Sample Location and Date of Sample Collection							
Metals										
Arsenic	µg/L	8	4.89 *U*	2.83 *U*	2.9 *U*	2.23 *U*	3.25 *U*	41.5	4.42 *U*	10.9
Barium	µg/L	2,000	395	20 *U*	471	315	90.3	338	300	75.4
Cadmium	µg/L	4	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
Copper	µg/L	1,000	20 *U*	20 *U*	20 *U*	20 *U*	20 *U*	20 *U*	20 *U*	20 *U*
Iron	µg/L	300	31,700	387	122	7,630	100	2,350	100 *U*	5,110
Lead	µg/L	10	5 *U*	5 *U*	5 *U*	5 *U*	5 *U*	5 *U*	5 *U*	5 *U*
Manganese	µg/L	50	4,180	10 *U*	366	681	182	1,380	3,690	1,500
Mercury (dissolved, filtered)	µg/L	2	0.192	0.842	0.130	0.002 *U*	0.027	12.55	0.033	0.055
Mercury (total, unfiltered)	µg/L	2	0.583	3.86	0.406	0.017	0.049	22.91	0.035	0.345
Nickel	µg/L	100	40 *U*	40 *U*	40 *U*	40 *U*	40 *U*	40 *U*	40 *U*	40 *U*
Thallium	µg/L	10	0.2 *U*	0.2 *U*	0.2 *U*	0.2 *U*	0.2 *U*	0.2 *U*	0.2 *U*	0.2 *U*
Vanadium	µg/L	--	50 *U*	50 *U*	50 *U*	62.9	50 *U*	50 *U*	50 *U*	50 *U*

Note:
-- - no criterion for this analyte
U - indicates that the compound was analyzed for but not detected
J - indicates an estimated concentration
dup - duplicate sample
GWQS - Groundwater Quality Standards (NJAC 7:9-6; January 1993)
SFI - supplemental field investigation

Boxed entries indicate measurements at or above the criteria value.

825840022

Table 3. Phase IA SFI groundwater analytical results with MCL comparisons

			Sample Location and Date of Sample Collection							
			MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-7 (dup)
			GW0302	GW0304	GW0306	GW0305	GW0303	GW0310	GW0311	GW0312
Analyte	Units	MCL	9/24/2002	9/25/2002	9/25/2002	9/25/2002	9/25/2002	9/26/2002	9/26/2002	9/26/2002
Metals										
Arsenic	µg/L	10	3.21 *U*	6.67 *U*	2.52 *U*	2.82 *U*	3.01 *U*	12.2	3.55 *U*	3.33 *U*
Barium	µg/L	2,000	493	1,100	150	592	670	194	363	372
Cadmium	µg/L	5	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.831	0.851
Copper	µg/L	1,300	20 *U*	20 *U*	20 *U*	20 *U*	20 *U*	20 *U*	20 *U*	20 *U*
Iron	µg/L	--	18,100	17,300	15,800	19,400	20,700	17,300	27,100	27,600
Lead	µg/L	15	5 *U*	5 *U*	5 *U*	5 *U*	5 *U*	5 *U*	5 *U*	5 *U*
Manganese	µg/L	--	838	1,200	2,820	1,050	1,040	3,730	861	889
Mercury (dissolved, filtered)	µg/L	2	0.002 *U*	0.031	0.010	0.003 *U*	0.029	0.006 *U*	1.06 *J*	0.637 *J*
Mercury (total, unfiltered)	µg/L	2	0.024	0.051	0.070	0.022	0.074	0.069	6.16	5.49
Nickel	µg/L	--	40 *U*	40 *U*	40 *U*	40 *U*	40 *U*	40 *U*	40 *U*	40 *U*
Thallium	µg/L	2	0.2 *U*	0.2973	0.2 *U*	0.2 *U*	0.2 *U*	0.2 *U*	0.2 *U*	0.2 *U*
Vanadium	µg/L	--	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*

825840023

Table 3. (cont.)

Analyte	Units	MCL	MW-8 GW0313 9/26/2002	MW-9 GW0316 9/27/2002	MW-10 GW0315 9/27/2002	MW-11 GW0301 9/24/2002	MW-12 GW0307 9/25/2002	MW-13 GW0314 9/26/2002	MW-14 GW0309 9/26/2002	MW-15 GW0317 9/27/2002
			Sample Location and Date of Sample Collection							
Metals										
Arsenic	µg/L	10	4.89 *U*	2.83 *U*	2.9 *U*	2.23 *U*	3.25 *U*	41.5	4.42 *U*	10.9
Barium	µg/L	2,000	395	20 *U*	471	315	90.3	338	300	75.4
Cadmium	µg/L	5	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
Copper	µg/L	1,300	20 *U*	20 *U*	20 *U*	20 *U*	20 *U*	20 *U*	20 *U*	20 *U*
Iron	µg/L	--	31,700	387	122	7,630	100	2,350	100 *U*	5,110
Lead	µg/L	15	5 *U*	5 *U*	5 *U*	5 *U*	5 *U*	5 *U*	5 *U*	5 *U*
Manganese	µg/L	--	4,180	10 *U*	366	681	182	1,380	3,690	1,500
Mercury (dissolved, filtered)	µg/L	2	0.192	0.842	0.130	0.002 *U*	0.027	12.55	0.033	0.055
Mercury (total, unfiltered)	µg/L	2	0.583	3.86	0.406	0.017	0.049	22.91	0.035	0.345
Nickel	µg/L	--	40 *U*	40 *U*	40 *U*	40 *U*	40 *U*	40 *U*	40 *U*	40 *U*
Thallium	µg/L	2	0.2 *U*	0.2 *U*	0.2 *U*	0.2 *U*	0.2 *U*	0.2 *U*	0.2 *U*	0.2 *U*
Vanadium	µg/L	--	50 *U*	50 *U*	50 *U*	62.9	50 *U*	50 *U*	50 *U*	50 *U*

Note:
-- - no criterion for this analyte
U - indicates that the compound was analyzed for but not detected
J - indicates an estimated concentration
dup - duplicate sample
MCL - U.S. Environmental Protection Agency drinking water standard maximum contaminant level
SFI - supplemental field investigation

Boxed entries indicate measurements at or above the criteria value.

825840024

Table 4. Phase IA SFI groundwater analytical results for perimeter wells with SWQS comparisons

			Sample Location and Date of Sample Collection							
			MW-1	MW-3	MW-4	MW-5	MW-6	MW-8	MW-12	MW-15
		NJ	GW0302	GW0306	GW0305	GW0303	GW0310	GW0313	GW0307	GW0317
Analyte	Units	SWQS	9/24/2002	9/25/2002	9/25/2002	9/25/2002	9/26/2002	9/26/2002	9/25/2002	9/27/2002
Metals										
Arsenic	µg/L	0.017	3.21 *U*	2.52 *U*	2.82 *U*	3.01 *U*	12.2	4.89 *U*	3.25 *U*	10.9
Barium	µg/L	2,000	493	150	592	670	194	395	90.3	75.4
Cadmium	µg/L	10	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
Copper	µg/L	--	20 *U*	20 *U*	20 *U*	20 *U*	20 *U*	20 *U*	20 *U*	20 *U*
Iron	µg/L	--	18,100	15,800	19,400	20,700	17,300	31,700	100	5,110
Lead	µg/L	5	5 *U*	5 *U*	5 *U*	5 *U*	5 *U*	5 *U*	5 *U*	5 *U*
Manganese	µg/L	--	838	2,820	1,050	1,040	3,730	4,180	182	1,500
Mercury (dissolved, filtered)	µg/L	0.144	0.002 *U*	0.010	0.003 *U*	0.029	0.006 *U*	0.192	0.027	0.055
Mercury (total, unfiltered)	µg/L	0.144	0.024	0.070	0.022	0.074	0.069	0.583	0.049	0.345
Nickel	µg/L	516	40 *U*	40 *U*	40 *U*	40 *U*	40 *U*	40 *U*	40 *U*	40 *U*
Thallium	µg/L	1.7	0.2 *U*	0.2 *U*	0.2 *U*	0.2 *U*	0.2 *U*	0.2 *U*	0.2 *U*	0.2 *U*
Vanadium	µg/L	--	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*

Note:
- -- - no criterion for this analyte
- *U* - indicates that the compound was analyzed for but not detected
- *J* - indicates an estimated concentration
- dup - duplicate sample
- SFI - supplemental field investigation
- SWQS - New Jersey Surface Water Quality Standards for freshwater (NJAC 7:9B; January 1997)

Boxed entries indicate measurements at or above the criteria value.
Shaded entries indicate detection limits at or above the criteria value.

825840025

Table 5. Phase IA SFI borehole soil analytical results with NRDCSCC comparisons

			Sample Location and Date of Sample Collection								
Analyte	Units (dry wt.)	NJ NRDCSCC	B-5 SP0001 10/08/02 6 - 7 ft	B-5 SP0002 10/08/02 7 - 8 ft	B-5 SP0003 10/08/02 8 - 9 ft	B-5 SP0004 10/09/02 9 - 10 ft	B-9 SP0005 10/09/02 0 - 2 ft	B-9 SP0006 10/09/02 2 - 4 ft	B-9 SP0007 10/09/02 4 - 6 ft	B-10 SP0013 10/09/02 0 - 2 ft	B-10 (dup) SP0014 10/09/02 0 - 2 ft
Conventional parameters											
Total solids	%	--	79.9	83.0	86.9	80.3	77.8	85.2	80.7	85.4	87.7
Metals											
Arsenic	mg/kg	20									
Barium	mg/kg	40,100									
Cadmium	mg/kg	100									
Chromium	mg/kg	--									
Copper	mg/kg	600									
Iron	mg/kg	--									
Lead	mg/kg	600									
Manganese	mg/kg	--									
Mercury (total)	mg/kg	270	750	128	252	12.3	240	0.21	0.09	13.3 *J*	31.7 *J*
Nickel	mg/kg	2,400									
Selenium	mg/kg	3,100									
Silver	mg/kg	4,100									
Thallium	mg/kg	2									
Zinc	mg/kg	1,500									
Volatile organic compounds											
Benzene	µg/kg	13,000									
Chlorobenzene	µg/kg	680,000									
meta & para Xylenes	µg/kg	1,000,000									
ortho-Xylene	µg/kg	1,000,000									
Toluene	µg/kg	1,000,000									

825840026

Table 5. (cont.)

Analyte	Units (dry wt.)	NJ NRDCSCC	B-10 SP0015 10/09/02 4 - 6 ft	B-10 SP0016 10/09/02 8 - 10 ft	B-11 SP0018 10/10/02 0 - 2 ft	B-11 SP0019 10/10/02 4 - 6 ft	B-11 SP0020 10/10/02 6 - 8 ft	B-12 SP0023 11/13/02 0 - 2 ft	B-12 SP0024 11/13/02 4 - 6 ft	B-13 SP0038 11/13/02 0 - 2 ft	B-13 SP0039 11/13/02 2 - 4 ft	B-13 SP0040 11/13/02 4 - 6 ft
			Sample Location and Date of Sample Collection									
Conventional parameters												
Total solids	%	--	73.1	84.7	88.5	79.0	81.1	87.1	81.0	87.5	84.4	76.7
Metals												
Arsenic	mg/kg	20										
Barium	mg/kg	40,100										
Cadmium	mg/kg	100										
Chromium	mg/kg	--										
Copper	mg/kg	600										
Iron	mg/kg	--										
Lead	mg/kg	600										
Manganese	mg/kg	--										
Mercury (total)	mg/kg	270	42.8	0.04 *U*	2.8	16.6	0.04 *U*	0.33	0.05	52.6	0.04 *U*	172
Nickel	mg/kg	2,400										
Selenium	mg/kg	3,100										
Silver	mg/kg	4,100										
Thallium	mg/kg	2										
Zinc	mg/kg	1,500										
Volatile organic compounds												
Benzene	µg/kg	13,000										
Chlorobenzene	µg/kg	680,000										
meta & para Xylenes	µg/kg	1,000,000										
ortho-Xylene	µg/kg	1,000,000										
Toluene	µg/kg	1,000,000										

825840027

Table 5. (cont.)

Analyte	Units (dry wt.)	NJ NRDCSCC	Sample Location and Date of Sample Collection						
			B-13 SP0041 11/13/02 6 - 8 ft	B-13 SP0042 11/13/02 8 -10 ft	B-13 SP0043 11/13/02 10 - 12 ft	B-13 SP0044 11/13/02 12 - 14 ft	B-14 SP0054 11/13/02 0 - 2 ft	B-14 SP0055 11/13/02 4 - 6 ft	B-14 SP0056 11/13/02 6 - 8 ft
Conventional parameters									
Total solids	%	--	78.4	78.9	83.9	83.4	79.1	82.6	80.3
Metals									
Arsenic	mg/kg	20							
Barium	mg/kg	40,100							
Cadmium	mg/kg	100							
Chromium	mg/kg	--							
Copper	mg/kg	600							
Iron	mg/kg	--							
Lead	mg/kg	600							
Manganese	mg/kg	--							
Mercury (total)	mg/kg	270	52.1	35.0	0.75	31.0	67.1	162	0.04
Nickel	mg/kg	2,400							
Selenium	mg/kg	3,100							
Silver	mg/kg	4,100							
Thallium	mg/kg	2							
Zinc	mg/kg	1,500							
Volatile organic compounds									
Benzene	µg/kg	13,000							
Chlorobenzene	µg/kg	680,000							
meta & para Xylenes	µg/kg	1,000,000							
ortho-Xylene	µg/kg	1,000,000							
Toluene	µg/kg	1,000,000							

Notes:
- -- - no criterion for this analyte
- *U* - indicates that the compound was analyzed for but not detected
- *J* - indicates an estimated concentration
- dup - duplicate sample
- NRDCSCC - Non-Residential Direct Contact Soil Cleanup Criteria (NJAC 7:26; May 1999)
- SFI - supplemental field investigation

Boxed entries indicate measurements at or above the criteria value.

825840028

Table 6. Phase IA SFI offsite borehole soil analytical results with RDCSCC comparisons

			Sample Location and Date of Sample Collection								
			B-9	B-9	B-9	B-10	B-10 (dup)	B-10	B-10	B-11	B-11
			SP0005	SP0006	SP0007	SP0013	SP0014	SP0015	SP0016	SP0018	SP0019
	Units	NJ	10/09/02	10/09/02	10/09/02	10/09/02	10/09/02	10/09/02	10/09/02	10/10/02	10/10/02
Analyte	(dry wt.)	RDCSCC	0 - 2 ft	2 - 4 ft	4 - 6 ft	0 - 2 ft	0 - 2 ft	4 - 6 ft	6 - 8 ft	0 - 2 ft	4 - 6 ft
Conventional parameters											
Total solids	%	--	77.8	85.2	80.7	85.4	87.7	73.1	84.7	88.5	79.0
Metals											
Mercury (total)	mg/kg	14	240	0.21	0.09	13.3 *J*	31.7 *J*	42.8	0.04 *U*	2.8	16.6

825840029

Table 6. (cont.)

Analyte	Units (dry wt.)	NJ RDCSCC	B-11 SP0020 10/10/02 6 - 8 ft	B-12 SP0023 11/13/02 0 - 2 ft	B-12 SP0024 11/13/02 4 - 6 ft	B-13 SP0038 11/13/02 0 - 2 ft	B-13 SP0039 11/13/02 2 - 4 ft	B-13 SP0040 11/13/02 4 - 6 ft	B-13 SP0041 11/13/02 6 - 8 ft	B-13 SP0042 11/13/02 8 - 10 ft	B-13 SP0043 11/13/02 10 - 12 ft
			Sample Location and Date of Sample Collection								
Conventional parameters											
Total solids	%	--	81.1	87.1	81.0	87.5	84.4	76.7	78.4	78.9	83.9
Metals											
Mercury (total)	mg/kg	14	0.04 *U*	0.33	0.05	52.6	0.04 *U*	172	52.1	35.0	0.75

825840030

Table 6. (cont.)

Analyte	Units (dry wt.)	NJ RDCSCC	Sample Location and Date of Sample Collection: B-13 SP0044 11/13/02 12 - 14 ft	B-14 SP0054 11/13/02 0 - 2 ft	B-14 SP0055 11/13/02 4 - 6 ft	B-14 SP0056 11/13/02 6 - 8 ft
Conventional parameters						
Total solids	%	--	83.4	79.1	82.6	80.3
Metals						
Mercury (total)	mg/kg	14	31.0	67.1	162	0.04

Notes:

--	-	no criterion for this analyte
U	-	indicates that the compound was analyzed for but not detected
J	-	indicates an estimated concentration
dup	-	duplicate sample
RDCSCC	-	Residential Direct Contact Soil Cleanup Criteria (NJAC 7:26; May 1999)
SFI	-	supplemental field investigation

Boxed entries indicate measurements at or above the criteria value.

825840031

Table 7. Phase IA SFI borehole soil analytical results with SSL comparisons

			Sample Location and Date of Sample Collection								
			B-5	B-5	B-5	B-5	B-9	B-9	B-9	B-10	B-10 (dup)
			SP0001	SP0002	SP0003	SP0004	SP0005	SP0006	SP0007	SP0013	SP0014
	Units		10/08/02	10/08/02	10/08/02	10/09/02	10/09/02	10/09/02	10/09/02	10/09/02	10/09/02
Analyte	(dry wt.)	SSL	6 - 7 ft	7 - 8 ft	8 - 9 ft	9 - 10 ft	0 - 2 ft	2 - 4 ft	4 - 6 ft	0 - 2 ft	0 - 2 ft
Conventional parameters											
Total solids	%	--	79.9	83.0	86.9	80.3	77.8	85.2	80.7	85.4	87.7
Metals											
Arsenic	mg/kg	1									
Barium	mg/kg	82									
Cadmium	mg/kg	0.4									
Chromium	mg/kg	2									
Copper	mg/kg	--									
Iron	mg/kg	--									
Lead	mg/kg	400									
Manganese	mg/kg	--									
Mercury (total)	mg/kg	0.1	750	128	252	12.3	240	0.21	0.09	13.3 *J*	31.7 *J*
Nickel	mg/kg	7									
Selenium	mg/kg	0.3									
Silver	mg/kg	2									
Thallium	mg/kg	0.04									
Zinc	mg/kg	620									

825840032

Table 7. (cont.)

Analyte	Units (dry wt.)	SSL	B-10 SP0015 10/09/02 4 - 6 ft	B-10 SP0016 10/09/02 8 - 10 ft	B-11 SP0018 10/10/02 0 - 2 ft	B-11 SP0019 10/10/02 4 - 6 ft	B-11 SP0020 10/10/02 6 - 8 ft	B-12 SP0023 11/13/02 0 - 2 ft	B-12 SP0024 11/13/02 4 - 6 ft	B-13 SP0038 11/13/02 0 - 2 ft	B-13 SP0039 11/13/02 2 - 4 ft
			Sample Location and Date of Sample Collection								
Conventional parameters											
Total solids	%	--	73.1	84.7	88.5	79.0	81.1	87.1	81.0	87.5	84.4
Metals											
Arsenic	mg/kg	1									
Barium	mg/kg	82									
Cadmium	mg/kg	0.4									
Chromium	mg/kg	2									
Copper	mg/kg	--									
Iron	mg/kg	--									
Lead	mg/kg	400									
Manganese	mg/kg	--									
Mercury (total)	mg/kg	0.1	42.8	0.04 *U*	2.8	16.6	0.04 *U*	0.33	0.05	52.6	0.04 *U*
Nickel	mg/kg	7									
Selenium	mg/kg	0.3									
Silver	mg/kg	2									
Thallium	mg/kg	0.04									
Zinc	mg/kg	620									

825840033

Table 7. (cont.)

Analyte	Units (dry wt.)	SSL	B-13 SP0040 11/13/02 4 - 6 ft	B-13 SP0041 11/13/02 6 - 8 ft	B-13 SP0042 11/13/02 8 -10 ft	B-13 SP0043 11/13/02 10 - 12 ft	B-13 SP0044 11/13/02 12 - 14 ft	B-14 SP0054 11/13/02 0 - 2 ft	B-14 SP0055 11/13/02 4 - 6 ft	B-14 SP0056 11/13/02 6 - 8 ft
			Sample Location and Date of Sample Collection							
Conventional parameters										
Total solids	%	--	76.7	78.4	78.9	83.9	83.4	79.1	82.6	80.3
Metals										
Arsenic	mg/kg	1								
Barium	mg/kg	82								
Cadmium	mg/kg	0.4								
Chromium	mg/kg	2								
Copper	mg/kg	--								
Iron	mg/kg	--								
Lead	mg/kg	400								
Manganese	mg/kg	--								
Mercury (total)	mg/kg	0.1	172	52.1	35.0	0.75	31.0	67.1	162	0.04
Nickel	mg/kg	7								
Selenium	mg/kg	0.3								
Silver	mg/kg	2								
Thallium	mg/kg	0.04								
Zinc	mg/kg	620								

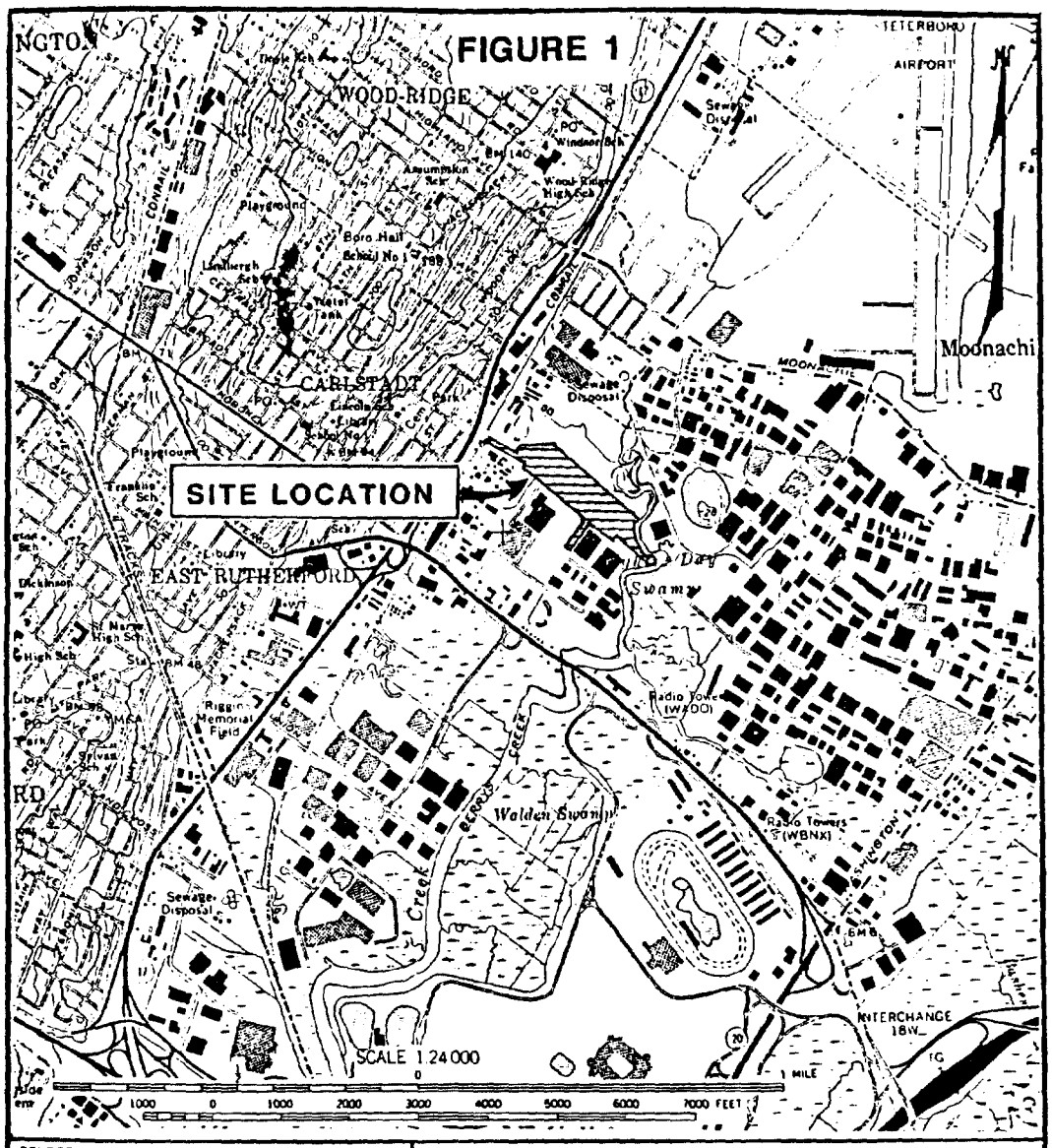
Notes:
-- - no criterion for this analyte
U - indicates that the compound was analyzed for but not detected
J - indicates an estimated concentration
dup - duplicate sample
SFI - supplemental field investigation
SSL - soil screening level for migration to groundwater with dilution attenuation factor of 1 (U.S. EPA 1996)

Boxed entries indicate measurements at or above the criteria value.
Shaded entries indicate detection limits at or above the critia value.

825840034

The attached figures and tables are reprints from the following document:

Paulus Sokolowski and Sartor, Inc. 1987. "Sampling Plan Results And Proposed Remediation Plan." Prepared by Paulus Sokolowski and Sartor, Inc. (Warren, NJ) for C&F Realty: Mitigation/Development Plan (Carlstadt, NJ). ACOE Application #87-921-J1.



SOURCE:
U.S.G.S. TOPOGRAPHIC MAP
7.5 MINUTE SERIES
WEEHAWKEN, N.J. QUAD.
DATUM: NGVD
ADJACENT PROPERTY OWNERS:
DIAMOND-SHAMROCK CHEM. CO
ARSYNCO INC.
GEORGE ABAD, T/A
KNICKERBOCKER ASSOC.
40 BROAD STREET ASSOC.
NEW M.P.I. CORP.
MORRIS PARK AVE. CORP.

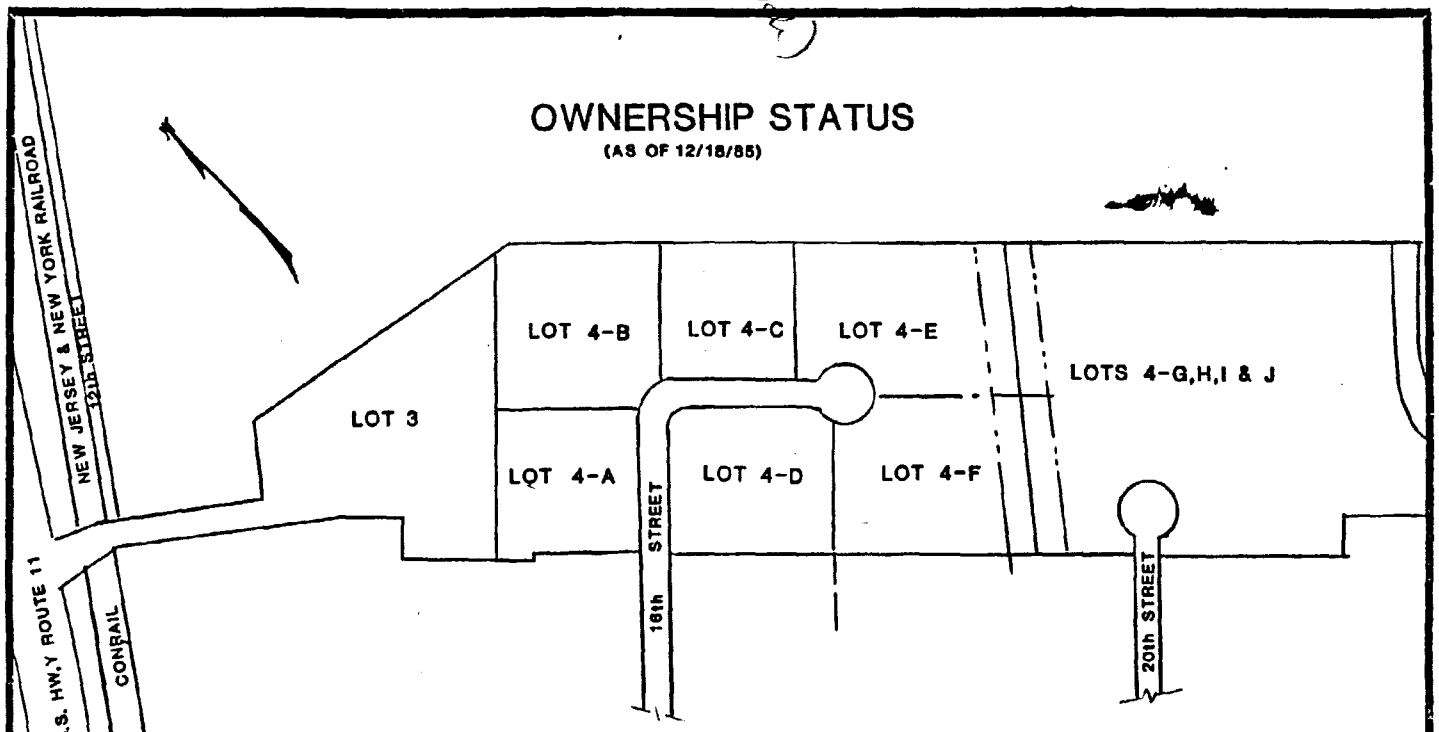
VICINITY MAP

C & F REALTY
WATERFRONT DEVELOPMENT PERMIT
Borough of Carlstadt — Bergen County, N.J.
Block 84 — Lots 3,& 4A-4J

PAULUS, SOKOLOWSKI & SARTOR
CONSULTING ENGINEERS
Warren, New Jersey

Drn. By: M.R.	Scale: As shown	Proj. No: 448-017
Ck'd By: S.O.	Date: 10/86	Sheet No. 1

829730009



BLOCK 84

LOT	OWNERSHIP STATUS
3	OWNED BY C & F REALTY
4-A	SOLD TO RICHARD F. HARRIES ON 12/4/84
4-B	SOLD TO JASG REALTY ON 11/20/84
4-C	OWNED BY C & F REALTY
4-D	SOLD TO SSANGYONG ON 4/4/85
4-E	OWNED BY C & F REALTY
4-F	OWNED BY C & F REALTY
4-G,H,I&J	OWNED BY C & F REALTY

C & F REALTY
MITIGATION / DEVELOPMENT PLAN
Borough of Carlstadt — Bergen County, N.J.

PAULUS, SOKOLOWSKI & SARTOR
CONSULTING ENGINEERS
Warren, New Jersey

Drn. By: M.R.	Scale: As shown	Proj. No: 448-017
Ck'd By: S.O.	Date: Rev. 4/86	Sheet No. 3 OF 9

FIGURE 2

829730010

TABLE 5-1

COMPARISON OF BULK SAMPLE RESULTS[1] WITH USEPA AND TAG CRITERIA

		BULK CONCENTRATIONS (MG/KG)		CRITERIA CONTRAVENTIONS[3]	
SAMPLE SITE	SAMPLE#	AS[2]	HG[2]	USEPA[4]	TAG[4]
CF-1	S1	54.7	548	X	
	S2	11.6	28.7	X	
	S3	2.95	<4.5		
	S4	.85	<2		
CF-2	S1	29.6	198	X	
	S2	1.78	11.2		X
	S3	45.4	122	X	
	S4	1.91	<1.5		
CF-3	S1	22.9	377	X	
	S2	21.5	19.2	X	
	S3	2.83	<7.5		
	S4	1.08	<2		
CFT-1	S1	17.7	439	X	
	S2	11.8	15.3	X	
	S3	2.14	<2		
	S4	12.9	61.3	X	
CFT-2	S1	20.7	78.6	X	
	S2	48.4	422	X	
	S3	6.40	22	X	
	S4	5.96	7.6		
CF-6	S1	11.4	110	X	
	S2	19.5	36.4	X	
	S3	14.3	8.2	X	
	S4	2.05	2.05		

829730023

SAMPLE SITE	SAMPLE#	BULK CONCENTRATIONS (MG/KG) AS[2]	HG[2]	CRITERIA CONTRAVENTIONS[3] USEPA[4]	TAG[4]
CF-8	S1	9.11	20.7	X	
	S2	25.8	41.6	X	
	S3	34.9	27.8	X	
	S4	7.56	16.3	X	
CF-10	S1	34	27.7	X	
	S2	4.38	<11	X	
	S3	12.1	86.9	X	
CF-11	S1	9.25	75	X	
	S2	26.0	18.4	X	
	S3	24.2	18.0	X	
CF-12	S1	17.0	65.6	X	
	S2	13.7	10.3	X	
	S3	16.6	54.9	X	
CF-14	S1	48.0	457	X	
	S2	10.2	112	X	
	S3	1.31	<2		
CF-17	S1	63.1	219	X	
	S2	38.5	60.5	X	
	S3	10.2	14.0	X	
CF-18	S1	18.7	<6.5	X	
	S2	7.01	<7.5		
	S3	23.4	<10	X	
	S4	7.42	8.59		
	S5	.88	<2		
CF-19	S1	24.1	346	X	
	S2	7.39	21.7	X	
	S3	4.40	33.2		

829730024

SAMPLE SITE	SAMPLE#	BULK CONCENTRATIONS (MG/KG) AS[2]	HG[2]	CRITERIA CONTRAVENTIONS[3] USEPA[4]	TAG[4]
CF-7	S1	19.1	42.5	X	
	S2	9.6	85.2		X
	S3	2.91	<8		
CF-13	S1	40.3	348	X	
	S2	46.7	138	X	
	S3	5.26	<7.5		
CF-16	S1	19.6	38.2	X	
	S2	.91	<8		
	S3	8.14	<10		
	S4	2.06	<7.5		
	S5	.43	<1.5		
CF-15	S1	12.8	44.8	X	
	S2	5.58	30.5	X	
	S3	17.3	363	X	
CF-5	S1	130	360	X	
	S2	24.4	134	X	
	S3	17.2	13.4	X	
	S4	4.53	13.7	X	
CF-4	S1	23.7	26.1	X	
	S2	52.1	449	X	
	S3	29.5	76.5	X	
	S4	3.6	10.5		
CF-9	S1	36.2	769	X	
	S2	23.7	7.93	X	
	S3	20.4	<5	X	
	S4	21.4	4.51	X	

829730025

NOTES

1. Source of Data is Garden State Laboratories, Inc. Report of March 12, 1987. Samples were taken on February 24 thru February 26, 1987.
2. As = Arsenic; Hg = Mercury
3. Where one pollutant contravened either the USEPA or TAG criteria at a particular sample number, it was assumed that the entire sample number was in contravention.
4. USEPA = 10 mg/Kg; TAG = 20 mg/Kg.
5. Field blank of each day of sampling had the following test results: As, < .001; Hg <.01.

The attached figures and tables are reprints from the following document:

Paulus Sokolowski and Sartor, Inc. 1988. "Results Of Soil Sampling Of Block 106A, Lot 21." Prepared by Paulus Sokolowski and Sartor, Inc. (Warren, NJ) for Eighty Associates (East Rutherford, NJ). ACOE Application #87-921-J1

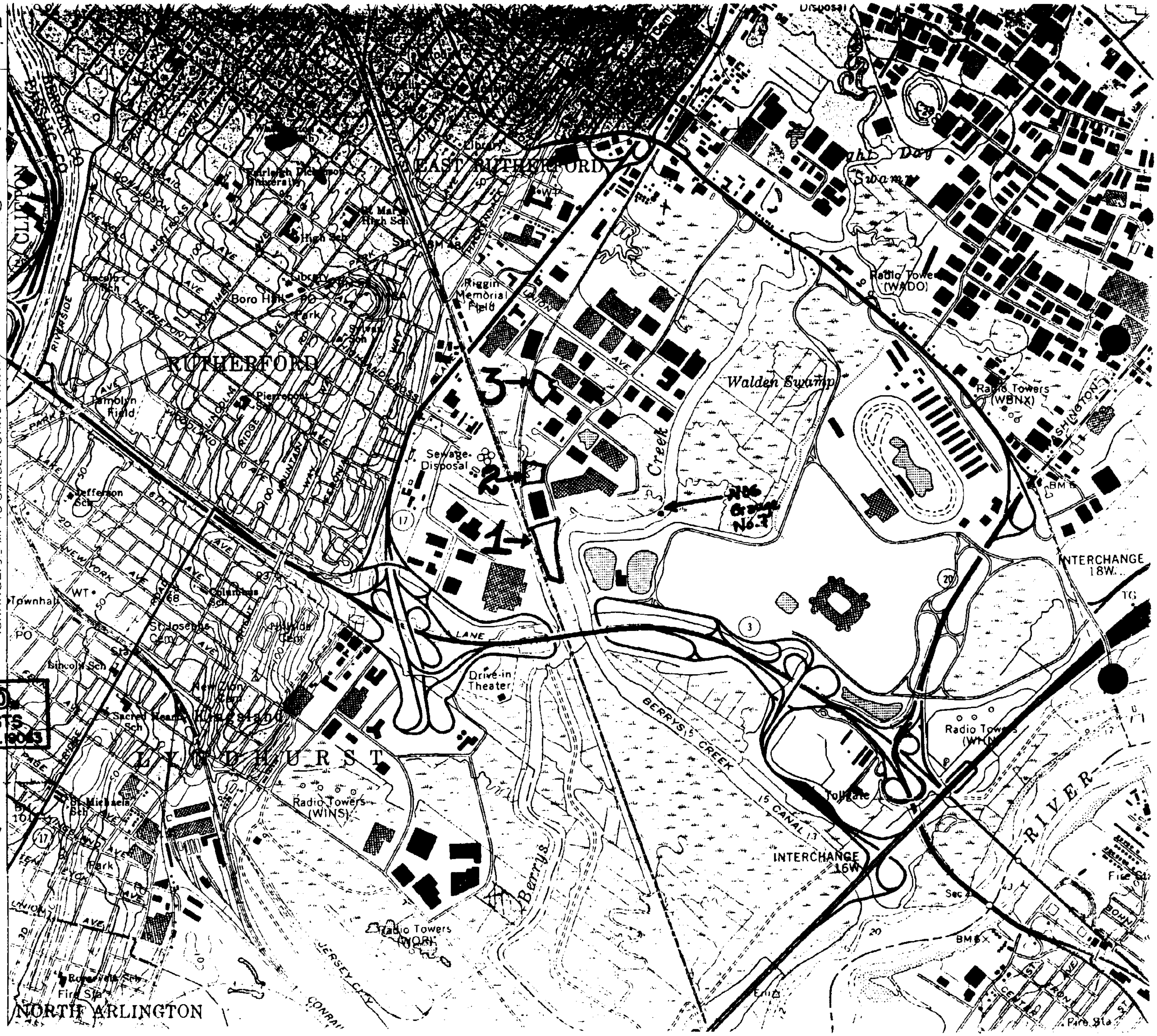
And

US Army Corps of Engineers Letter & Attachments. 1987. "Testing Data For Application No. 87-0921-Ja Eighty Associates." From: Richard Tomer, Department of the Army of Corps of Engineers (New York, NY). To: Mario DelVicario, USEPA

SHEET 1 of 3
Vicinity Map from
USGS Weehawken
Quadrangle
(photorevised 1981)

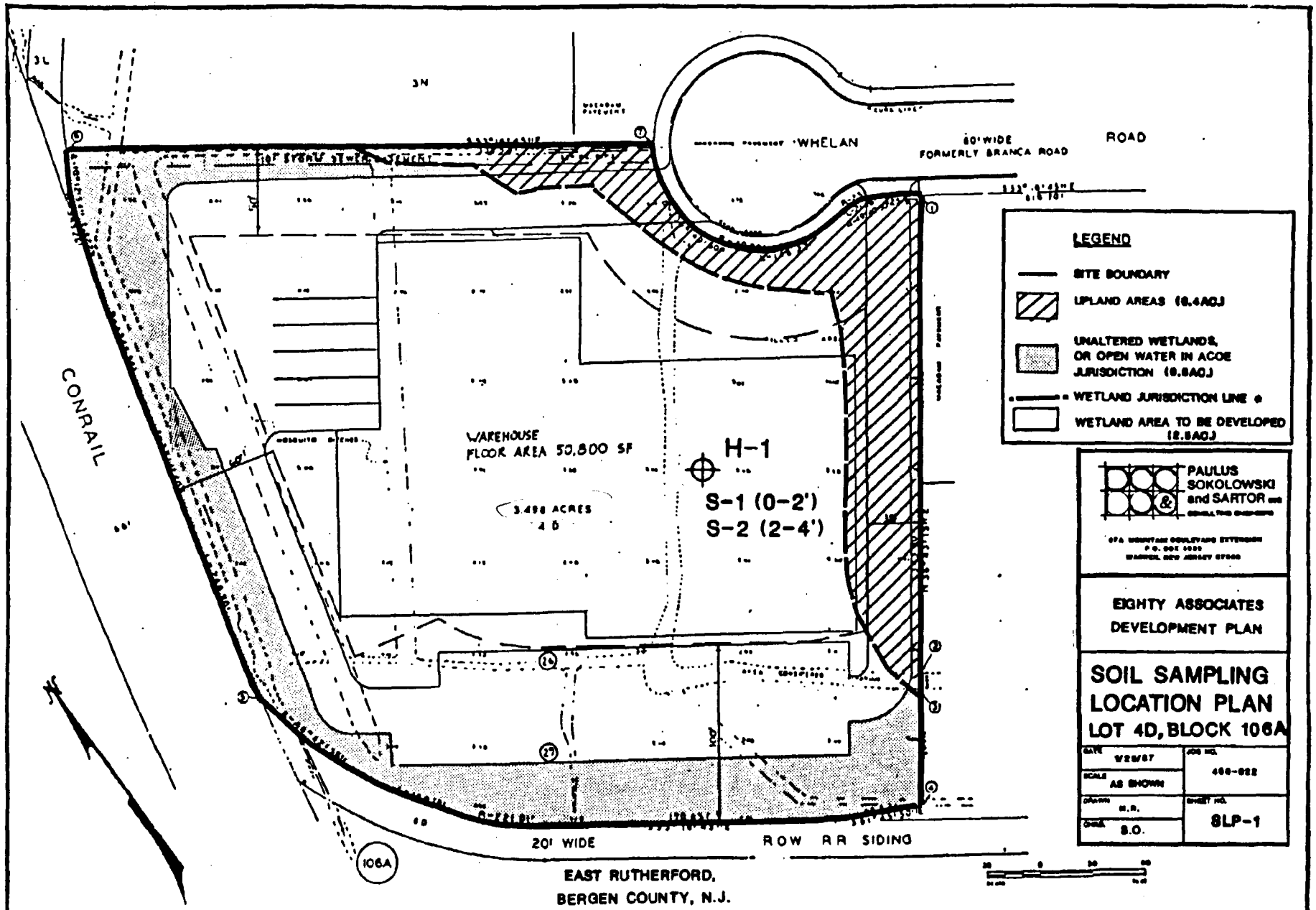
N

0 2000
FEET



SCHMID & CO.
CONSULTING ECOLOGISTS
80 Cedar Grove Road, Media, Pa. 19063

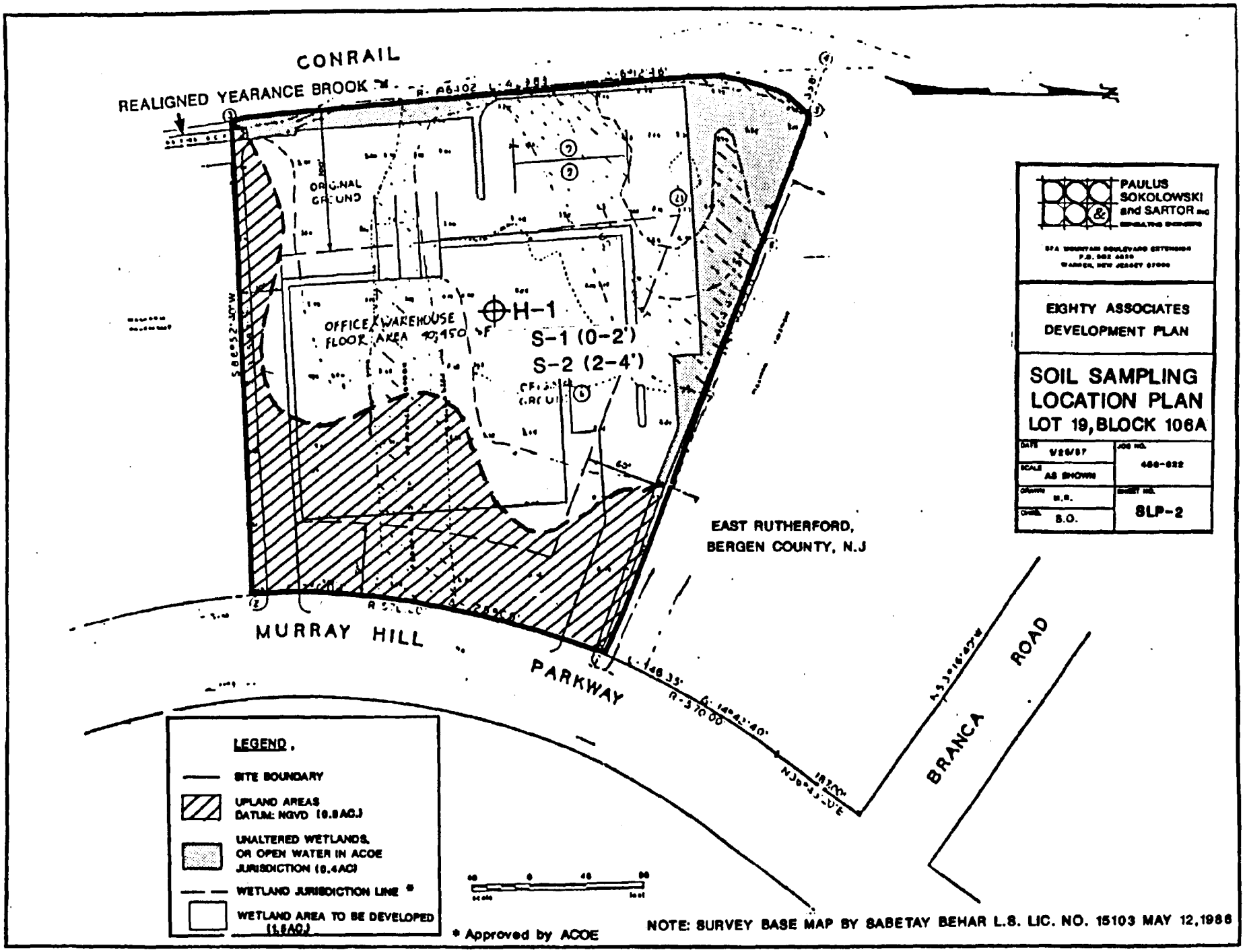
829950002



NOTE: SURVEY BASE MAP BY SABETAY BEHAR L.S. LIC. NO. 15103 MAY 12, 1986

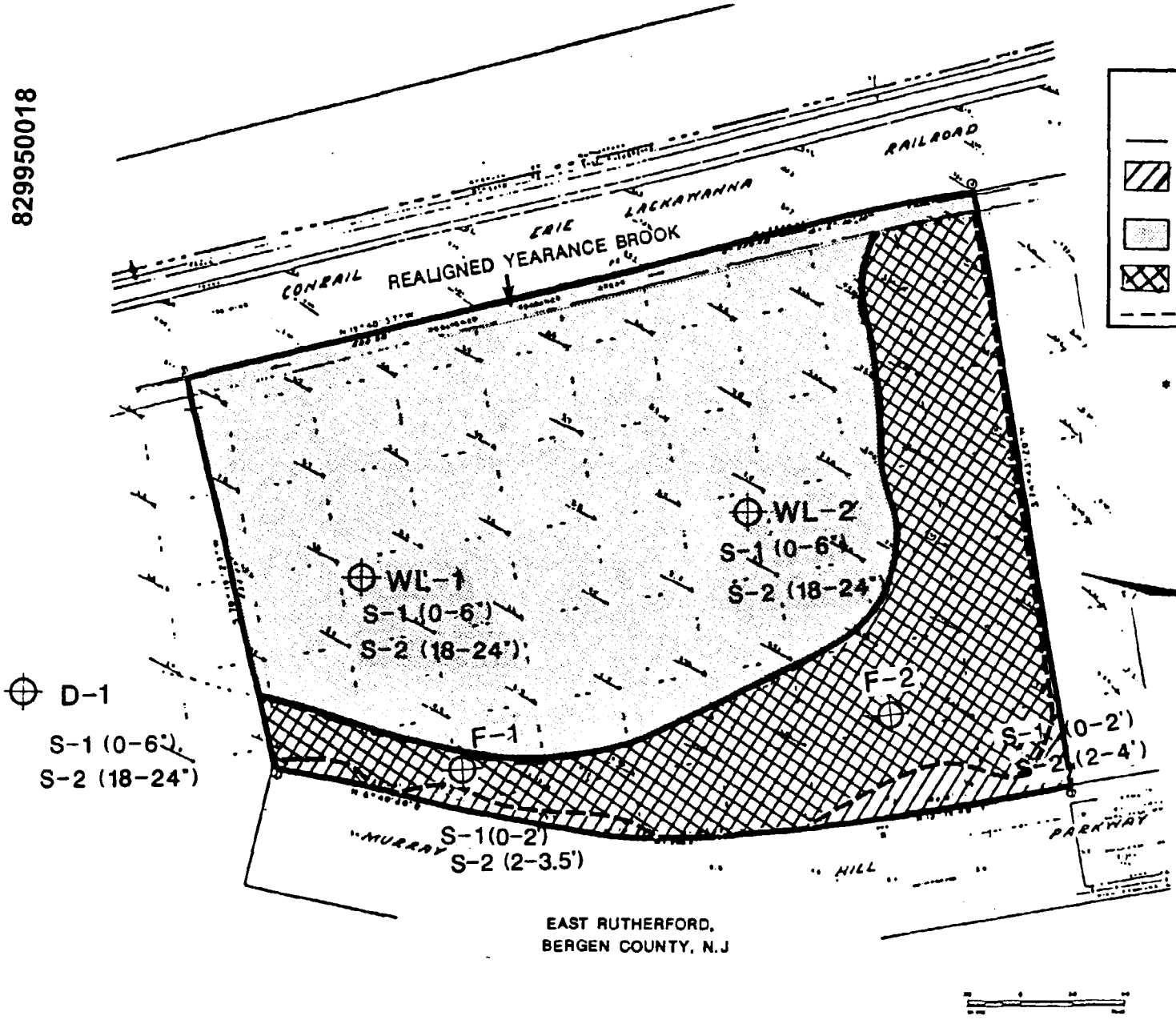
* Approved by ACOE

829950016


CONRAIL
REALIGNED YEARANCE BROOK
ORIGINAL GROUND
OFFICE/WAREHOUSE FLOOR AREA 49,450 SF
H-1
S-1 (0-2')
S-2 (2-4')
EAST RUTHERFORD, BERGEN COUNTY, N.J
MURRAY HILL PARKWAY
BRANCA ROAD
LEGEND.
SITE BOUNDARY
UPLAND AREAS DATUM: NGVD (9.8AC)
UNALTERED WETLANDS, OR OPEN WATER IN ACOE JURISDICTION (0.4AC)
WETLAND JURISDICTION LINE *
WETLAND AREA TO BE DEVELOPED (1.8AC)
* Approved by ACOE
NOTE: SURVEY BASE MAP BY SABETAY BEHAR L.S. LIC. NO. 15103 MAY 12,1988
PAULUS SOKOLOWSKI and SARTOR INC
EIGHTY ASSOCIATES DEVELOPMENT PLAN
SOIL SAMPLING LOCATION PLAN
LOT 19, BLOCK 106A
SCALE AS SHOWN
S.O.
SLP-2

829950017

829950018



LEGEND

- SITE BOUNDARY
- UPLAND AREAS TO BE EXCAVATED & PLANTED WITH WETLANDS VEGETATION
- UNALTERED WETLANDS, OR OPEN WATER IN ACOE JURISDICTION (2.3AC.)
- FILLED AREAS TO BE EXCAVATED & PLANTED WITH WETLANDS VEGETATION
- WETLAND JURISDICTION LINE *

* APPROVED BY ACOE

PAULUS SOKOLOWSKI and SARTOR INC
CONSULTING ENGINEERS
67A MOUNTAIN BOULEVARD EXTENSION
P.O. BOX 1820
WARREN, NEW JERSEY 07060

EIGHTY ASSOCIATES

SOIL SAMPLING LOCATION PLAN

LOT 21, BLOCK 106A

DATE 9/25/87	JOB NO. 486-022
SCALE AS SHOWN	
DRAWN M.R.	SHEET NO. SLP-3
CHKD. S.O.	

NOTE: SURVEY BASE MAP BY SABETAY BEHAR L.S. LIC. NO. 15103 MAY 21, 1986

CLIENT:

PS&S

Number

75889

RESULTS:

	Total Mercury
H-1 S-1 Lot 4D	3.45 mg/kg
H-1 S-2 Lot 4D	0.57 mg/kg
H-1 S-1 Lot #19	1.85 mg/kg
H-1 S-2 Lot #19	0.08 mg/kg
D-1 S-1	0.38 mg/kg
D-1 S-2	0.18 mg/kg
WL-1 S-1 Lot #21	3.13 mg/kg
WL-1 S-2 Lot #21	< 0.01 mg/kg
WL-2 S-1 Lot #21	2.34 mg/kg
WL-2 S-2 Lot #21	0.79 mg/kg
F-1 S-1 Lot #21	0.72 mg/kg
F-1 S-2 Lot #21	1.72 mg/kg
F-2 S-1 Lot #21	3.78 mg/kg
F-2 S-2 Lot #21	3.64 mg/kg

829950005

C732

CLIENT: PS&S

Number 75889

	H-1 S-1 Lot 4D	H-1 S-1 Lot #19	WL-1 S-1 Lot #21	F-1 S-1 Lot #21	F-1 S-2 Lot #21	F-2 S-1 Lot #21	F-2 S-2 Lot #21
Barium, mg/l	0.05	0.05	0.04	0.45	0.13	0.11	0.06
Cadmium, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chromium, mg/l	< 0.01	0.02	0.02	< 0.01	< 0.01	0.02	< 0.01
Lead, mg/l	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Silver, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Arsenic, mg/l	0.04	0.13	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Selenium, mg/l	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mercury, mg/l	0.003	< 0.001	0.006	0.002	< 0.001	0.002	0.004

TABLE 1 SAMPLING RESULTS[1]
Analysis Parameters

Location		Arsenic Bulk[4]	Arsenic EPTox[5]	Barium Bulk	Barium EPTox	Cadmium Bulk	Cadmium EPTox	Chromium Bulk	Chromium EPTox	Lead Bulk	Lead EPTox	Mercury Bulk	Mercury EPTox	Selenium Bulk	Selenium EPTox	Silver Bulk	Silver EPTox	Total PCB Bulk
1	A[2]	8.5	<.03	65.0	.1	4.4*	.03	110.0*	<.01	90.0	<.03	7.1	<.01	<1.0	<.03	<1.0	<.01	N.D.
	B[3]	3.6	<.03	15.0	.03	2.1	<.01	7.6	<.01	14.0	<.03	30.4	<.01	<1.0	<.03	<1.0	<.01	N.D.
2	A	11.0	<.03	59.0	.08	3.9*	<.01	147.0*	.1	92.0	<.03	3.6	<.01	<1.0	<.03	<1.0	<.01	N.D.
	B	1.4	<.03	13.0	.02	<1.0	<.01	6.4	<.01	5.0	<.03	<0.1	<.01	<1.0	<.03	<1.0	<.01	N.D.
3	A	4.4	<.03	20.0	<.01	3.1*	<.01	16.0	<.01	38.0	<.03	0.4	<.01	<1.0	<.03	<1.0	<.01	N.D.
	B	3.1	<.03	13.0	.04	<1.0	<.01	3.2	<.01	4.2	<.03	<0.1	<.01	<1.0	<.03	<1.0	<.01	N.D.
4	A	7.9	<.03	19.0	.02	3.1*	<.01	130.0*	.02	60.0	<.03	.6	<.01	<1.0	<.03	<1.0	<.01	.05
	B	2.3	<.03	6.5	.01	<1.0	<.01	3.1	<.01	< 1.0	<.03	<0.1	<.01	<1.0	<.03	<1.0	<.01	N.D.
5	A	12.0	<.03	42.0	.02	2.9	<.01	188.0*	.02	59.0	<.03	5.0	<.01	<1.0	<.03	<1.0	<.01	N.D.
	B	1.2	<.03	6.5	.01	<1.0	<.01	5.0	<.01	2.4	<.03	<0.1	<.01	<1.0	<.03	<1.0	<.01	N.D.
6	A	9.2	<.03	103.0	.09	7.8*	<.01	267.0*	.04	171.0*	.17	3.5	<.01	<1.0	<.03	<1.0	<.01	N.D.
	B	6.9	<.03	123.0	.04	3.0	<.01	52.0	<.01	65.0	<.03	<0.1	<.01	<1.0	<.03	<1.0	<.01	1.2*
7	A	10.0	<.03	83.0	.04	4.6*	<.01	307.0*	.14	21.0	.13	4.5	<.01	<1.0	<.03	<1.0	<.01	.07
	B	<1.0	<.03	46.0	.01	4.0*	<.01	157.0*	<.01	< 1.0	<.03	<0.1	<.01	<1.0	<.03	<1.0	<.01	N.D.
8	A	10.0	<.03	50.0	.03	2.0	<.01	103.0*	<.01	22.0	<.03	1.5	<.01	<1.0	<.03	<1.0	<.01	N.D.
	B	<1.0	<.03	14.0	.02	<1.0	<.01	3.7	<.01	< 1.0	<.03	<0.1	<.01	<1.0	<.03	<1.0	<.01	N.D.

8299800 18

TABLE 1 SAMPLING RESULTS (cont.)
Analysis Parameters

Location		Arsenic Bulk[4]	Arsenic EPTox[5]	Barium Bulk	Barium EPTox	Cadmium Bulk	Cadmium EPTox	Chromium Bulk	Chromium EPTox	Lead Bulk	Lead EPTox	Mercury Bulk	Mercury EPTox	Selenium Bulk	Selenium EPTox	Silver Bulk	Silver EPTox	Total PCB Bulk
9	A	15.0	<.03	67.0	.02	4.2*	<.01	96.0	.01	7.5	<.03	1.5	<.01	<1.0	<.03	<1.0	<.01	.23
	B	14.0	<.03	71.0	.06	3.7*	<.01	94.0	<.01	21.0	<.03	8.9	<.01	<1.0	<.03	<1.0	<.01	.04
10	A	5.0	<.03	33.0	.02	2.5	<.01	177.0*	.05	31.0	.07	0.5	<.01	<1.0	<.03	<1.0	<.01	.10
	B	<1.0	<.03	7.7	.01	<1.0	<.01	2.4	<.01	2.3	<.03	<0.1	<.01	<1.0	<.03	<1.0	<.01	N.D.
11	A	3.2	<.03	14.0	<.01	<1.0	<.01	5.3	<.01	10.0	<.03	<0.1	<.01	<1.0	<.03	<1.0	<.01	N.D.
	B	1.7	<.03	22.0	.01	<1.0	<.01	11.0	<.01	3.0	<.03	<0.1	<.01	<1.0	<.03	<1.0	<.01	N.D.
12	A	6.3	<.03	49.0	.13	2.6	<.01	60.0	.06	13.0	<.03	3.2	<.01	<1.0	<.03	<1.0	<.01	.06
	B	10.0	<.03	95.0	<.01	4.0*	<.01	85.0	<.01	12.0	<.03	2.1	<.01	<1.0	<.03	<1.0	<.01	N.D.

NOTES

1. Source of data is United States Testing Company report of January 7, 1988.
2. A = Soil sample of 0 to 1 foot at the indicated location.
3. B = Soil sample of 3 to 4 feet, at locations #1 thru #8 and 4 to 5 feet, at locations #9 thru #12.
4. Bulk = Dryweight concentration in the soil matrix, reported as mg/kg.
5. EPTox = Leachate from soil matrix, resulting from extraction (USEPA SW-846), reported as mg/l.
6. * = Exceeds NJDEP ECRA guideline[7], used for comparison, even though project site is not subject to ECRA.
7. NJDEP ECRA Guidelines = Cadmium, 3mg/kg; Chromium, 100mg/kg; Lead, 100mg/kg; Selenium, 4mg/kg; Silver, 5mg/kg; Arsenic, 20mg/kg and Total PCB, 1 to 5mg/kg.
8. ___ = Above 10mg/kg "regional background" for Mercury.
9. ** = Above 40 CFR part 261.24 limits (Arsenic, 5.0mg/l; Barium, 100.0mg/l; Cadmium, 1.0mg/l; Chromium, 5.0mg/l; Lead, 5.0mg/l; Mercury, 0.2mg/l; Selenium, 1.0mg/l and Silver, 5.0mg/l).
10. N.D. = None Detected by analysis.

TABLE 2 COMPARISON OF 12/86 AND 12/87 SAMPLING

Analysis Parameters

Location[4]#	Sample Date	Arsenic Bulk[3]	Arsenic EPTox[4]	Barium Bulk	Barium EPTox	Cadmium Bulk	Cadmium EPTox	Chromium Bulk	Chromium EPTox	Lead Bulk	Lead EPTox	Mercury Bulk	Mercury EPTox	Selenium Bulk	Selenium EPTox	Silver Bulk	Silver EPTox	Total PCB Bulk
#2A	12/87[3]	11	<.03	59.0	.08	3.9	<.01	147.0	.1	92.0	<.03	3.6	<.01	<1.0	<.03	<1.0	<1.0	N.D.
WL-1, S1	12/86[2]	----	<.03	----	.04	----	<.01	----	.02	----	<.03	3.13	.006	----	<.03	----	<.01	----
#3A	12/87	4.4	<.03	20.0	<.01	3.1	<.01	16.0	<.01	38.0	<.03	.4	<.01	<1.0	<.03	<1.0	<.01	N.D.
F-1, S1	12/86	----	<.03	----	.45	----	<.01	----	<.01	----	<.03	.72	.002	----	<.03	----	<.01	----
#8A	12/87	10.0	<.03	50.0	.03	2.0	<.01	103.0	<.01	22.0	<.03	1.5	<.01	<1.0	<.03	<1.0	<.01	N.D.
WL-2, S1	12/86	----	----	----	----	----	----	----	----	----	----	2.34	----	----	----	----	----	----
#12A	12/87	6.3	<.03	49.0	.13	2.6	<.01	60.0	.06	13.0	<.03	3.20	<.01	<1.0	<.03	<1.0	<.01	0.6
F-2, S1	12/86	----	<.03	----	.11	----	<.01	----	<.01	----	<.03	3.78	<.001	----	<.03	----	<.01	----

NOTES

1. See notes from Table 1.
2. 12/86 = Samples completed on Lot 21 by PS&S on November 25, 1986.
3. 12/87 = Samples completed on Lot 21 by PS&S on December 17, 1987.
4. Source of the United States Testing Company reports of December 5, 1986 and January 7, 1988.
5. Adjacent locations in the 12/86 and 12/87 sampling are shown.

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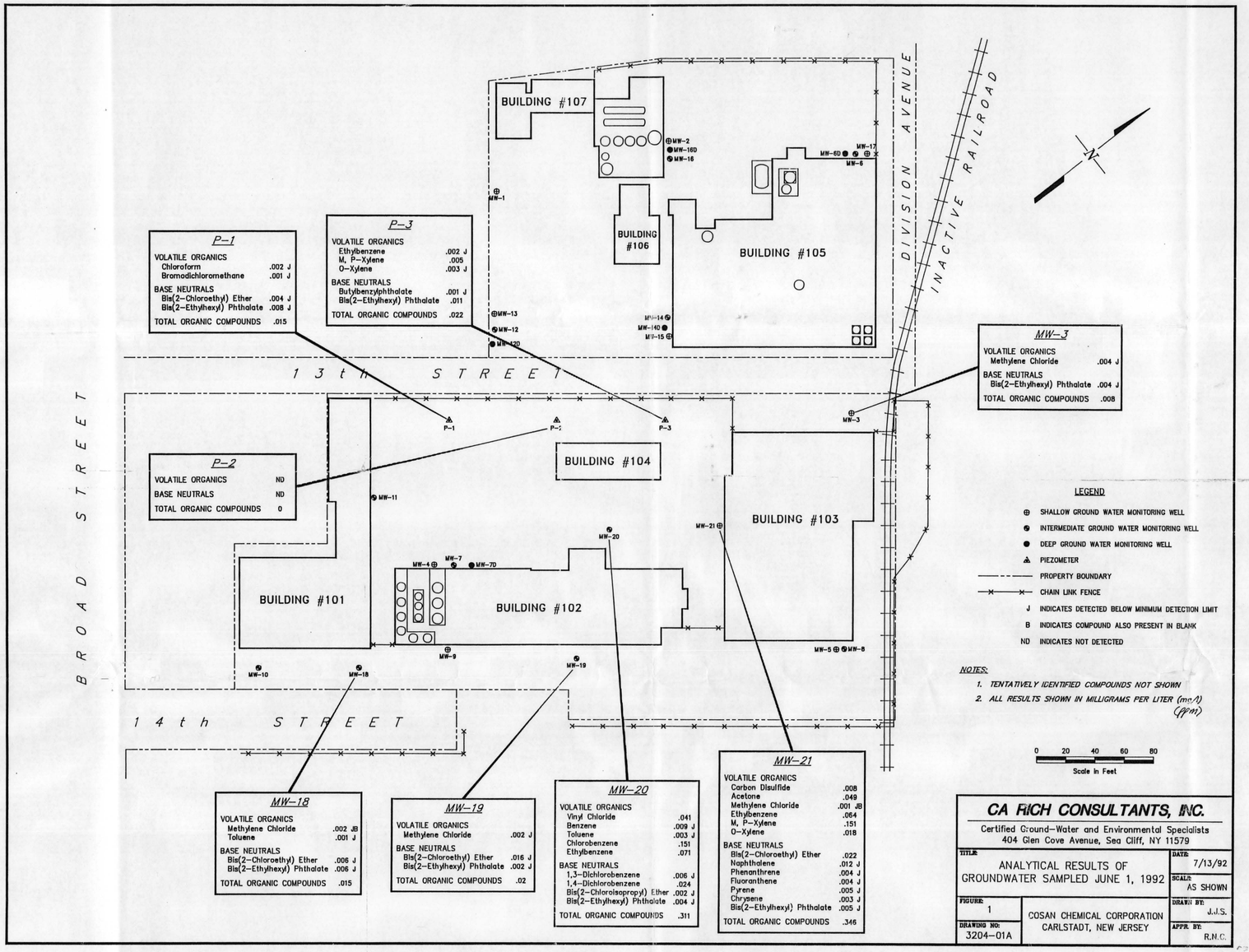
The attached figures and tables are reprints from the following document:

CA Rich Consultants, Inc. 1992. "Figure 1: Analytical Results of Groundwater Sampled June 1, 1992 – Cosan Chemical." (Sea Cliff, NY). Document attached to letter – From: CA Rich Cnsultants, Inc, To: Cosan Chemical Corporation, Dated: August 3, 1992.



P-1

VOLATILE ORGANICS	
Chloroform	.002 J
Bromodichloromethane	.001 J
BASE NEUTRALS	
Bis(2-Chloroethyl) Ether	.004 J
Bis(2-Ethylhexyl) Phthalate	.008 J
TOTAL ORGANIC COMPOUNDS	.015

P-2

VOLATILE ORGANICS	ND
BASE NEUTRALS	ND
TOTAL ORGANIC COMPOUNDS	0

P-3

VOLATILE ORGANICS	
Ethylbenzene	.002 J
M, P-Xylene	.005
O-Xylene	.003 J
BASE NEUTRALS	
Butylbenzylphthalate	.001 J
Bis(2-Ethylhexyl) Phthalate	.011
TOTAL ORGANIC COMPOUNDS	.022

MW-3

VOLATILE ORGANICS	
Methylene Chloride	.004 J
BASE NEUTRALS	
Bis(2-Ethylhexyl) Phthalate	.004 J
TOTAL ORGANIC COMPOUNDS	.008

MW-18

VOLATILE ORGANICS	
Methylene Chloride	.002 JB
Toluene	.001 J
BASE NEUTRALS	
Bis(2-Chloroethyl) Ether	.006 J
Bis(2-Ethylhexyl) Phthalate	.006 J
TOTAL ORGANIC COMPOUNDS	.015

MW-19

VOLATILE ORGANICS	
Methylene Chloride	.002 J
BASE NEUTRALS	
Bis(2-Chloroethyl) Ether	.016 J
Bis(2-Ethylhexyl) Phthalate	.002 J
TOTAL ORGANIC COMPOUNDS	.02

MW-20

VOLATILE ORGANICS	
Vinyl Chloride	.041
Benzene	.009 J
Toluene	.003 J
Chlorobenzene	.151
Ethylbenzene	.071
BASE NEUTRALS	
1,3-Dichlorobenzene	.006 J
1,4-Dichlorobenzene	.024
Bis(2-Chloroisopropyl) Ether	.002 J
Bis(2-Ethylhexyl) Phthalate	.004 J
TOTAL ORGANIC COMPOUNDS	.311

MW-21

VOLATILE ORGANICS	
Carbon Disulfide	.008
Acetone	.049
Methylene Chloride	.001 JB
Ethylbenzene	.064
M, P-Xylene	.151
O-Xylene	.018
BASE NEUTRALS	
Bis(2-Chloroethyl) Ether	.022
Naphthalene	.012 J
Phenanthrene	.004 J
Fluoranthene	.004 J
Pyrene	.005 J
Chrysene	.003 J
Bis(2-Ethylhexyl) Phthalate	.005 J
TOTAL ORGANIC COMPOUNDS	.346

LEGEND

- ⊕ SHALLOW GROUND WATER MONITORING WELL
- ⊕ INTERMEDIATE GROUND WATER MONITORING WELL
- ● DEEP GROUND WATER MONITORING WELL
- ▲ PIEZOMETER
- PROPERTY BOUNDARY
- CHAIN LINK FENCE
- J INDICATES DETECTED BELOW MINIMUM DETECTION LIMIT
- B INDICATES COMPOUND ALSO PRESENT IN BLANK
- ND INDICATES NOT DETECTED

NOTES:

1. *TENTATIVELY IDENTIFIED COMPOUNDS NOT SHOWN*
2. *ALL RESULTS SHOWN IN MILLIGRAMS PER LITER (mg/l) (ppm)*

0 20 40 60 80
Scale in Feet

CA RICH CONSULTANTS, INC.

Certified Ground-Water and Environmental Specialists
404 Glen Cove Avenue, Sea Cliff, NY 11579

TITLE: ANALYTICAL RESULTS OF GROUNDWATER SAMPLED JUNE 1, 1992

DATE: 7/13/92

SCALE: AS SHOWN

FIGURE: 1

DRAWING NO: 3204-01A

COSAN CHEMICAL CORPORATION
CARLSTADT, NEW JERSEY

DRAWN BY: J.J.S.

APPR. BY: R.N.C.

The attached figures and tables are reprints from the following document:

ENSR Consulting and Engineering. 1999. "Short-term Groundwater Extraction Test Results for the Cosan Chemical Corporation Facility Located at 400 14th Street, Carlstadt, NJ." From: J. Grupp (ENSR) To: J. Ludovico (NJDEP).

TABLE 1
GROUNDWATER ANALYTICAL RESULTS SUMMARY (ug/L)
Cosan Chemical Corporation
Carlstadt, New Jersey

Sample ID Sample Date Compound	MW-2 1/23/98	MW-2A 6/2/98	MW-2B 6/12/98	MW-2 6/19/98	MW-2D 6/25/98	MW-2E 7/2/98	MW-2-9-1-98 9/1/98	MW-2-9-4-98 9/4/98	MW-2-9-11-98 9/11/98	MW-2-9-18-98 9/18/98	MW-2-10-16-98 10/16/98	MW-2-11-19-98 11/19/98	MW-2-12-30-98 12/30/98	NJDEP Class IIA Groundwater Quality Criteria
Volatile Organics														
Vinyl Chloride	**760**	**955**	**1030**	**804**	500 U	**992**	NA	500 U	500 U	250 U	500 U	500 U	**360**	5
1,1-Dichloroethene	**430**	**919**	**583**	500 U	**3160**	**840**	NA	500 U	500 U	250 U	**1420**	500 U	**298**	2
1,1-Dichloroethane	**3600 J**	**2710**	**1840**	**3710**	500 U	**10100**	NA	**4920**	**3350**	**4050**	**3420**	**3980**	**5340**	50
1,1,1-Trichloroethane	**33000**	**18400**	**16700**	**27300**	**18400**	**36200**	NA	**19400**	**17900**	**27000**	**19700**	**26800**	**49300**	30
Benzene	**40000**	**17200**	**14800**	**17200**	**14900**	**33100**	NA	**23900**	**11600**	**13800**	**15100**	**14200**	**32700**	1
Trichloroethene	**360**	**1000**	**1010**	**1380**	**950**	500 U	NA	**1150**	**1010**	**906**	500 U	**610**	**1100**	1
Chlorobenzene	**5000**	**2820**	**3960**	**2530**	**2410**	**2170**	NA	**4330**	**2650**	**2460**	**2610**	**818**	**2760**	50
Total Xylenes	**1820**	495 J	870	500 U	500 U	500 U	NA	500 U	500 U	440	500 U	500 U	**1190**	1000
1,3-Dichlorobenzene	**9000**	**3140**	**4320**	**3640**	**2290**	**2980**	NA	**5260**	**4350**	**5910**	**3840**	**4590**	**5710**	600
1,4-Dichlorobenzene	**15000**	**5200**	**7210**	**4870**	**5170**	**5740**	NA	**8210**	**6390**	**9070**	**6480**	**7760**	**8200**	75
1,2-Dichlorobenzene	**15000**	**6730**	**7650**	**7220**	**5920**	**7110**	NA	**9480**	**6760**	**9300**	**6190**	**7750**	**8550**	600
Ethylbenzene	280	500 U	250 U	500 U	500 U	500 U	NA	500 U	500 U	250 U	500 U	500 U	170	700
Toluene	230	500 U	250 U	500 U	500 U	500 U	NA	500 U	500 U	250 U	500 U	500 U	249	1000
Tetrachloroethene	**370**	500 U	250 U	500 U	500 U	500 U	NA	500 U	500 U	250 U	500 U	500 U	**177**	1
1,2-Dichloropropane	**160**	500 U	250 U	500 U	500 U	500 U	NA	500 U	500 U	250 U	500 U	500 U	**140**	1
Total VOCs	125010	59569 J	59974	63614	53210	99232	NA	76650	54010	72936	58760	66508	116244	NA
Metals (total)														
Arsenic (total)	**5830 J**	**4230**	**4170**	**4180**	**5170**	**9310**	**27900**	**4560**	**4980**	**5010**	**6240**	**4770**	**7940**	8
Mercury (total)	1.1 J	0.5	0.6	0.6	0.6	0.57	0.5 U	0.74	0.7	0.5 U	0.64	0.5 U	0.89	2
Metals (dissolved)														
Arsenic (dissolved)	**4950 J**	**5800**	**4910**	**3210**	**4990**	**8250**	**25300**	**4740**	**4650**	**5130**	**6160**	**4570**	**7000**	8
Mercury (dissolved)	0.5 U	0.60	0.40	0.06	0.5	0.5 U	0.5 U	0.66	0.79	0.5 U	0.5 U	0.5 U	0.5U	2

Note: NA - Not Analyzed

Bold indicates concentrations exceeding NJDEP groundwater quality criteria

U - Not detected above the method detection limit

J - Estimated value

ENSR

TABLE 3
Cosan Chemicals
Summary of Analytical Results
Holding Tank Sample

Lab ID:	**3371-001**
Client ID:	**TANK**
Matrix:	**Aqueous**
Sample Date:	**6/19/98**
Volatiles (ppb)	
Vinyl Chloride	148
1,1-Dichloroethane	1150
1,1,1-Trichloroethane	4020
Benzene	4140
Trichloroethene	100 U
1,2-Dichloropropane	100 U
Toluene	100 U
Tetrachloroethane	100 U
Chlorobenzene	819
Ethylbenzene	100 U
Total Xylenes	103
1,3-Dichlorobenzene	1080
1,4-Dichlorobenzene	2050
1,2-Dichlorobenzene	2770
Total Volatiles	16424

Notes:
All results in parts per billion (ug/l)
U = Compound Not Detected at method detection limit..

TABLE 4
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS FOR MW-22 (ug/l)
COSAN CHEMICAL

Sample ID: Compounds	7/28/97	7/28/97 Dup	1/23/98	12/30/98	NJDEP Class IIA Groundwater Criteria
Volatile Organics					
Vinyl Chloride	NA	NA	2 U	10 U	5
Methylene Chloride	NA	NA	**6.5**	10 U	2
1,1-Dichloroethene	NA	NA	1 U	10 U	2
1,1-Dichloroethane	1U	1U	1 U	10 U	2
1,1,1-Trichloroethane	1U	1U	1 U	10 U	30
1,2-Dichloropropane	NA	NA	1 U	10 U	1
Trichloroethene	1U	1U	1 U	10 U	1
Benzene	**2100**	**2100**	**710**	5 U	1
Tetrachloroethene	1U	1U	1 U	10 U	1
Toluene	87	93	13	66.10	1000
Chlorobenzene	1U	1U	1 U	10 U	4
Ethylbenzene	NA	NA	14	23.40	700
1,3-Dichlorobenzene	1U	1U	1 U	10 U	600
1,2-Dichlorobenzene	1U	1U	4	10 U	600
1,4-Dichlorobenzene	1U	1U	1 U	10 U	75
Total Xylenes	1U	**110**	**90**	**138**	40
TICs	NA	NA	323	NA	NC
Metals (Total)					
Arsenic	**81600**	**108000**	**1370**	**5300**	8
Copper	NA	NA	68	NA	1000
Lead	NA	NA	5	NA	10
Mercury	**1100**	**920**	**21**	**128**	2
Zinc	NA	NA	320	NA	5000
Metals (Dissolved)					
Arsenic	NA	NA	**1110**	**5120**	8
Mercury	NA	NA	1	**232**	2
Zinc	NA	NA	50 U	NA	5000

All expressed in units of micrograms per liter (ug/l).

NA - Not analyzed.

NC - No Criterion.

U - Not detected.

Bold - Indicates concentrations that exceed the NJDEP Class IIA Groundwater Criteria.

TABLE 5
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS FOR MW-23 (ug/l))
COSAN CHEMICAL

Sample ID: Sample Date: Compounds	MW-23 01/23/98	MW-23 12/30/98	MW-23D 12/30/98	NJDEP Class IIA Groundwater Criteria
Volatile Organics				
Vinyl Chloride	2 U	1 U	1 U	5
Methylene Chloride	3 U	1 U	1 U	3
1,1-Dichloroethene	1 U	1 U	1 U	2
1,1-Dichloroethane	4.40	1 U	1 U	50
1,1,1-Trichloroethane	1 U	1 U	1 U	30
1,2-Dichloropropane	1 U	1 U	1 U	1
Trichloroethene	1 U	1 U	1 U	1
Benzene	1 U	0.5 U	0.5 U	1
Tetrachloroethene	1 U	1 U	1 U	1
Toluene	1 U	1 U	1 U	1000
Chlorobenzene	1 U	1 U	1 U	50
Ethylbenzene	1 U	1 U	1 U	700
1,3-Dichlorobenzene	1 U	1 U	1 U	600
1,2-Dichlorobenzene	1 U	1 U	1 U	600
1,4-Dichlorobenzene	1 U	1 U	1 U	75
Total Xylenes	2 U	1 U	1 U	1000
TICs	6	NA	NA	NC
Metals (Total)				
Arsenic	**735**	**1020**	**815**	8
Copper	50 U	NA	NA	1000
Lead	5 U	NA	NA	10
Mercury	**4.30**	0.5 U	0.5 U	2
Zinc	310	NA	NA	5000
Metals (Dissolved)				
Arsenic	**59.40**	**1020**	**759**	8
Mercury	0.5 U	0.5 U	0.5 U	2
Zinc	50 U	NA	NA	5000

NA - Not analyzed
NC - No Criteria
U - Not detected
Sample MW-23D is a duplicate sample of MW-23

The attached figures and tables are reprints from the following document:

ENSR International. 2002. "Appendix F: Historical Groundwater Data Summary Map – Cosan Chemical" (Piscataway, NJ). Appendix attached to a letter - From: ENSR International, To: Linda Taylor, Dated April 2, 2004.

MW-2										
Sample Date / Compounds	12/89	3/91	3/3/92	6/1/92	3/26/97	7/28/97	1/22/98	1/22/98 (dup)	7/26/01	2/6/02
1,1-Dichloroethane	13,000	ND	5,299	4,033	13	ND	3,600	NA	1100	8300
cis-1,2-Dichloroethene	NA	NA	14,718	10,800	16	12,000	ND	ND	1000	7700
1,1,1-Trichloroethane	136,000	ND	83,297	52,853	60	44,000	33,000	NA	3500	23000
Benzene	73,000	6,400	61,822	46,014	66	47,000	40,000	NA	6000	35000
Chloroform	ND	ND	ND	2,424	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	NA	NA	ND	697	ND	ND	ND	ND	ND	ND
Trichloroethene	14,000	810	7,637	4,098	ND	1,200	360	NA	ND	ND
Bromodichloromethane	NA	ND	ND	669	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	452	ND	ND	230	NA	50	310
Tetrachloroethene	ND	230 J	1,521	951	ND	390	370	NA	44	140
Chlorobenzene	ND	ND	ND	440	ND	2,500	5,000	NA	260	1300
Chloroethane	ND	NA	NA	NA	NA	NA	NA	NA	91	ND
Xylenes (Total)	ND	ND	ND	1628	ND	630	1820	NA	200	780
Bis(2-Chloroethyl)Ether	160	NA	386	286	240	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	8,100	820	6,245	8,475	ND	9,800	9,000	NA	NA	NA
1,4-Dichlorobenzene	14,000	1,400	9,427	9,821	ND	14,000	15,000	NA	NA	NA
1,2-Dichlorobenzene	15,000	1,000	10,235	11,643	ND	16,000	15,000	NA	NA	NA
Ethylbenzene	ND	NA	NA	NA	NA	230	280	NA	36	140
Vinyl Chloride	ND	NA	NA	NA	NA	ND	760	NA	ND	ND
1,1-Dichloroethene	ND	NA	NA	NA	NA	ND	430	NA	ND	2500
1,2-Dichloropropane	ND	NA	NA	NA	NA	ND	160	NA	51	ND
Methylene Chloride	NA	381 J	NA	NA	NA	ND	ND	NA	ND	ND
Total VOC TICs									5700	22900
Arsenic (Total)	10,000	NA	29,800	7,550	4,040	9,540	5,830	5,500	13,100	16,500
Arsenic (Dissolved)	NA	NA	NA	NA	3,640	NA	4,950	4,560	NA	NA
Mercury	NA	NA	9	1.8	2,250	0.76	1	1	0.44	3.4
Copper	NA	NA	NA	NA	NA	NA	66	58	NA	NA
Zinc (Total)	NA	NA	NA	NA	NA	NA	357	318	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	50	ND	NA	NA

MW-22						
Sample Date / Compounds	7/28/97	7/28/97 (dup)	1/22/98	7/26/01	2/6/02	Class IIA NJGWQC
Benzene	2,100	2,100	710	1400	780	1
Toluene	87	93	13	66	4.9	1,000
Ethylbenzene	ND	ND	14	18	2.5	700
Xylenes (Total)	ND	110	90	100	16	1000
Chlorobenzene	ND	ND	ND	ND	28	4
1,1,1-Trichloroethane	ND	ND	ND	ND	650	30
1,2-Dichlorobenzene	ND	ND	4	NA	ND	600
1,2-Dichloropropane	ND	ND	ND	17	ND	1
1,1-Dichloroethane	ND	ND	ND	ND	180	70
1,1-Dichloroethene	ND	ND	ND	ND	63	2
cis-1,2-Dichloroethene	NA	NA	NA	100	160	10
Tetrachloroethene	ND	ND	ND	ND	3.9	1
Trichloroethene	ND	ND	ND	19	ND	1
Vinyl Chloride	ND	ND	ND	32	ND	5
Methylene Chloride	ND	ND	7	ND	ND	2
Total VOC TICs				0	390	
Arsenic (Total)	81,600	108,000	1,370	15,500	29,200	8
Arsenic (Dissolved)	NA	NA	1,110	NA	NA	8
Mercury (Total)	1,100	920	21	33.8	275	2
Mercury (Dissolved)	NA	NA	1	NA	NA	2
Copper	NA	NA	68	ND	NA	1000
Lead	NA	NA	5	NA	NA	10
Zinc	NA	NA	320	NA	NA	5000

MW-23					
Sample Date / Compounds	1/23/98	7/26/01	7/26/2001 (dup)	2/5/02	Class IIA NJGWQC
1,1-Dichloroethane	4.40	4.6	4.6	0.9	70
1,2-Dichloropropane	NA	1.6	1.4	ND	1
Arsenic (Total)	735	2130	2180	41900	8
Mercury	4.30	1.2	7.9	135	2
Zinc	310	NA	NA	NA	5000
Arsenic (Dissolved)	59.40	NA	NA	NA	8

MW-16							
Sample Date / Compounds	10/13/89	12/89	3/91	7/28/97	7/26/01	2/5/02	Class IIA NJGWQC
1,3-Dichlorobenzene	ND	220	780	62	NA	NA	600
1,2-Dichlorobenzene	ND	300	1500	41	NA	NA	600
1,4-Dichlorobenzene	ND	350	1000	96	NA	NA	75
Toluene	ND	84	ND	ND	0.4	0.8	1000
Xylenes (Total)	64	135	ND	ND	ND	0.9	1000
1,1-Dichloroethane	ND	430	350	ND	1.8	ND	50
trans-1,2-Dichloroethene	NA	ND	NA	ND	4.5	3.7	100
cis-1,2-Dichloroethene	NA	NA	NA	NA	1	0.5	10
1,2-Dichloropropane	NA	ND	220 J	NA	ND	ND	1
1,1,1-Trichloroethane	NA	ND	130 J	ND	ND	ND	30
Bis(2-Chloroethyl) Ether	NA	1600	NA	NA	NA	NA	10
Chloroethane	NA	ND	NA	120	18	49	NC
Benzene	ND	800	3000	130	21	56	1
Chlorobenzene	34	3240	2002	440	46	58	4
Vinyl Choride	NA	ND	NA	NA	0.4	ND	5
Ethylbenzene	26	ND	ND	ND	ND	0.4	700
Total VOC TICs					53	27	
Arsenic	NA	3800	NA	850	783	1,820	8

MW-6						
Sample Date / Compounds	12/89	3/91	7/28/97	7/26/01	2/6/02	Class IIA NJGWQC
Chlorobenzene	670	770	1,100	110	170	4
Chloroform	ND	ND	ND	ND	0.3	6
1,3-Dichlorobenzene	79	80	1,100	NA	NA	600
1,2-Dichlorobenzene	87	180	2,700	NA	NA	600
1,4-Dichlorobenzene	170	40	4,300	NA	NA	75
Toluene	ND	NA	ND	0.9	1.5	1000
1,1-Dichloroethene	ND	NA	ND	8	7.5	2
1,1-Dichloroethane	ND	NA	ND	7	8.8	70
1,1,1-Trichloroethane	ND	ND	ND	ND	0.6	30
trans-1,2-Dichloroethene	ND	NA	ND	5.1	4.6	100
cis-1,2-Dichloroethene	NA	NA	NA	15	18	10
Benzene	19	300	500	7.5	22	1
Tetrachloroethene	ND	ND	260	11	15	1
1,2-Dichloropropane	ND	ND	1,400	32	43	1
Trichloroethene	ND	NA	ND	21	28	1
Vinyl Choride	ND	NA	ND	2.8	4.1	5
Ethylbenzene	ND	NA	ND	1.3	2	700
Xylenes (Total)	ND	NA	ND	1.4	2.2	1,000
Total VOC TICs				1970	1960	
Arsenic	630	NA	4,550	6,620	9860	8
Mercury	NA	NA	0.54	ND	0.83	2

MW-1			
Sample Date / Compounds	3/91	7/28/97	Class IIA NJGWQC
1,1,1-Trichloroethane	6	ND	30
Benzene	7	ND	1
Arsenic	NA	381	8
Mercury	NA	0.52	2

MW-17						
Sample Date / Compounds	10/13/89	7/26/90	12/89	3/91	7/29/97	Class IIA NJGWQC
Benzene	61	32	7	ND	ND	1
Bromodichloromethane	NA	NA	ND	ND	ND	30
Chloroform	45	NA	ND	ND	ND	6
Arsenic	NA	NA	NA	NA	1,580	8
Mercury	NA	NA	NA	NA	4.31	2

MW-14				
Sample Date / Compounds	10/12/89	12/89	3/91	7/29/97
Chlorobenzene	NA	1100	1500	26
1,3 Dichlorobenzene	NA	50	100	10
1,2 Dichlorobenzene	NA	60	120	3.90
1,4 Dichlorobenzene	NA	95	140	15
Benzene	NA	1100	600	1.5
Toluene	NA	14	ND	ND
Xylenes (Total)	NA	22	ND	ND
Bis (2-Chloroethyl) Ether	NA	1600	NA	NA
Arsenic	ND	NA	NA	706

MW-15					
Sample Date / Compounds	10/12/89	12/89	3/91	7/29/97	Class IIA NJGWQC
Chlorobenzene	NA	2400	2600	760	50
Benzene	NA	2300	2900	710	1
Ethylbenzene	NA	180	ND	ND	700
Xylenes (Total)	NA	100	ND	ND	1000
1,3-Dichlorobenzene	NA	46	NA	ND	600
Bis(2-Chloroethyl) Ether	NA	15	NA	NA	10
Arsenic	31	1130	NA	286	8
Mercury	0.6	NA	NA	7.04	2

MW-24 (Former A8- TWP-1)				
SAMPLE DATE / COMPOUNDS	6/27/2001	6/27/2001	2/6/2002	Class IIA NJGWQC
Benzene	3.2	3.6	3.4	1
Toluene	0.4	0.3	0 U	1000
Chlorobenzene	65	76	150	4
Ethylbenzene	1.8	2.7	4.8	700
Xylenes (Total)	3.6	4.5	32	40
bis (2-Chloroethyl) ether	400	350	60	10
Naphthalene	3.5	3.2 U	1	NC
bis (2-Ethylhexyl) phthalate	2.2 U	3	1.3 B	30

MW-3				
Sample Date / Compounds	12/89	3/91	6/1/92	7/29/97
VOC's	ND	ND	ND	ND
Metals	NA	NA	ND	ND

MW-18					
Sample Date / Compounds	2/15/89	7/26/90	6/1/92	1/22/98	Class IIA NJGWQC
Bis (2-Chloroethyl) Ether	NA	NA	6 J	ND	10
Bis (2-Ethylhexyl) Phthalate	11	16	6 J	ND	30

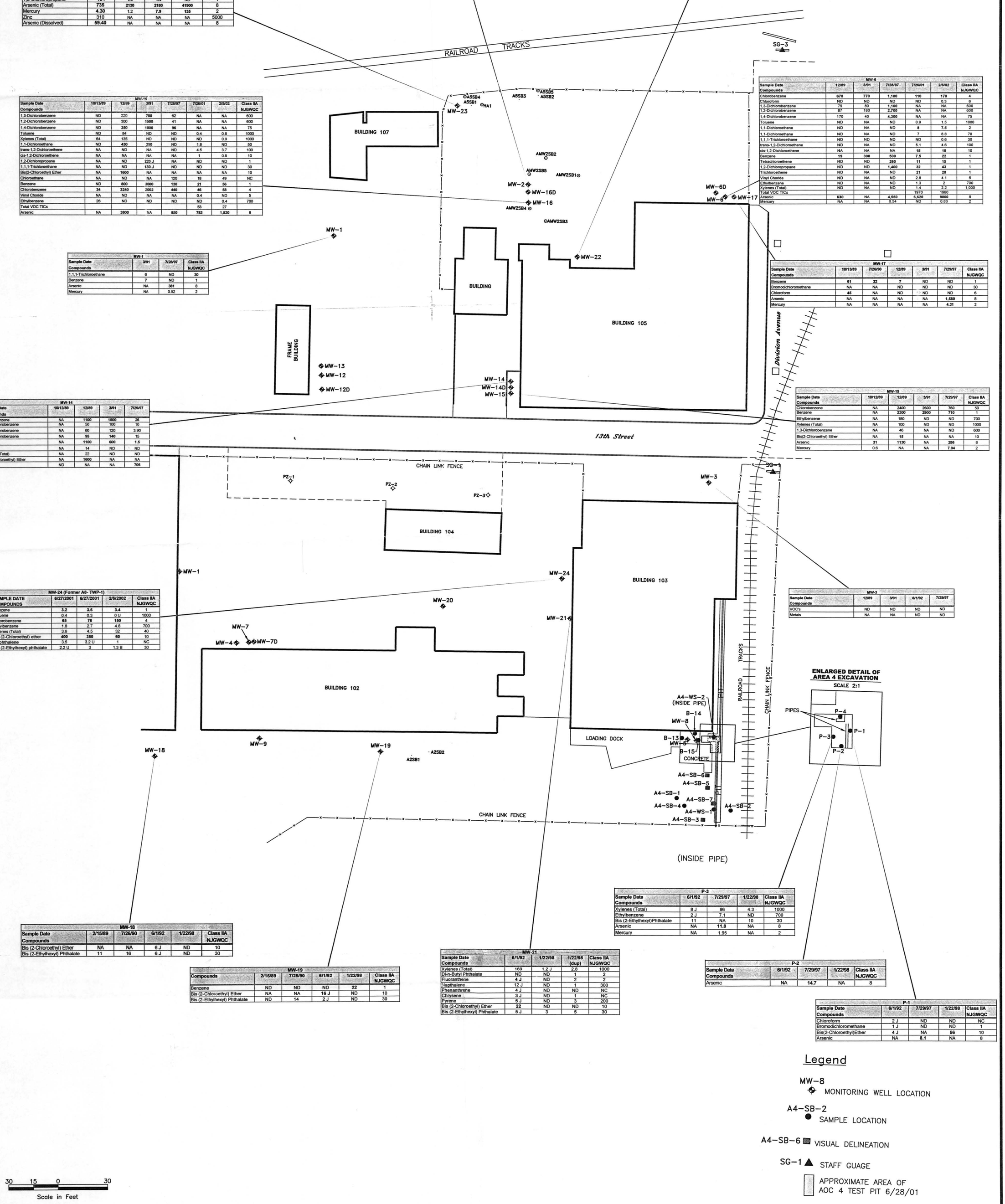
MW-19					
Compounds	2/15/89	7/26/90	6/1/92	1/22/98	Class IIA NJGWQC
Benzene	ND	ND	ND	22	1
Bis (2-Chloroethyl) Ether	NA	NA	16 J	ND	10
Bis (2-Ethylhexyl) Phthalate	ND	14	2 J	ND	30

MW-21				
Sample Date / Compounds	6/1/92	1/22/98	1/22/98 (dup)	Class IIA NJGWQC
Xylenes (Total)	169	1.2 J	2.8	1000
Di-n-Butyl Phthalate	ND	ND	1	2
Fluoranthene	4 J	ND	2	2
Napthalene	12 J	ND	1	300
Phenanthrene	4 J	ND	ND	NC
Chrysene	3 J	ND	1	NC
Pyrene	5 J	ND	3	200
Bis (2-Chloroethyl) Ether	22	ND	ND	10
Bis (2-Ethylhexyl) Phthalate	5 J	3	5	30

P-3				
Sample Date / Compounds	6/1/92	7/29/97	1/22/98	Class IIA NJGWQC
Xylenes (Total)	8 J	86	4.3	1000
Ethylbenzene	2 J	7.1	ND	700
Bis (2-Ethylhexyl)Phthalate	11	NA	10	30
Arsenic	NA	11.8	NA	8
Mercury	NA	1.95	NA	2

P-2				
Sample Date / Compounds	6/1/92	7/29/97	1/22/98	Class IIA NJGWQC
Arsenic	NA	14.7	NA	8

P-1				
Sample Date / Compounds	6/1/92	7/29/97	1/22/98	Class IIA NJGWQC
Chloroform	2 J	ND	ND	NC
Bromodichloromethane	1 J	ND	ND	1
Bis(2-Chloroethyl)Ether	4 J	NA	56	10
Arsenic	NA	8.1	NA	8



Legend

- MW-8 — MONITORING WELL LOCATION
- A4-SB-2 — SAMPLE LOCATION
- A4-SB-6 — VISUAL DELINEATION
- SG-1 — STAFF GUAGE
- APPROXIMATE AREA OF AOC 4 TEST PIT 6/28/01

30 15 0 30
Scale in Feet

APPENDIX F

FIGURE NUMBER:

SHEET NUMBER: 1 of 1

HISTORICAL GROUNDWATER DATA SUMMARY MAP
COSAN CHEMICAL
CARLSTADT, NEW JERSEY

SCALE:	DATE:	PROJECT NUMBER:
AS SHOWN	12/16/02	1973-001

ENSR INTERNATIONAL
281 CENTENNIAL AVE
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PHONE: (732) 457-0500
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DESIGNED BY: TG
DRAWN BY: /jk
CHECKED BY:
APPROVED BY:

REVISIONS

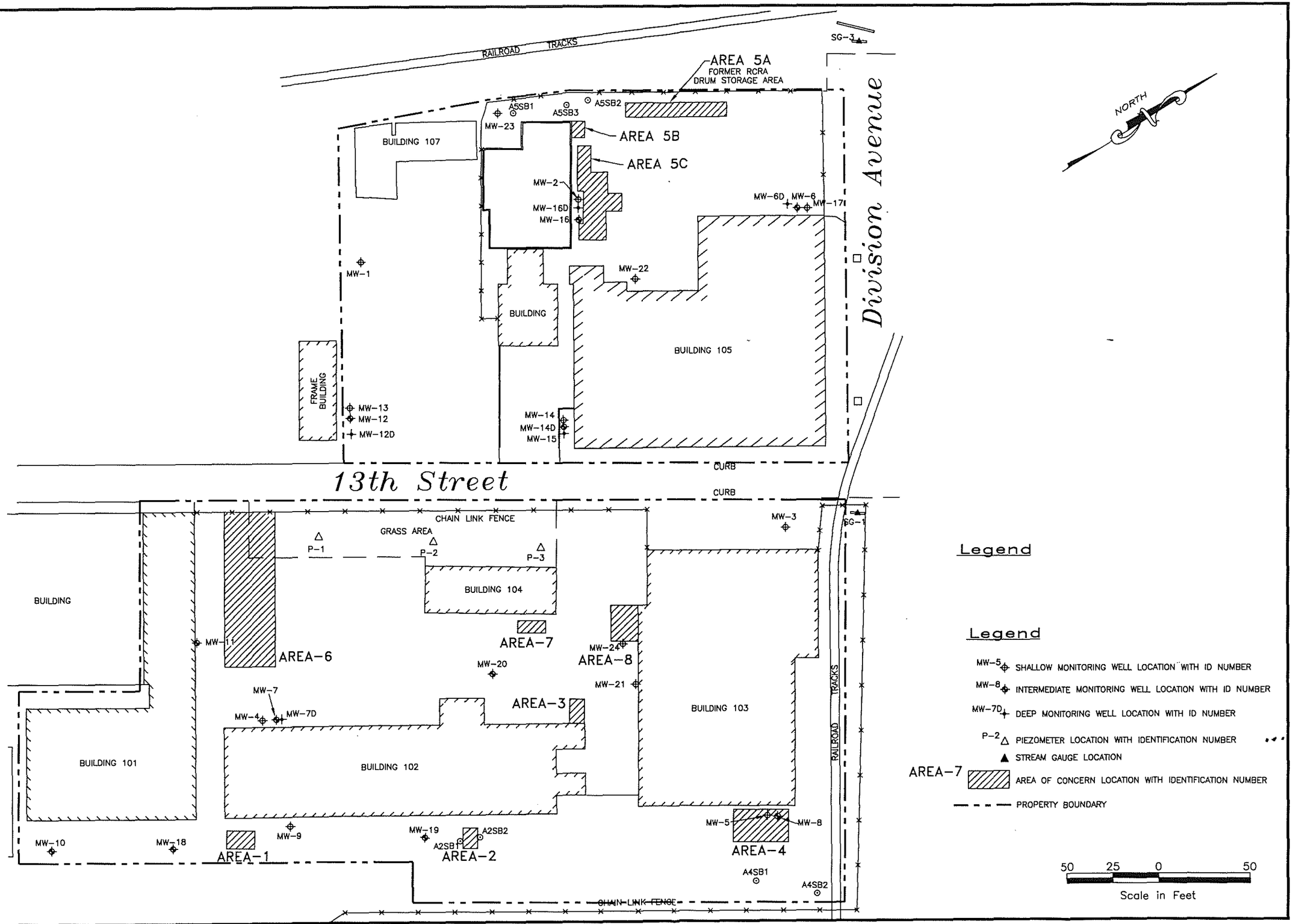
NO.:	DESCRIPTION:	DATE:	BY:

Piscataway on 'dcPiscataway'(J):Project/Cosan/1973-001/Cadd/Data Summary (2)

jk:\Project\Cosan\1973-001\Cadd\DATA SUMMARY(2).dwg

The attached figures and tables are reprints from the following document:

ENSR Corporation. 2004. "Cosan Chemical Corporation, Carlstadt, New Jersey – Remedial Action Report. ISRA Case No. 84419." (Piscataway, NJ) Document Number: 1973-001-221.



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NO.:	DESCRIPTION:	DATE:	BY:

DESIGNED BY: TG
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CHECKED BY:
APPROVED BY:

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SITE PLAN
COSAN CHEMICAL
CARLSTADT, NEW JERSEY

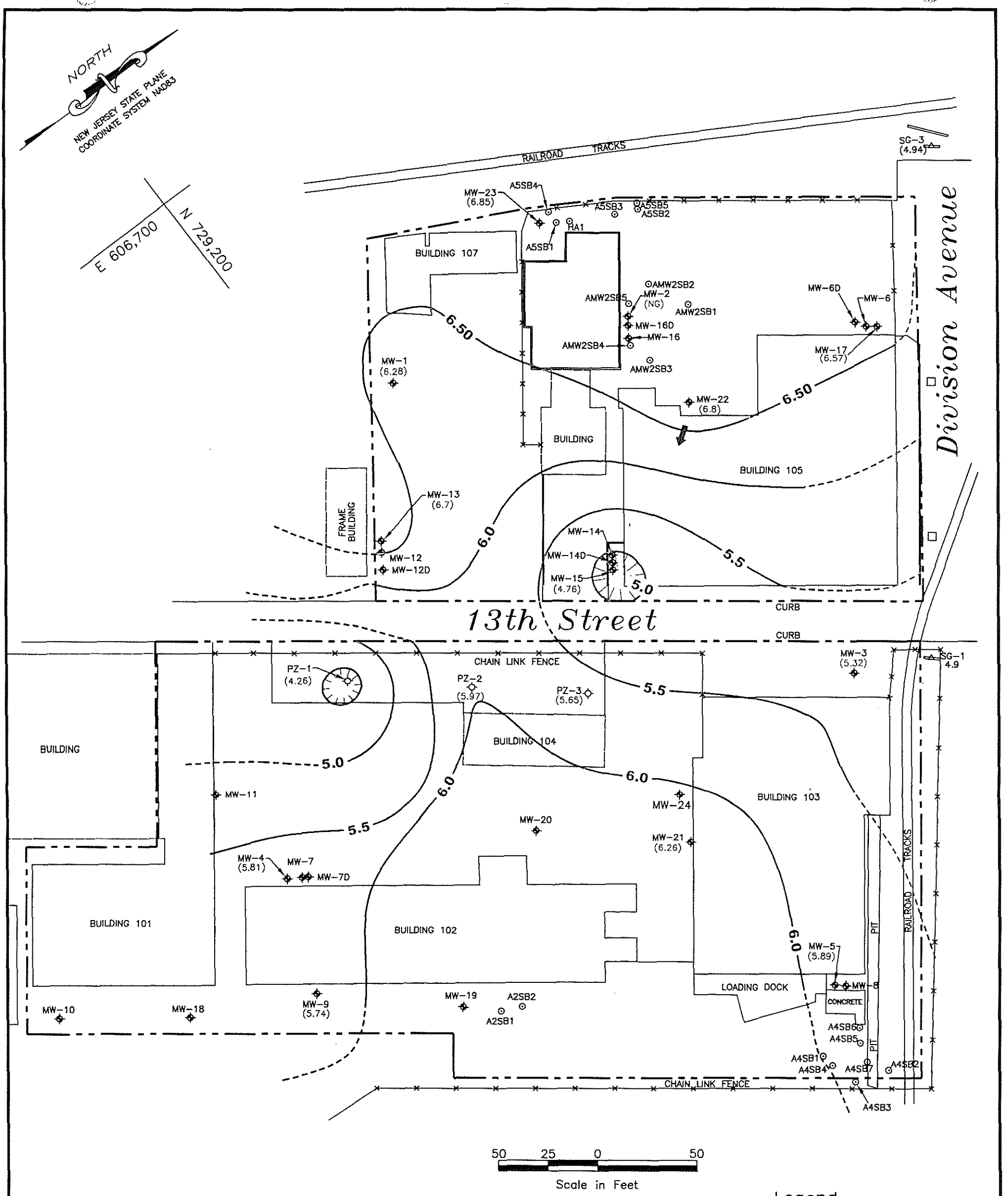
PROJECT NUMBER: 1973-001
DATE: 03/22/04
SCALE: AS SHOWN

FIGURE NUMBER: 2

SHEET NUMBER: 1 of 1

J:\Project\Cosan\1973-001\Cadd\Site Plan (1).dwg

Piscataway on "dc/Piscataway"(J)Project/Cosan/1973-001/Cadd/Site Plan (1)



Legend

MW-1 (6.28)	SHALLOW MONITORING WELL WITH GROUNDWATER ELEVATION (FT AMSL) AND ID NUMBER
SG-3 (4.94)	STREAM GAUGE LOCATION WITH GROUNDWATER ELEVATION (FT AMSL) AND ID NUMBER
PZ-2 (5.97)	PIEZOMETER LOCATION WITH GROUNDWATER ELEVATION (FT AMSL) AND ID NUMBER
	LINE OF EQUAL GROUNDWATER ELEVATION (FT AMSL) SHOWING GROUNDWATER FLOW DIRECTION (DASHED WHERE INFERRED)
	PROPERTY BOUNDARY
NG	NOT GAUGED DURING THIS MONTH
FT AMSL =	FEET ABOVE MEAN SEA LEVEL

J:\Project\Cosan\1973-001\Cadd\GWC SHALLOW 12-03.dwg

FIGURE NUMBER: 3

SHEET NUMBER: 1 of 1

GROUNDWATER ELEVATION CONTOUR MAP
SHALLOW AQUIFER ZONE
DECEMBER 2003
COSAN CHEMICAL
CARLSTADT, NEW JERSEY

SCALE:	DATE:	PROJECT NUMBER:
AS SHOWN	03/12/04	01973-001

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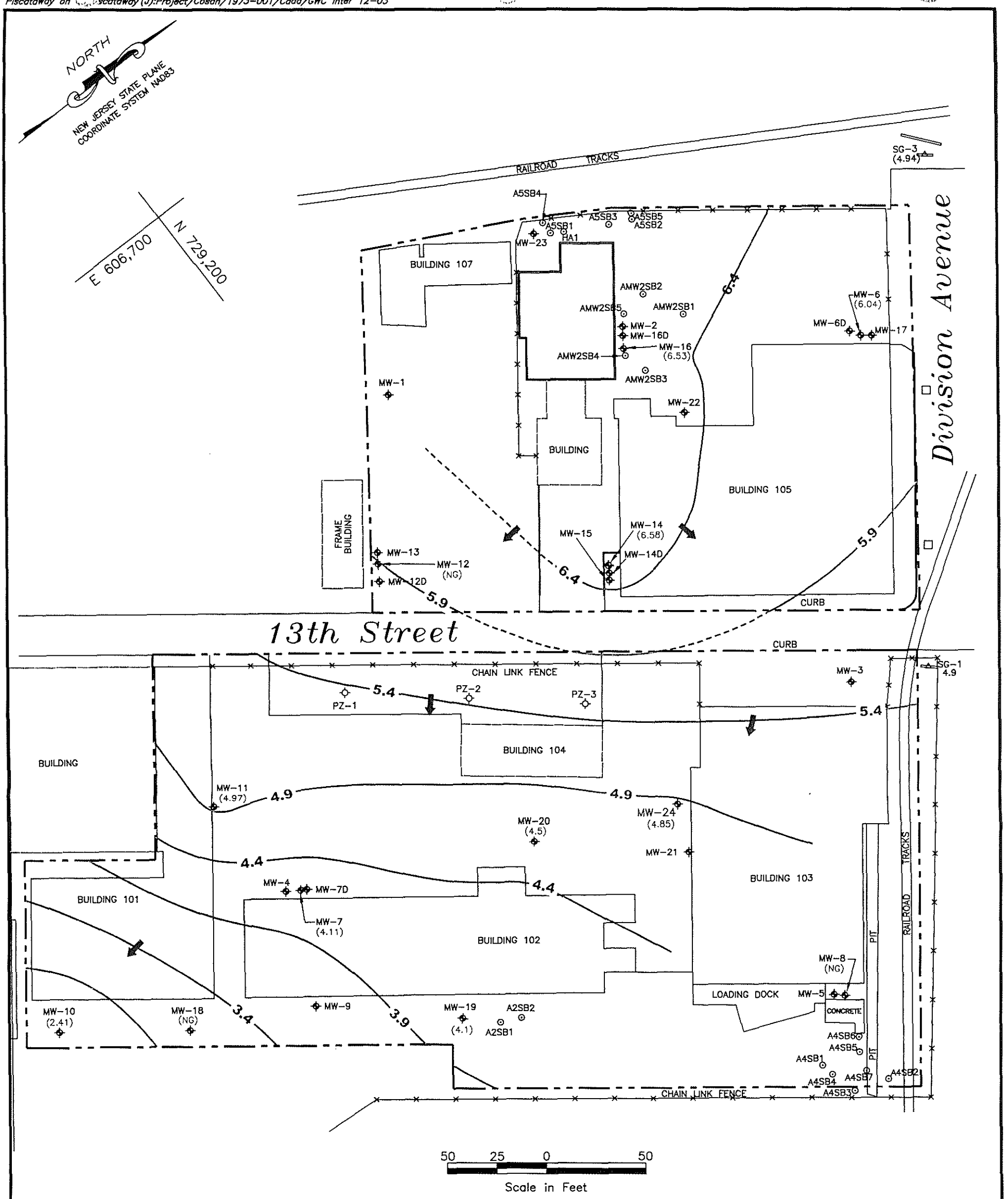
APPROVED BY:				

Piscataway on 'dcPiscataway'(J):Projects/Cosan/1973-001/Cadd/GWC Shallow 12-03



Legend

MW-6 (6.04)	INTERMEDIATE MONITORING WELL WITH GROUNDWATER ELEVATION (FT AMSL) AND ID NUMBER
SG-3 (4.94)	STREAM GAUGE LOCATION WITH GROUNDWATER ELEVATION (FT AMSL) AND ID NUMBER
PZ-2	PIEZOMETER LOCATION AND ID NUMBER
	LINE OF EQUAL GROUNDWATER ELEVATION (FT AMSL) SHOWING GROUNDWATER FLOW DIRECTION (DASHED WHERE INFERRED)
	PROPERTY BOUNDARY
NG	NOT GAUGED DURING THIS MONTH
FT AMSL =	FEET ABOVE MEAN SEA LEVEL

J:\Project\Cosan\1973-001\Cadd\GWC INTER 12-03.dwg

SHEET NUMBER: 1 of 1

FIGURE NUMBER: 4

GROUNDWATER ELEVATION CONTOUR MAP
INTERMEDIATE AQUIFER ZONE
DECEMBER 2003
COSAN CHEMICAL
CARLSTADT, NEW JERSEY

SCALE:	DATE:	PROJECT NUMBER:
AS SHOWN	03/12/04	1973-001

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GM	NO.:	DESCRIPTION:	DATE:	BY:
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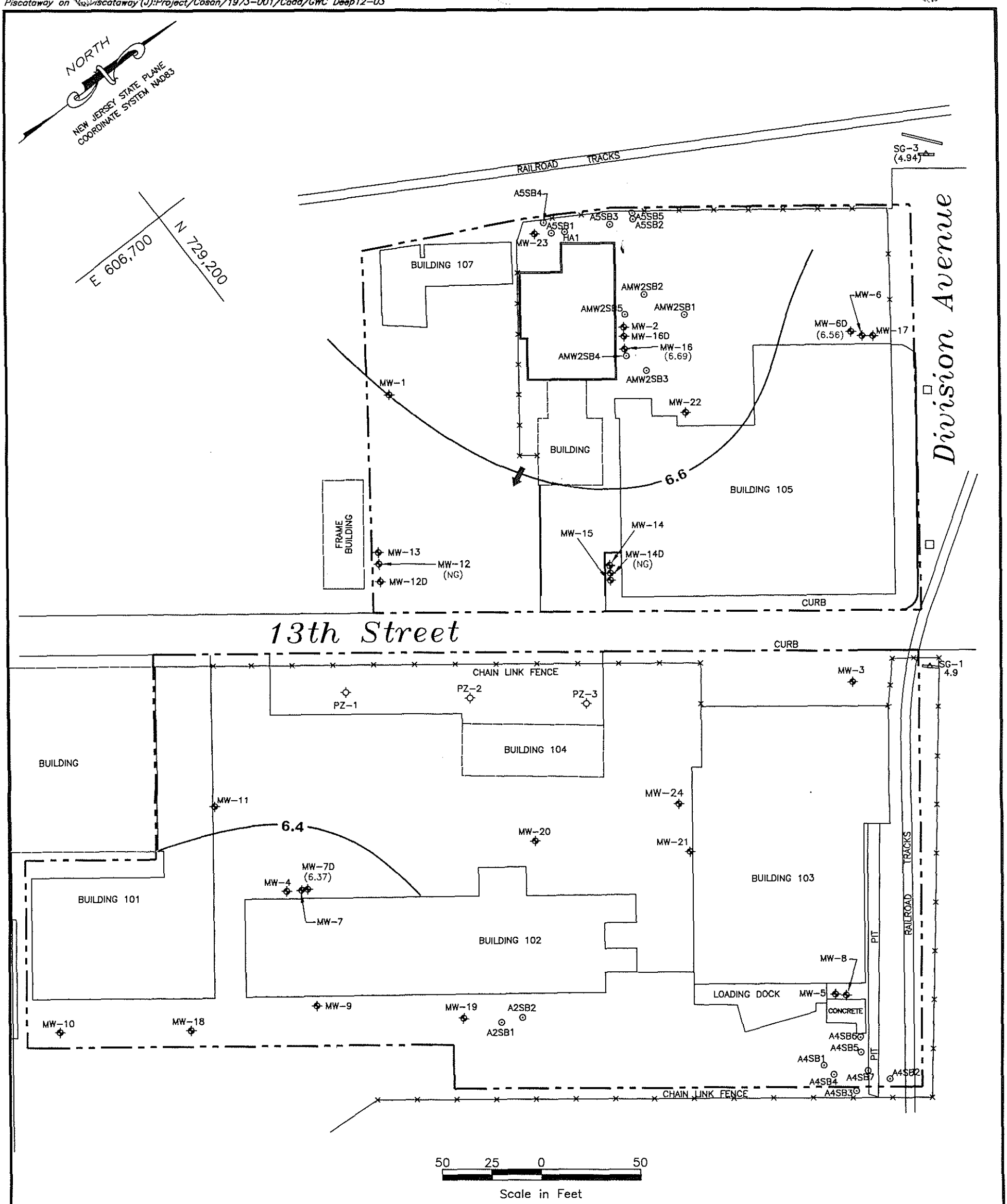

GROUNDWATER ELEVATION CONTOUR MAP
DEEP AQUIFER ZONE
DECEMBER 2003
COSAN CHEMICAL
CARLSTADT, NEW JERSEY

SCALE:	DATE:	PROJECT NUMBER:
AS SHOWN	03/12/04	1973-001

FIGURE NUMBER: 5
SHEET NUMBER: 1 of 1

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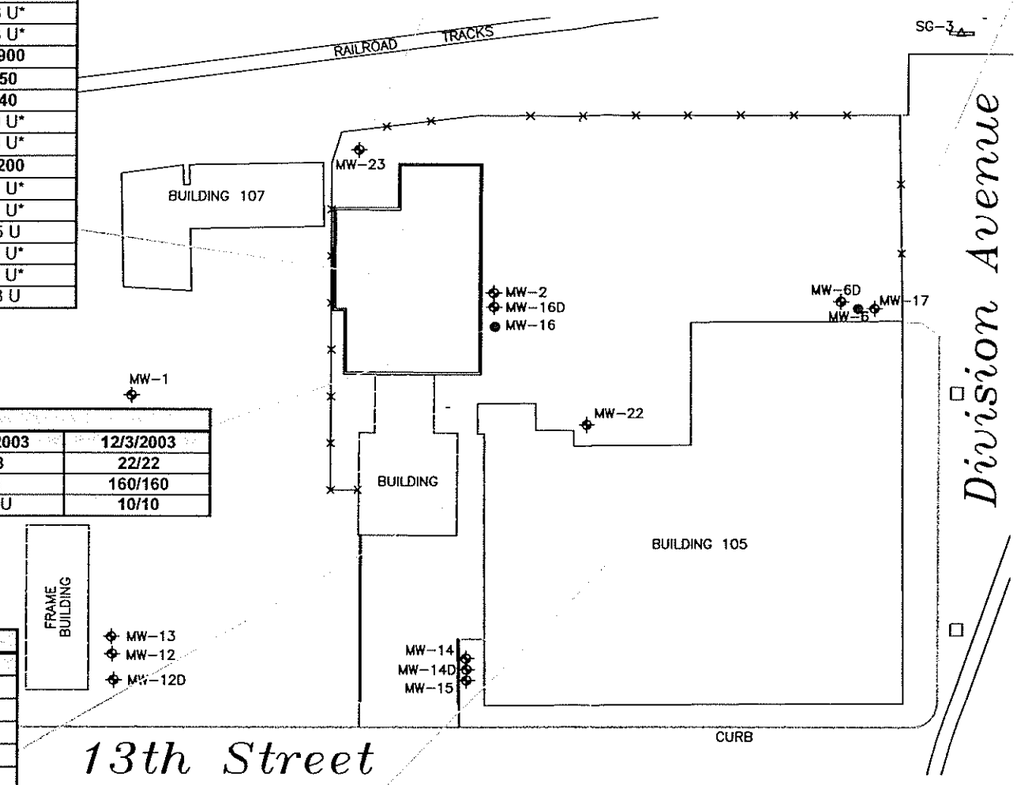
GM	NO.:	DESCRIPTION:	DATE:	BY:
DRAWN BY:				
/jk				
CHECKED BY:				
APPROVED BY:				

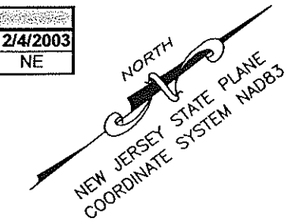
J:\Project\Cosan\1973-001\Cadd\GWC DEEP 12-03.dwg

Well ID	MW-2		
Date	6/3/2003	9/10/2003	12/5/2003
1,1,1-Trichloroethane	**26,000**	**24,000/26,000**	**3,000**
1,1-Dichloroethane	**10,000**	**10,000/11,000**	**3,100**
1,1-Dichloroethene	**450**	220 U*/ **300**	**59**
1,2-Dichloroethane	130 U*	130 U*/130 U*	26 U*
1,2-Dichloropropane	**250**	120 U*/120 U*	23 U*
Benzene	**48,000**	**42,000/44,000**	**6,900**
Chlorobenzene	**1,400**	**1,500/1,400**	**150**
Chloroethane	**890**	230 U*/230 U*	**340**
Chloroform	95 U*	95 U*/95 U*	19 U*
Chloromethane	23U	230 U*/230 U*	44 U*
cis-1,2-Dichloroethene	**9,500**	**8,400/9,200**	**3,200**
Dichloromethane	400U*	400 U*/400 U*	81 U*
Tetrachloroethene	**260**	160 U*/160 U*	31 U*
trans-1,2-Dichloroethene	120 U*	120 U*/120 U*	25 U
Trichloroethene	**370**	90 U*/90 U*	18 U*
Vinyl Chloride	**300**	260 U*/260 U*	53 U*
Xylene(Total)	**1,000**	870/680	18 U

Well ID	MW-23			
Date	3/7/2003	6/3/2003	9/10/2003	12/5/2003
Total VOCs	NE	NE	NE	NE

Well ID	MW-17			
Date	3/7/2003	6/3/2003	9/10/2003	12/4/2003
Total VOCs	NE	NE	NE	NE





Legend

- ⌖ MONITORING WELL LOCATION
- ● MONITORING WELL LOCATION INTERMEDIATE DEPTH

NE – NO EXCEEDANCE OF GWQS

* – INDICATES COMPOUND IS NOT DETECTED AT METHOD DETECTION LIMIT SHOWN, HOWEVER, METHOD DETECTION LIMIT EXCEEDS NJDEP GWQC.

ANALYTES:	GWQS
Benzene	1
Chlorobenzene	50
Chloroform	6
Chloroethane	100
Chloromethane	30
cis-1,2-Dichloroethene	70
Dichloromethane	3
Tetrachloroethene	1
trans-1,2-Dichloroethene	100
Trichloroethene	1
Vinyl Chloride	5
Xylene(Total)	1000
1,2-Dichloroethane	2
1,1-Dichloroethane	50
1,1-Dichloroethene	2
1,2-Dichloropropane	1
1,1,1-Trichloroethane	30

Well ID	MW-16			
Date	3/7/2003	6/3/2003	9/10/2003	12/3/2003
Benzene	**12**	**5.6**	**6.8**	**22/22**
Chlorobenzene	**91**	42	**51**	**160/160**
Vinyl Chloride	2.2	2	0.5 U	**10/10**

Well ID	MW-22		
Date	6/3/2003	9/10/2003	12/5/2003
1,1-Dichloroethene	**7.5**	4.3 U	0.9 U
1,2-Dichloroethane	2.6 U*	2.6 U*	0.5 U
1,2-Dichloropropane	**23**	**8.4**	**3.2**
Benzene	**1200**	**760**	**340**
cis-1,2-Dichloroethene	**130**	53	18
Dichloromethane	8.1 U*	8.1 U*	2.3
Tetrachloroethene	**5.8**	3.1 U*	0.6 U
Trichloroethene	**62**	**8.7**	**4.8**
Vinyl Chloride	**43**	5.3 U*	**9**

Well ID	Screen Interval (feet below grade)
MW-2	2 -4 '
MW-6**	7 - 17'
MW-16**	7.5 - 17'
MW-17	1.5 -4.0'
MW-22	1.4 - 3.5'
MW-23	2 - 4'

** – INDICATES INTERMEDIATE DEPTH WELL

Well ID	MW-6			
Date	3/7/2003	6/3/2003	9/10/2003	12/4/2003
1,1-Dichloroethene	**3.7/3.6**	**5.9/3.6**	4.3 U	4.3 U
1,2-Dichloropropane	**5.8/6.2**	**20/14**	**15**	**17**
Benzene	**150/150**	**90/58**	**38**	**54**
Chlorobenzene	**430/450**	**650/450**	**1400**	**1100**
Tetrachloroethene	1.2 U*/1.2 U*	1.6 U*/1.6 U*	3.1 U*	3.1 U*
Trichloroethene	**3.9/3.8**	**13/7.4**	**8.4**	**10**

Key

DATE SAMPLED

WELL ID

Well ID	MW-22		
Date	6/3/2003	9/10/2003	12/5/2003
Vinyl Chloride	**43**	**5.3 U**	**9**
Dichloromethane	**8.1 U**	**8.1 U**	2.3

RESULT (in micrograms per liter)

PARAMETER

BOLD = RESULT EXCEEDS NJDEP GROUNDWATER QUALITY STANDARDS (GWQS).

REVISIONS			
NO.:	DESCRIPTION:	DATE:	BY:

DESIGNED BY: GM
DRAWN BY: /jk
CHECKED BY:
APPROVED BY:

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GROUNDWATER EXCEEDENCES SUMMARY 2003: VOCs

COSAN CHEMICAL
CARLSTADT, NEW JERSEY

PROJECT NUMBER: 1973-001
DATE: 03/22/04
SCALE: AS SHOWN

FIGURE NUMBER: 6

SHEET NUMBER: 1 of 1

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Piscataway on 28/Piscataway(U):Project/Cosan/1973-001/Cadd/GW Exceed – VOCs

Well ID	MW-23			
Date	3/7/2003	6/3/2003	9/10/2003	12/5/2003
Arsenic	670	1,260	3,840	940
Mercury	6.8	1	27.1	0.53

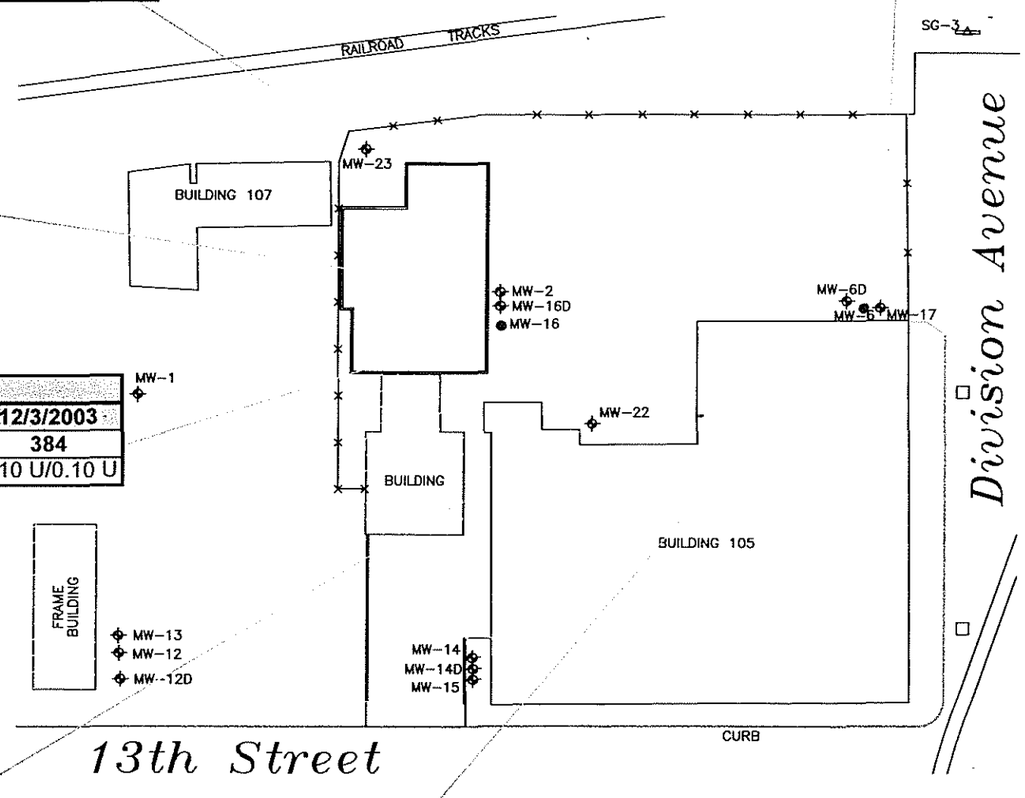
Well ID	MW-17			
Date	3/7/2003	6/3/2003	9/10/2003	12/4/2003
Arsenic	18	27	20	19
Mercury	5.7	7.9	1.2	3.6

Well ID	MW-2		
Date	6/3/2003	9/10/2003	12/5/2003
Arsenic	8,140	9,360/9,370	10,900
Mercury	0.16	0.34/0.34	0.37

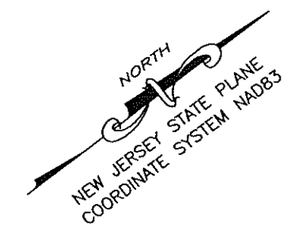
Well ID	MW-16			
Date	3/7/2003	6/3/2003	9/10/2003	12/3/2003
Arsenic	411	396	476	384
Mercury	0.10 U	0.10 U	0.10 U	0.10 U/0.10 U

Well ID	MW-22		
Date	6/3/2003	9/10/2003	12/5/2003
Arsenic	95,200	13,500	40,100
Mercury	91.6	705	77.7

Well ID	MW-6			
Date	3/7/2003	6/3/2003	9/10/2003	12/4/2003
Arsenic	8,230/8,190	6,160/6,440	6,950	7,380
Mercury	0.10 U/0.10 U	0.11 U/0.10 U	0.69	0.10 U



50 25 0 50
Scale in Feet



Legend

- ◆ MONITORING WELL LOCATION
- ● MONITORING WELL LOCATION INTERMEDIATE DEPTH

NE – NO EXCEEDANCE OF GWQS

ANALYTES:	GWQS
Arsenic	8
Mercury	2

Well ID	Screen Interval (feet below grade)
MW-2	2 -4 '
MW-6**	7 - 17'
MW-16**	7.5 - 17'
MW-17	1.5 -4.0'
MW-22	1.4 - 3.5'
MW-23	2 - 4'

** – INDICATES INTERMEDIATE DEPTH WELL

Key

DATE SAMPLED — WELL ID

Well ID	MW-22		
Date	6/3/2003	9/10/2003	12/5/2003
Arsenic	95,200	13,500	40,100
Mercury	91.6	705	77.7

RESULT (in micrograms per liter)

PARAMETER

BOLD = RESULT EXCEEDS NJDEP GROUNDWATER QUALITY STANDARDS (GWQS).

REVISIONS			
NO.:	DESCRIPTION:	DATE:	BY:

DESIGNED BY: GM
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GROUNDWATER EXCEEDANCE SUMMARY 2003: METALS

COSAN CHEMICAL
CARLSTADT, NEW JERSEY

PROJECT NUMBER: 1973-001
DATE: 03/22/04
SCALE: AS SHOWN

FIGURE NUMBER: 7

SHEET NUMBER: 1 of 1

Piscataway on \\Piscataway\(U):Project/Cosan/1973-001/Cadd/GW Exceed - Metals

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The attached figures and tables are reprints from the following document:

IT Corporation. 1996. “Additional Soil Sampling Locations and Analytical Data – Henkel Corporation.”

CONTAMINANT	SITE SPECIFIC CLEAN-UP LEVEL (A) (ppm)	NJDEP NON-RESIDENTIAL CLEAN-UP CRITERIA (B) (ppm)	SAMPLE CONCENTRATIONS (ppm)
Zinc	1,500.00	1,500.00	3,510.00
Benzo(a)pyrene	NA	0.66	3.20
Benzo(b)fluoranthene	NA	4.00	5.70
Aroclor 1254	5.00	2.00	2.90

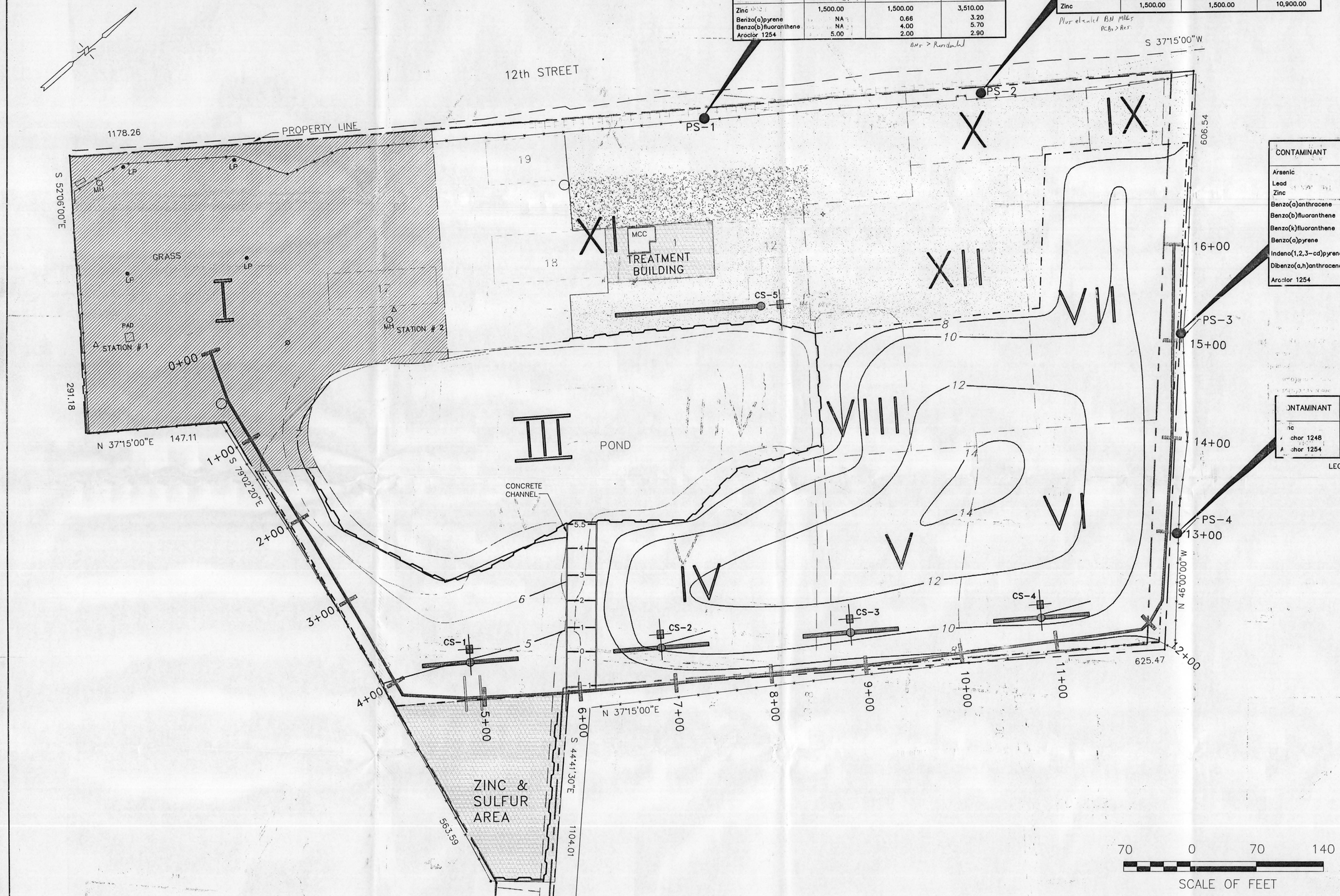
BMs > Residential

CONTAMINANT	SITE SPECIFIC CLEAN-UP LEVEL (A) (ppm)	NJDEP NON-RESIDENTIAL CLEAN-UP CRITERIA (B) (ppm)	SAMPLE CONCENTRATIONS (ppm)
Zinc	1,500.00	1,500.00	10,900.00

Plus elevated BN MPLs
PCBs > Res

CONTAMINANT	SITE SPECIFIC CLEAN-UP LEVEL (A) (ppm)	NJDEP NON-RESIDENTIAL CLEAN-UP CRITERIA (B) (ppm)	SAMPLE CONCENTRATIONS (ppm)
Arsenic	20.00	20.00	102.00
Lead	1,000.00	600.00	1,260.00
Zinc	1,500.00	1,500.00	15,400.00
Benzo(a)anthracene	NA	4.00	23.00
Benzo(b)fluoranthene	NA	0.66	25.00
Benzo(k)fluoranthene	NA	4.00	9.40
Benzo(a)pyrene	NA	0.66	18.00
Indeno(1,2,3-cd)pyrene	NA	4.00	11.00
Dibenzo(a,h)anthracene	NA	0.66	2.80
Aroclor 1254	5.00	2.00	12.00

CONTAMINANT	SITE SPECIFIC CLEAN-UP LEVEL (A) (ppm)	NJDEP NON-RESIDENTIAL CLEAN-UP CRITERIA (B) (ppm)	SAMPLE CONCENTRATIONS (ppm)
Zinc	1,500.00	1,500.00	8,380.00
Aroclor 1248	5.00	2.00	2.10
Aroclor 1254	5.00	2.00	3.90



LEGEND:

- SHEET PILE WALL
- SLURRY WALL
- PROPERTY LINE
- MH — MANHOLE
- POLE — UTILITY POLE
- LP — LIGHT POLE
- FENCE
- FIRE HYDRANT
- TRAFFIC AREA } ASPHALT
- NON TRAFFIC AREA } ASPHALT
- OPEN CHANNEL TRENCH DRAIN
- AREAS EXCAVATED TO GROUNDWATER AND BACKFILLED
- PS-1 — SOIL BORING LOCATIONS

VERTICAL DATUM: NGVD 1929 (MEAN SEA LEVEL)

CONCRETE MONUMENTS
△ STATION # 1 N 9,756.07 E 19,815.78 ELEV. 5.11 FEET
△ STATION # 2 N 10,013.87 E 19,994.40 ELEV. 7.56 FEET

NOTES:

1 - ALL CONCENTRATIONS IN mg/Kg (ppm).

2 - A = NJDEP APPROVED SITE SPECIFIC CLEAN-UP LEVEL, APRIL 1991.

3 - B = CURRENT NJDEP NON-RESIDENTIAL SOIL CLEAN-UP CRITERIA, LAST REVISED 2/3/94.

4 - "PS" BORINGS COLLECTED FROM THE 0.5-1.0 FOOT DEPTH.

SOUCES:

1. TOPOGRAPHIC SURVEY PREPARED BY JAMES M. STEWART, INC. PHILADELPHIA PA., ENTITLED "HENKEL CORPORATION, CARLSTADT TOWNSHIP, BERGEN COUNTY, NEW JERSEY AND DATED AUGUST 26, 1991.
2. AS BUILT INFORMATION BY PIZZELLI ASSOCIATES, INC. WILLIAMSTOWN, NEW JERSEY, ENTITLED "IN-SITU SOIL STABILIZATION VOLUME CALC'S", HENKEL CORP., CARLSTADT TOWNSHIP, BERGEN COUNTY, NEW JERSEY DATED MARCH 5, 1993.

70 0 70 140

SCALE OF FEET

LOCATION CARLSTADT, NEW JERSEY

TITLE

ADDITIONAL SOIL SAMPLING LOCATIONS AND ANALYTICAL DATA

ASSOCIATE ENGINEERS

INTERNATIONAL TECHNOLOGY CORPORATION

APPROVAL — DATE 2/11/96

CONTRACT No.

ASSOCIATE ENGINEER DWG AND REV.

529463-D78

Henkel Corporation
Process Chemicals
Ambler, Pa.

JOB No.

DWG. No. 55-DC-8101 A

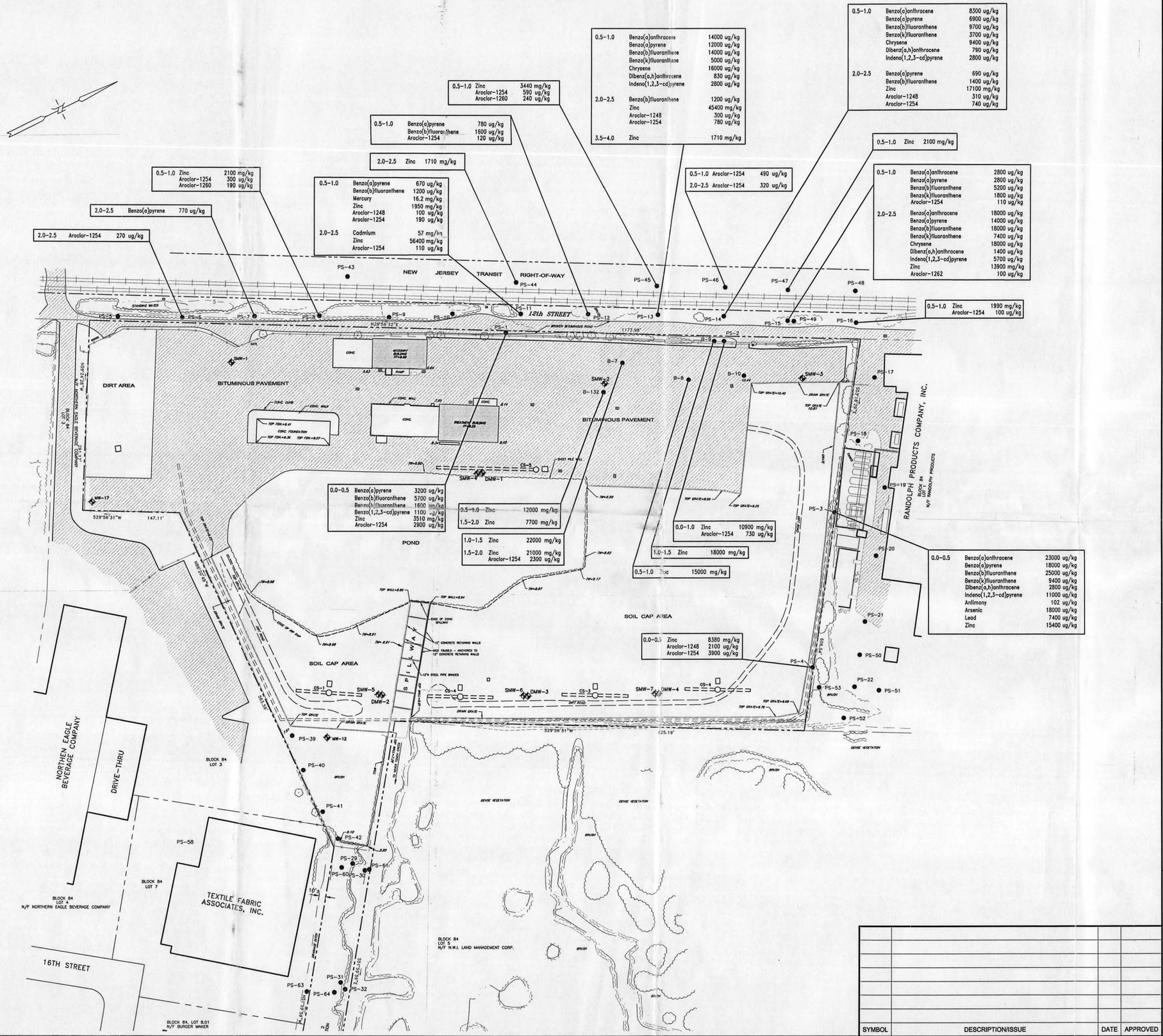
529463D78 06/21/96 0:07pm EDDY K. WU

The attached figures and tables are reprints from the following document:

Shaw Environmental, Inc. 2003. “Figure 1: Soil Boring Locations – Cognis Corporation.”

OFFICE EDISON, NJ

DRAWING NUMBER 776006-D8



Shaw® Shaw Environmental, Inc.

SYMBOL	DESCRIPTION/ISSUE	DATE	APPROVED

DESIGNED BY: J. Danza	COGNIS CORPORATION AMBLER, PENNSYLVANIA		
DRAWN BY: J.Danza	FIGURE 1 SOIL BORING LOCATIONS COGNIS CORPORATION CARLSTADT, NEW JERSEY		
CHECKED BY: E. Rashak			
APPROVED BY: --	DATE: 7/9/03	SCALE: AS SHOWN	DRAWING NO. 776006-D8	SHEET NO. --

The attached figures and tables are reprints from the following document:

IT Corporation. 2004. “Remedial Action Progress Semiannual Report & Response to NJDEP –Cognis Corporation.” (Somerset, NJ).

TABLE 3
GROUNDWATER ANALYTICAL DATA COMPARISON
COGNIS CORPORATION, CARLSTADT, NEW JERSEY
May 2004

Volatile Organic Compounds (ug/L)	Average Concentration																	
	April 1996	August 1996	November 1996	February 1997	August 1997[1]	February 1998	August 1998[1]	February 1999[2]	August 1999[2]	April 2000[2,3]	October 2000[2,3]	March 2001[3]	August 2001[3]	February 2002[3]	February 2003[3]	September 2003	March 2004	Percent Change from April 1996 to August 1999
Chloromethane	0.45	0.45	0.45	0.76	NA	0.45	NA	NA	0.2	NR	NR	NR	NR	NR	NR	NR	NR	-55.6%
Bromomethane	0.15	0.15	0.15	0.24	NA	0.15	NA	NA	0.3	NR	NR	NR	NR	NR	NR	NR	NR	100.0%
Vinyl Chloride	0.2	0.2	0.2	0.33	NA	0.2	NA	NA	0.25	NR	NR	NR	NR	NR	NR	NR	NR	25.0%
Chloroethane	0.5	0.5	0.5	0.85	NA	0.5	NA	NA	0.2	NR	NR	NR	NR	NR	NR	NR	NR	-60.0%
Methylene Chloride	0.5	1.99	6.75	2.15	NA	0.5	NA	NA	0.5	NR	NR	NR	NR	NR	NR	NR	NR	0.0%
Trichlorofluoromethane	0.1	0.1	1.6	0.18	NA	0.1	NA	NA	0.15	NR	NR	NR	NR	NR	NR	NR	NR	50.0%
1,1-Dichloroethene	0.3	0.3	0.3	0.48	NA	0.3	NA	NA	0.25	NR	NR	NR	NR	NR	NR	NR	NR	-16.7%
1,1-Dichloroethane	0.15	0.15	0.15	0.22	NA	0.15	NA	NA	0.15	NR	NR	NR	NR	NR	NR	NR	NR	0.0%
trans-1,2-Dichloroethene	0.15	0.15	0.15	0.25	NA	0.15	NA	NA	0.25	NR	NR	NR	NR	NR	NR	NR	NR	66.7%
cis-1,2-Dichloroethene	0.5	0.5	0.5	0.83	NA	0.5	NA	NA	0.43	NR	NR	NR	NR	NR	NR	NR	NR	-14.0%
Chloroform	0.1	0.47	0.95	0.29	NA	0.1	NA	NA	0.2	NR	NR	NR	NR	NR	NR	NR	NR	100.0%
1,2-Dichloroethane	0.1	0.1	1.0	0.18	NA	0.1	34	NA	0.15	NR	NR	NR	NR	NR	NR	NR	NR	50.0%
1,1,1-Trichloroethane	0.1	0.1	0.1	0.17	NA	0.1	NA	NA	0.15	NR	NR	NR	NR	NR	NR	NR	NR	50.0%
Carbon Tetrachloride	0.1	0.1	0.1	0.15	NA	0.1	NA	NA	0.2	NR	NR	NR	NR	NR	NR	NR	NR	100.0%
Bromodichloromethane	0.1	0.1	0.1	0.16	NA	0.1	NA	NA	0.1	NR	NR	NR	NR	NR	NR	NR	NR	0.0%
1,2-Dichloropropane	5.19	2.54	13.6	0.36	NA	0.25	NA	NA	0.05	NR	NR	NR	NR	NR	NR	NR	NR	-99.0%
cis-1,3-Dichloropropene	0.15	0.15	0.15	0.26	NA	0.15	NA	NA	0.15	NR	NR	NR	NR	NR	NR	NR	NR	0.0%
Trichloroethene	0.2	0.2	1.2	0.33	NA	0.2	NA	NA	0.15	NR	NR	NR	NR	NR	NR	NR	NR	-25.0%
Dibromochloromethane	0.1	0.1	0.1	0.18	NA	0.1	NA	NA	0.15	NR	NR	NR	NR	NR	NR	NR	NR	50.0%
1,1,2-Trichloroethane	0.2	0.2	0.2	0.35	NA	0.2	NA	NA	0.15	NR	NR	NR	NR	NR	NR	NR	NR	-25.0%
Benzene	1.46	1.21	2.1	1.34	1.0	0.23	NA	NA	0.37	NR	NR	NR	NR	NR	NR	NR	NR	-74.7%
trans-1,3-Dichloropropene	0.15	0.15	0.15	0.23	NA	0.15	NA	NA	0.15	NR	NR	NR	NR	NR	NR	NR	NR	0.0%
2-Chloroethyl Vinyl Ether	0.25	0.25	0.25	0.4	NA	0.25	NA	NA	0.2	NR	NR	NR	NR	NR	NR	NR	NR	-20.0%
Bromoform	0.15	0.15	0.15	0.25	NA	0.15	NA	NA	0.15	NR	NR	NR	NR	NR	NR	NR	NR	0.0%
Tetrachloroethene	0.1	0.05	0.88	0.08	0.4	0.05	NA	NA	0.05	NR	NR	NR	NR	NR	NR	NR	NR	-50.0%
1,1,2,2-Tetrachloroethane	0.15	0.15	0.15	0.23	NA	0.15	NA	NA	0.15	NR	NR	NR	NR	NR	NR	NR	NR	0.0%
Toluene	6.23	4.71	9.7	3.65	1.4	2.7	NA	NA	0.43	NR	NR	NR	NR	NR	NR	NR	NR	-93.1%
Chlorobenzene	9.72	10.8	28.6	10.2	11	10.2	9.9	11	2.83	NR	NR	NR	NR	NR	NR	NR	NR	-70.9%
Ethylbenzene	9.2	9.33	15.9	9.48	2.8	23.7	15.65	37	0.47	NR	NR	NR	NR	NR	NR	NR	NR	-94.9%
Xylenes (Total)	30.8	38	64	38	11.5	65.2	NA	84	1.65	NR	NR	NR	NR	NR	NR	NR	NR	-94.6%
Acrolein	25	25	25	62.5	NA	25	NA	NA	10.5	NR	NR	NR	NR	NR	NR	NR	NR	-58.0%
Acrylonitrile	25	25	25	62.5	NA	25	NA	NA	3.3	NR	NR	NR	NR	NR	NR	NR	NR	-86.8%
Total Priority VOCs	**117.4**	**123.35**	**200.13**	**197.58**	**28.1**	**157.18**	**59.5**	**132**	**24.38**	**NR**	**NR**	**NR**	**NR**	**NR**	**NR**	**NR**	**NR**	**-79.2%**

Notes:

MW - 17 has not been included in the compliance averaging.

[1] - Monitoring wells SMW-6 and SMW-7 were not sampled.

[2] - Monitoring well SMW-7 was not sampled.

[3] - Monitoring wells were not sampled for volatile organic compounds as per agreement with NJDEP.

NA - Nondetectable results may not be used for samples which have been diluted.

NR - Not Sampled.

TABLE 3
GROUNDWATER ANALYTICAL DATA COMPARISON
COGNIS CORPORATION, CARLSTADT, NEW JERSEY
May 2004

Semi-Volatile (Base/Neutral) Organic Compounds (ug/L)	Average Concentration																	
	April 1996	August 1996	November 1996	February 1997	August 1997[1]	February 1998	August 1998[1]	February 1999[2]	August 1999[2]	April 2000[2]	October 2000[2]	March 2001	August 2001	February 2002	February 2003	September 2003	March 2004	Percent Change from April 1996 to August 1999
N-Nitrosodimethylamine	0.38	0.36	0.37	0.39	0.40	0.38	0.38	0.44	0.43	NR	NR	NR	NR	NR	NR	NR	NR	13.2%
bis(2-Chloroethyl)ether	0.69	0.64	0.66	0.65	0.60	0.68	0.68	0.35	0.35	NR	NR	NR	NR	NR	NR	NR	NR	-49.3%
1,3-Dichlorobenzene	0.76	1.70	0.18	1.9	1.8	1.88	1.88	0.75	0.25	NR	NR	NR	NR	NR	NR	NR	NR	-67.1%
1,4-Dichlorobenzene	1.94	1.78	0.98	1.9	1.8	1.91	1.90	0.80	0.80	NR	NR	NR	NR	NR	NR	NR	NR	-58.8%
1,2-Dichlorobenzene	1.94	1.78	1.80	2.98	1.8	1.84	3.89	1.62	0.65	NR	NR	NR	NR	NR	NR	NR	NR	-66.5%
bis(2-chloroisopropyl)ether	0.76	0.73	0.73	0.74	0.70	0.75	0.78	0.43	0.15	NR	NR	NR	NR	NR	NR	NR	NR	-80.3%
N-Nitroso-di-n-propylamine	0.82	0.78	0.28	0.79	0.80	0.82	0.83	0.62	0.61	NR	NR	NR	NR	NR	NR	NR	NR	-25.6%
Hexachloroethane	1.31	1.21	1.30	1.3	1.3	1.32	1.34	1.14	1.15	NR	NR	NR	NR	NR	NR	NR	NR	-12.2%
Nitrobenzene	0.82	0.79	0.80	0.79	3.2	0.82	0.80	0.25	2.88	NR	NR	NR	NR	NR	NR	NR	NR	251.2%
Isophorone	0.73	1.20	0.93	0.90	0.90	0.93	0.92	0.25	0.43	NR	NR	NR	NR	NR	NR	NR	NR	-41.1%
bis(2-Chloroethoxy)methane	0.91	0.85	0.88	0.89	0.90	0.89	0.89	0.42	0.44	NR	NR	NR	NR	NR	NR	NR	NR	-51.6%
1,2,4-Trichlorobenzene	2.05	1.9	1.97	2.49	1.9	2.02	1.74	1.11	0.60	NR	NR	NR	NR	NR	NR	NR	NR	-70.7%
Naphthalene	140	91.8	119	91	11.5	45	22.6	8.38	42.56	NR	NR	NR	NR	NR	NR	NR	NR	-69.6%
Hexachlorobutadiene	1.17	1.20	1.13	1.18	1.1	1.17	1.19	0.95	0.95	NR	NR	NR	NR	NR	NR	NR	NR	-18.8%
Hexachlorocyclopentadiene	0.88	0.69	0.90	0.88	0.80	0.88	0.89	0.63	0.63	NR	NR	NR	NR	NR	NR	NR	NR	-28.4%
2-Chloronaphthalene	1.23	1.7	1.95	1.69	1.6	1.71	1.71	0.60	6.92	NR	NR	NR	NR	NR	NR	NR	NR	462.6%
Dimethylphthalate	0.68	0.67	0.68	0.69	0.70	0.68	0.69	0.26	0.27	NR	NR	NR	NR	NR	NR	NR	NR	-60.3%
Acenaphthylene	12.90	1.42	1.08	1.09	1.1	1.10	1.10	0.47	8.17	NR	NR	NR	NR	NR	NR	NR	NR	-36.7%
2,6-Dinitrotoluene	0.83	0.78	0.78	0.79	0.80	0.82	0.83	0.37	0.38	NR	NR	NR	NR	NR	NR	NR	NR	-54.2%
Acenaphthene	1.52	1.42	1.49	1.49	1.4	1.91	1.41	0.69	0.48	NR	NR	NR	NR	NR	NR	NR	NR	-68.4%
2,4-Dinitrotoluene	0.82	0.78	0.78	0.79	0.80	0.82	0.83	0.44	0.43	NR	NR	NR	NR	NR	NR	NR	NR	-47.6%
Diethylphthalate	0.63	0.62	0.62	1.28	0.60	0.63	0.63	0.26	0.27	NR	NR	NR	NR	NR	NR	NR	NR	-57.1%
4-Chlorophenyl-phenylether	1.56	1.5	1.54	1.54	1.5	1.57	1.56	0.43	0.45	NR	NR	NR	NR	NR	NR	NR	NR	-71.2%
Fluorene	1.07	1.51	1.58	1.23	1.4	1.48	1.11	0.58	0.37	NR	NR	NR	NR	NR	NR	NR	NR	-65.4%
N-Nitrosodiphenylamine	0.59	0.58	0.58	0.59	0.60	0.60	0.61	0.20	0.20	NR	NR	NR	NR	NR	NR	NR	NR	-66.1%
4-Bromophenyl-phenylether	1.07	1.05	1.08	1.08	1.0	1.09	1.09	0.36	0.36	NR	NR	NR	NR	NR	NR	NR	NR	-66.4%
Hexachlorobenzene	0.68	0.65	0.67	0.68	0.60	0.68	0.68	0.34	0.35	NR	NR	NR	NR	NR	NR	NR	NR	-48.5%
Phenanthrene	3.98	2.31	2.09	2.13	1.2	2.01	1.04	0.38	0.77	NR	NR	NR	NR	NR	NR	NR	NR	-80.7%
Anthracene	0.59	0.55	0.53	0.59	0.60	0.60	0.61	0.31	0.32	NR	NR	NR	NR	NR	NR	NR	NR	-45.8%
Di-n-butylphthalate	0.53	0.51	0.52	0.51	0.50	0.53	0.53	0.33	0.34	NR	NR	NR	NR	NR	NR	NR	NR	-35.8%
Fluoranthene	1.55	1.17	2.32	1.28	0.70	1.20	0.61	0.32	0.58	NR	NR	NR	NR	NR	NR	NR	NR	-62.6%
Pyrene	1.75	1.08	2.34	1.36	0.60	1.19	0.33	0.35	0.56	NR	NR	NR	NR	NR	NR	NR	NR	-68.0%
Benzidine	0.28	0.25	0.26	0.28	0.30	0.28	0.28	3.05	3.02	NR	NR	NR	NR	NR	NR	NR	NR	978.6%
Butylbenzylphthalate	0.38	0.36	0.36	0.35	0.40	0.36	0.40	0.27	0.27	NR	NR	NR	NR	NR	NR	NR	NR	-28.9%
3,3'-Dichlorobenzidine	0.79	0.75	0.78	0.79	0.80	0.78	0.79	1.85	1.85	NR	NR	NR	NR	NR	NR	NR	NR	134.2%
Benzo(a)anthracene	0.46	0.44	0.46	0.45	0.40	0.55	0.46	0.30	0.30	NR	NR	NR	NR	NR	NR	NR	NR	-34.8%

Notes:

MW - 17 has not been included in the compliance averaging.
[1] - Monitoring wells SMW-6 and SMW-7 were not sampled.
[2] - Monitoring well SMW-7 was not sampled.
NR - Not Sampled.

GROUNDWATER ANALYTICAL DATA COMPARISON
COGNIS CORPORATION, CARLSTADT, NEW JERSEY
May 2004

Semi-Volatile (Base/Neutral) Organic Compounds (ug/L)	Average Concentration																	
	April 1996	August 1996	November 1996	February 1997	August 1997[1]	February 1998	August 1998[1]	February 1999[2]	August 1999[2]	April 2000[2]	October 2000[2]	March 2001	August 2001	February 2002	February 2003	September 2003	March 2004	Percent Change from April 1996 to August 1999
Chrysene	0.45	0.46	0.63	0.46	0.40	0.63	0.48	0.39	0.38	NR	NR	NR	NR	NR	NR	NR	NR	-15.6%
bis(2-Ethylhexyl)phthalate	6.68	2.50	4.86	0.39	3.7	2.46	1.49	2.15	2.15	NR	NR	NR	NR	NR	NR	NR	NR	-67.8%
Di-n-octylphthalate	3.24	0.52	2.48	1.51	0.8	0.90	0.58	0.23	0.27	NR	NR	NR	NR	NR	NR	NR	NR	-91.7%
Benzo(b)fluoranthene	0.41	0.41	0.61	0.40	0.4	0.41	0.41	0.30	0.30	NR	NR	NR	NR	NR	NR	NR	NR	-26.8%
Benzo(k)fluoranthene	0.50	0.46	0.50	0.49	0.6	0.51	0.51	0.36	0.38	NR	NR	NR	NR	NR	NR	NR	NR	-24.0%
Benzo(a)pyrene	0.43	0.41	0.42	0.44	0.4	0.44	0.45	0.33	0.33	NR	NR	NR	NR	NR	NR	NR	NR	-23.3%
Indeno(1,2,3-cd)pyrene	0.38	0.36	0.37	0.39	0.4	0.38	0.38	0.42	0.42	NR	NR	NR	NR	NR	NR	NR	NR	10.5%
Dibenz(a,h)anthracene	0.46	0.39	0.46	0.45	0.4	0.46	0.46	0.35	0.35	NR	NR	NR	NR	NR	NR	NR	NR	-23.9%
Benzo(g,h,i)perylene	0.41	0.41	0.41	0.40	0.4	0.41	0.41	0.45	0.47	NR	NR	NR	NR	NR	NR	NR	NR	14.6%
Total Priority BNs	**202**	**133.4**	**165.1**	**134.4**	**54.6**	**88.5**	**59.9**	**36.2**	**84.6**	**NR**	**NR**	**NR**	**NR**	**NR**	**NR**	**NR**	**NR**	**-58.1%**

Notes:

MW - 17 has not been included in the compliance averaging.
[1] - Monitoring wells SMW-6 and SMW-7 were not sampled.
[2] - Monitoring well SMW-7 was not sampled.
[3] - Monitoring wells were not sampled for volatile organic compounds as per agreement with NJDEP.
NR - Not Sampled.

TABLE 3
GROUNDWATER ANALYTICAL DATA COMPARISON
COGNIS CORPORATION, CARLSTADT, NEW JERSEY
May 2004

Pesticides/PCBs (ug/L)	Average Concentration																	
	April 1996	August 1996	November 1996	February 1997	August 1997[1]	February 1998	August 1998[1]	February 1999[2]	August 1999[2]	April 2000[2]	October 2000[2]	March 2001	August 2001	February 2002	February 2003	September 2003	March 2004	Percent Change from April 1996 to March 2004
Aldrin	0.015	0.015	0.029	0.015	0.03	0.027	0.015	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.008	0.005	0.005	-66.7%
alpha-BHC	0.033	0.01	0.01	0.01	0.01	0.01	0.01	0.005	0.005	0.001	0.010	0.005	0.005	0.005	0.008	0.010	0.010	-69.7%
beta-BHC	0.04	0.01	0.01	0.01	0.01	0.014	0.01	0.005	0.005	0.005	0.005	0.005	0.008	0.009	0.008	0.005	0.005	-87.5%
delta-BHC	0.032	0.01	0.01	0.01	0.01	0.013	0.01	0.027	0.005	0.005	0.024	0.005	0.08	0.01	0.009	0.005	0.005	-84.4%
gamma-BHC(Lindane)	0.034	0.01	0.01	0.01	0.01	0.01	0.01	0.005	0.005	0.010	0.010	0.006	0.021	0.005	0.010	0.006	0.009	-72.8%
Chlordane	0.175	0.15	0.12	0.15	0.15	0.15	0.56	0.01	0.10	0.10	0.10	0.10	0.44	0.10	0.150	0.150	0.150	-14.3%
4,4'-DDD	7.9	4.51	10.2	5.16	0.27	10.7	0.09	0.313	0.36	0.10	0.24	1.85	3.71	0.10	0.900	0.190	2.504	-68.3%
4,4'-DDE	0.41	0.021	0.58	0.36	0.02	0.99	0.03	0.005	0.005	0.018	0.053	0.210	0.47	0.03	0.180	0.020	0.007	-98.4%
4,4'-DDT	0.9	0.011	0.52	0.34	0.01	0.011	0.028	0.005	0.005	0.011	0.007	0.009	0.06	0.01	0.010	0.012	0.183	-79.7%
Dieldrin	0.035	0.01	0.01	0.01	0.01	0.01	0.028	0.005	0.005	0.005	0.007	0.005	0.02	0.01	0.070	0.008	0.005	-85.7%
Endosulfan I	0.03	0.01	0.01	0.01	0.01	0.01	0.028	0.005	0.005	0.005	0.010	0.007	0.02	0.01	0.020	0.020	0.066	120.0%
Endosulfan II	0.037	0.011	0.011	0.011	0.02	0.01	0.028	0.005	0.005	0.005	0.005	0.005	0.02	0.01	0.01	0.009	0.052	40.5%
Endosulfan sulfate	0.033	0.012	0.011	0.011	0.011	0.01	0.028	0.01	0.01	0.009	0.005	0.005	0.02	0.01	0.01	0.010	0.005	-84.8%
Endrin	0.04	0.07	0.011	0.011	0.011	0.017	0.028	0.005	0.005	0.005	0.005	0.021	0.12	0.01	0.01	0.016	0.015	-62.5%
Endrin aldehyde	0.035	0.015	0.017	0.015	0.02	0.015	0.042	0.005	0.005	0.005	0.005	0.010	0.31	0.01	0.01	0.005	0.019	-46.3%
Heptachlor	0.034	0.022	0.015	0.015	0.03	0.024	0.042	0.005	0.005	0.006	0.013	0.013	0.04	0.01	0.01	0.01	0.515	1414.7%
Heptachlor epoxide	0.36	0.01	0.01	0.01	0.02	0.013	0.028	0.005	0.005	0.005	0.005	0.005	0.02	0.01	0.01	0.02	0.006	-98.5%
Toxaphene	0.285	0.25	0.25	0.25	0.25	0.25	0.70	0.15	0.15	0.20	0.20	0.10	0.44	0.10	0.17	0.15	0.150	-47.4%
Aroclor-1016	0.092	0.1	0.1	0.1	0.1	0.1	0.42	0.10	0.10	0.15	0.15	0.10	0.44	0.10	0.17	0.10	0.100	8.7%
Aroclor-1221	0.2	0.2	0.2	0.2	0.2	0.2	0.56	0.15	0.15	0.15	0.15	0.10	0.44	0.10	0.25	0.15	0.150	-25.0%
Aroclor-1232	0.17	0.05	0.05	0.05	0.05	0.05	0.42	0.20	0.20	0.15	0.15	0.15	0.59	0.15	0.25	0.15	0.150	-11.8%
Aroclor-1242	0.21	0.2	0.2	0.2	0.2	0.2	0.49	0.15	0.15	0.10	0.10	0.10	0.44	0.10	0.17	0.10	0.100	-52.4%
Aroclor-1248	29	18.5	32.3	22.8	1.4	52.6	3.45	2.69	2.54	0.78	2.26	16.38	34.00	1.15	6.42	8.26	27.900	-3.8%
Aroclor-1254	0.19	0.2	0.2	0.2	0.2	0.2	0.56	0.20	0.20	0.10	0.10	0.25	0.88	0.20	0.17	0.10	0.100	-47.4%
Aroclor-1260	0.061	0.05	0.05	0.05	0.05	0.05	0.28	0.10	0.10	0.20	0.20	0.10	1.07	0.25	0.17	0.15	0.150	145.9%
Aroclor-1262	--	--	--	--	--	--	0.28	0.10	0.10	0.10	0.10	0.10	0.44	0.10	0.17	0.15	0.150	46.4%[3]
Aroclor-1268	--	--	--	--	--	--	0.28	0.10	0.10	0.10	0.10	0.10	0.44	0.10	0.17	0.15	0.150	46.4%[3]
Total Pesticides/PCBs	40.35	24.46	44.93	30.00	3.10	65.68	8.44	4.37	4.33	2.34	4.10	19.65	44.54	2.48	9.54	7.96	32.66	-19.1%

Notes:

MW - 17 has not been included in the compliance averaging.

[1] - Monitoring wells SMW-6 and SMW-7 were not sampled.

[2] - Monitoring well SMW-7 was not sampled.

[3] - Percent change from August 1998 to February 2003.

TABLE 3
GROUNDWATER ANALYTICAL DATA COMPARISON
COGNIS CORPORATION, CARLSTADT, NEW JERSEY
May 2004

Metals (ug/L)	Average Concentration																		
	April 1996	August 1996	November 1996	February 1997	August 1997[1]	February 1998	August 1998[1]	February 1999[2]	August 1999[2]	Percent Change from April 1996 to August 1999	April 2000[3]	October 2000[3]	Percent Change from April 1996 to October 2000[5]	March 2001	August 2001	February 2002	February 2003	September 2003	March 2004
Antimony	671	1611	1206	318	290	267	1,242	697.6	193.4	-71.2%	112.9	128.3	-80.9%	NR	NR	NR	NR	NR	NR
Arsenic	18.6	25.2	24.8	17.8	10.8	19.8	23.3	13.0	5.0	-73.0%	5.55	12.9	-30.6%	NR	NR	NR	NR	NR	NR
Beryllium	1.8	10.3	4.5	1.07	0.32	1.24	0.38	0.17	0.17	-90.6%	NR	NR	–	NR	NR	NR	NR	NR	NR
Cadmium	0.41	4.7	2.58	1.63	3.5	1.84	3.84	0.57	0.42	2.4%	NR	NR	–	NR	NR	NR	NR	NR	NR
Chromium	20.2	37.7	23.4	17.1	10.8	27.7	12.3	5.56	4.23	-79.1%	NR	NR	–	NR	NR	NR	NR	NR	NR
Copper	29.6	17.3	26.5	14.4	45	40.5	38.8	11.3	24.8	-16.2%	NR	NR	–	NR	NR	NR	NR	NR	NR
Lead	40.6	2.1	46.5	11.2	77	19.35	150	4.15	5.81	-85.7%	4.83	19.5	-52.0%	NR	NR	NR	NR	NR	NR
Mercury	1.8	173	6.79	0.51	1.2	0.66	1.08	0.19	0.27	-85.0%	NR	NR	–	NR	NR	NR	NR	NR	NR
Nickel	168	12.3	112	111	91	130	36.5	97.6	81.7	-51.4%	NR	NR	–	NR	NR	NR	NR	NR	NR
Selenium	2.1	0.6	1.78	7.72	2.4	2.92	4.83	4.22	3.83	82.4%	NR	NR	–	NR	NR	NR	NR	NR	NR
Silver	0.6	2.35	2.45	1.84	0.7	0.64	0.98	0.83	0.83	38.3%	NR	NR	–	NR	NR	NR	NR	NR	NR
Thallium	2.35	235	2.2	7.22	1.9	2.28	3.15	3.42	3.41	45.1%	NR	NR	–	NR	NR	NR	NR	NR	NR
Zinc	549	3707	819	303	531	899	472	1249	72	-86.9%	NR	NR	–	NR	NR	NR	NR	NR	NR
Total Metals	**1,506**	**5,839**	**2,279**	**812**	**1,066**	**1,413**	**1,989**	**2,087**	**396**	**-73.7%**	**123.28[4]**	**160.7[4]**	**- 78%[5]**	**NR**	**NR**	**NR**	**NR**	**NR**	**NR**

Notes:

MW - 17 has not been included in the compliance averaging.

[1] - Monitoring wells SMW-6 and SMW-7 were not sampled.

[2] - Monitoring well SMW-7 was not sampled.

[3] - Monitoring well SMW-7 was not sampled and groundwater was only analyzed for Sb, As and Pb as per the NJDEP.

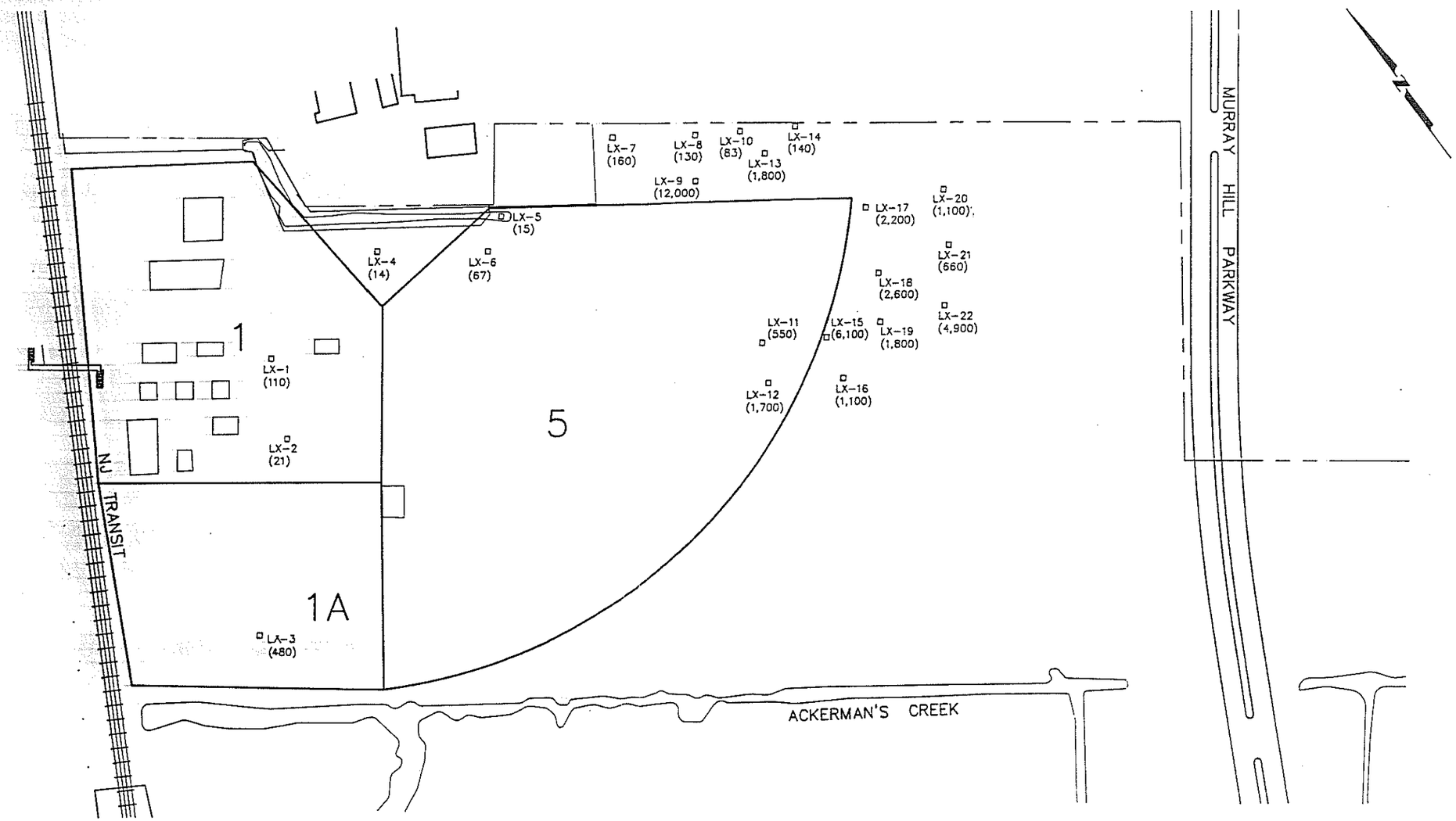
[4] - Total metals value is only for Sb, As and Pb.

[5] - Percent change value is only for Sb, As and Pb.

NR - Not Sampled.

The attached figures and tables are reprints from the following document:

ENSR Consulting and Engineering. 1993. “Allied Signal Inc, Morristown, NJ. Supplemental Investigation Summary Report: UOP Site, East Rutherford.” Document Number: 0186-002-525.



LEGEND

▫ SURVEYED LOCATION OF LEAD SOIL SAMPLES

( ) CONCENTRATION IN mg/kg

0 150 300

SCALE IN FEET
1" = 150'

FIGURE 3-1

ENSR

ENSR CONSULTING & ENGINEERING

LEAD SOIL SAMPLE LOCATIONS
UOP SITE
EAST RUTHERFORD, N.J.

DRAWN BY:	DATE:	PROJECT NO.
K.P.B.	3/93	0186-002-525

0186113B

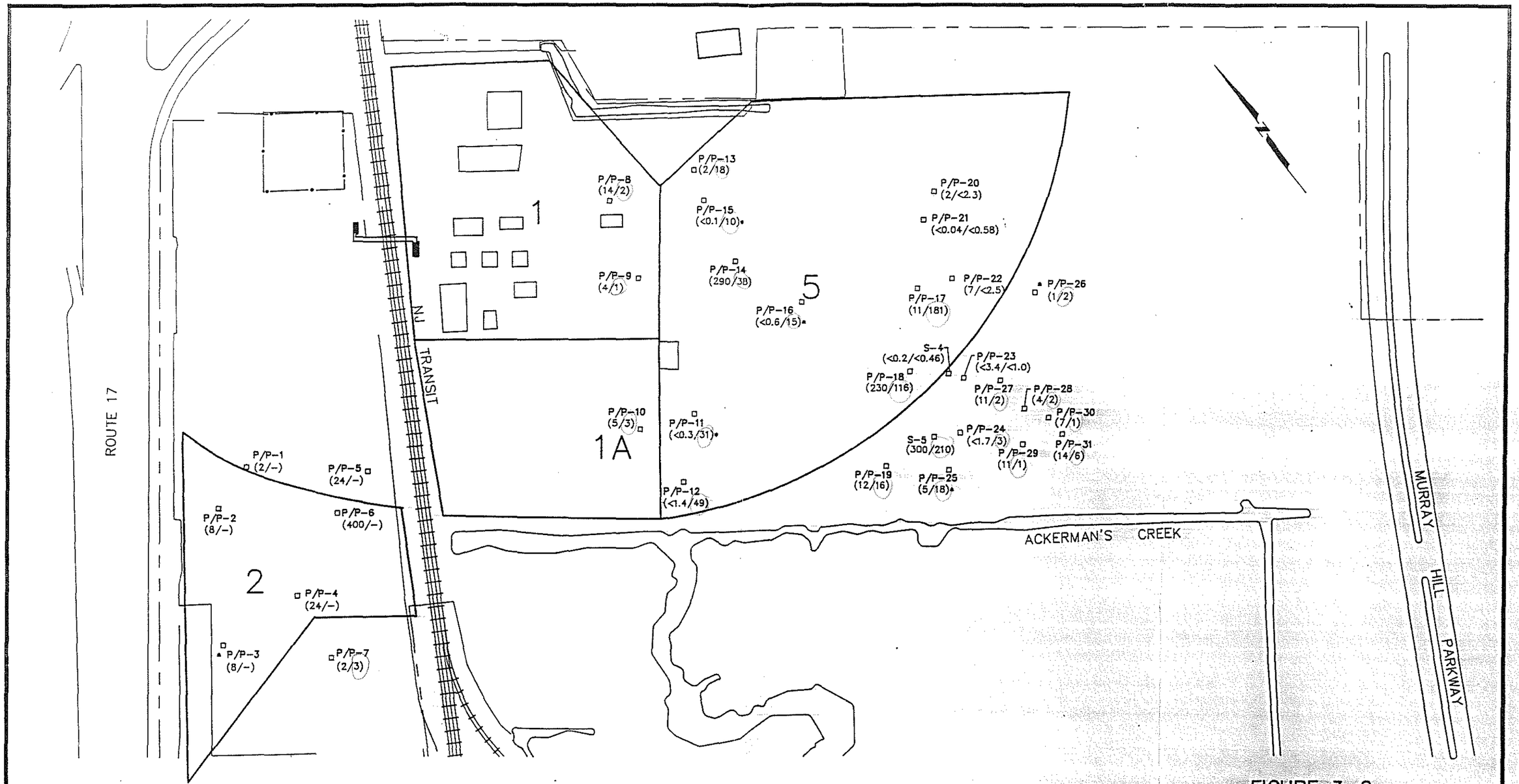


FIGURE 3-2

LEGEND

▫ SURVEYED LOCATION OF PCB/PAH SOIL SAMPLES

( )* CONCENTRATION EXCEEDS ACTION LEVEL FOR INDIVIDUAL CPAH's

NOTE
* NOT FOUND IN FIELD; LOCATION PLOTTED FROM ENSR MAP

0 150 300
SCALE IN FEET
1" = 150'

ENSR
ENSR CONSULTING & ENGINEERING

PCB/PAH SOIL SAMPLE LOCATIONS
UOP SITE
EAST RUTHERFORD, N.J.

DRAWN BY:	DATE:	PROJECT NO.
K.P.B.	3/93	0186-002-525

0186114B

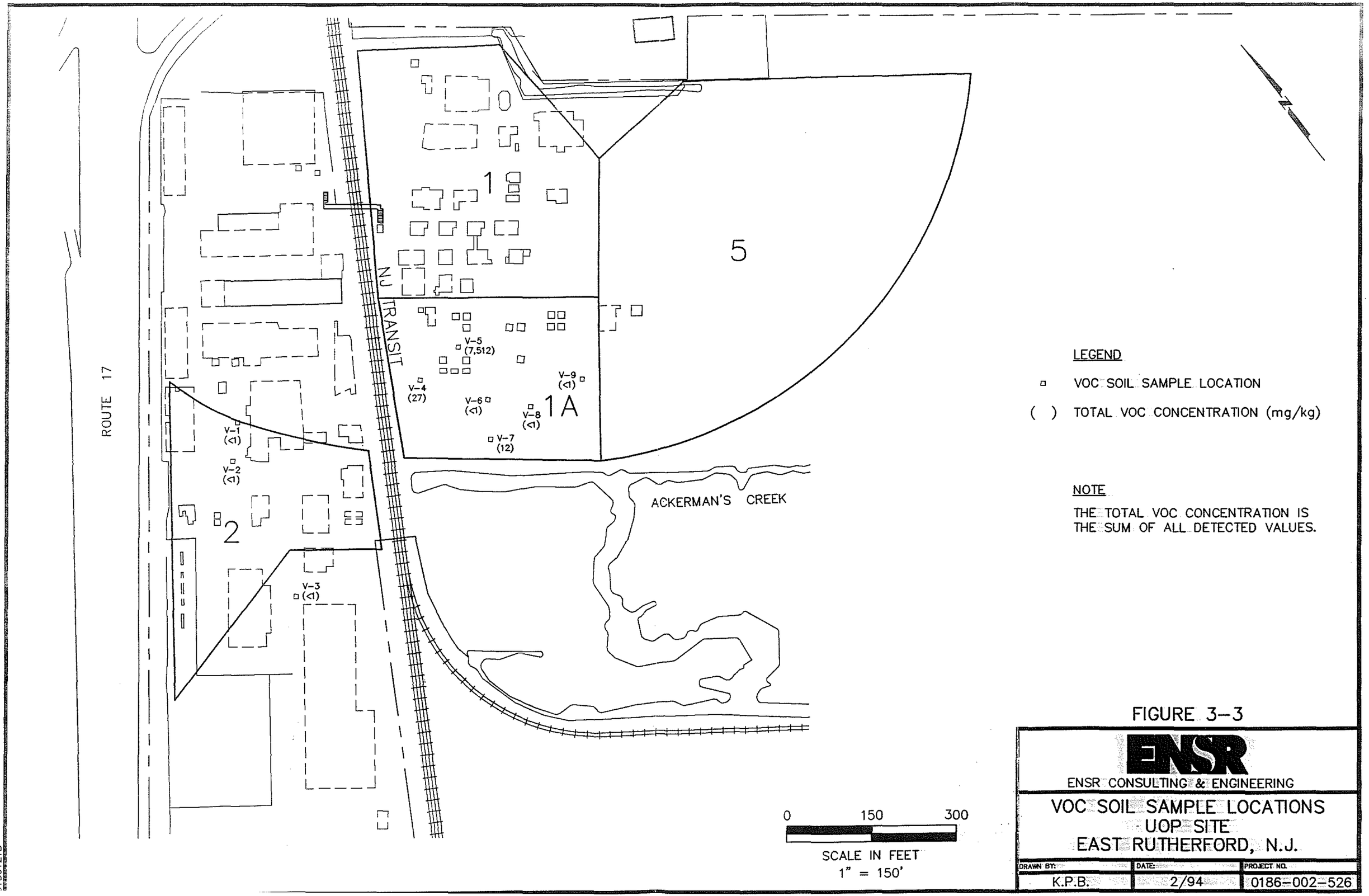
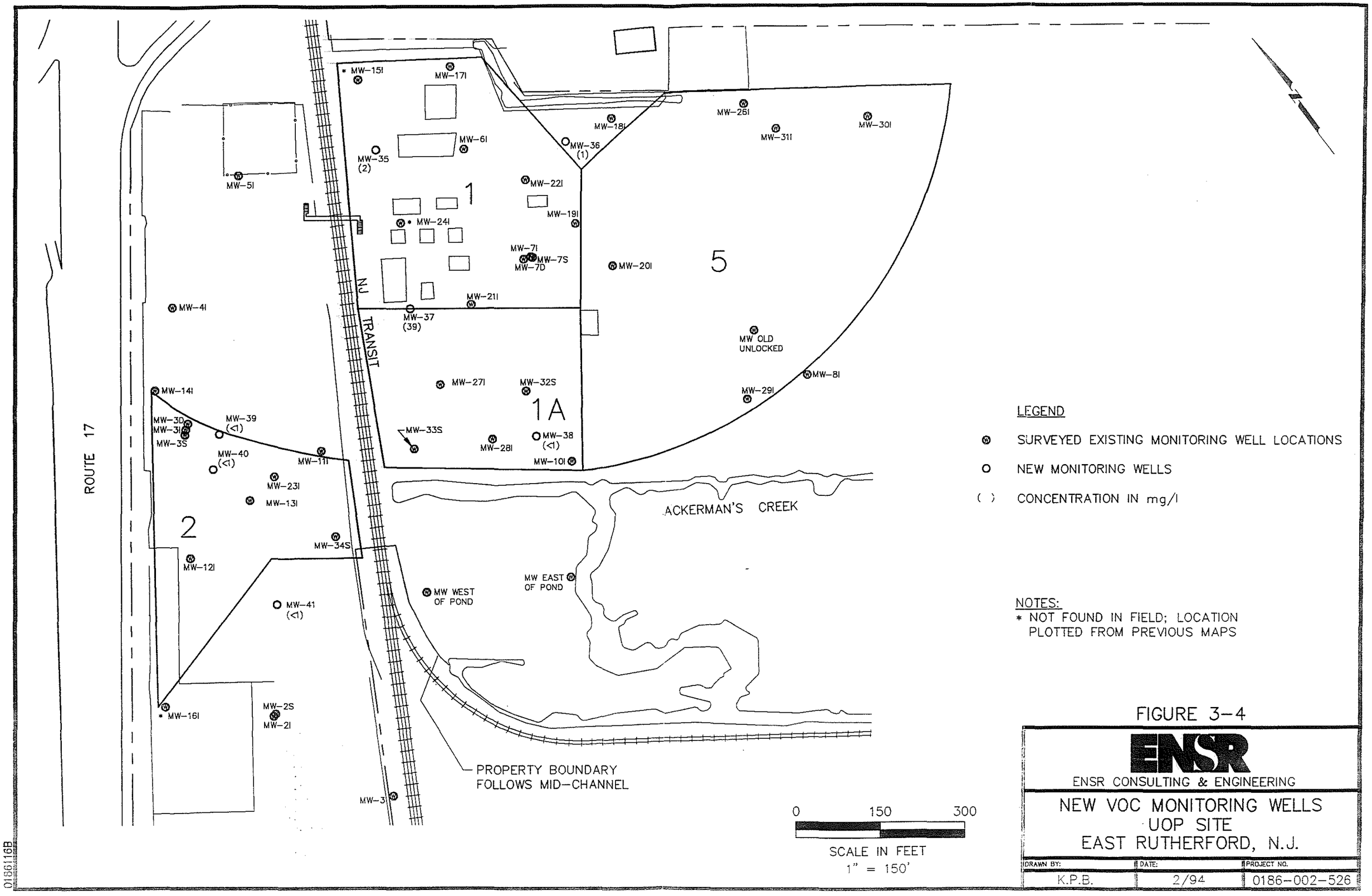


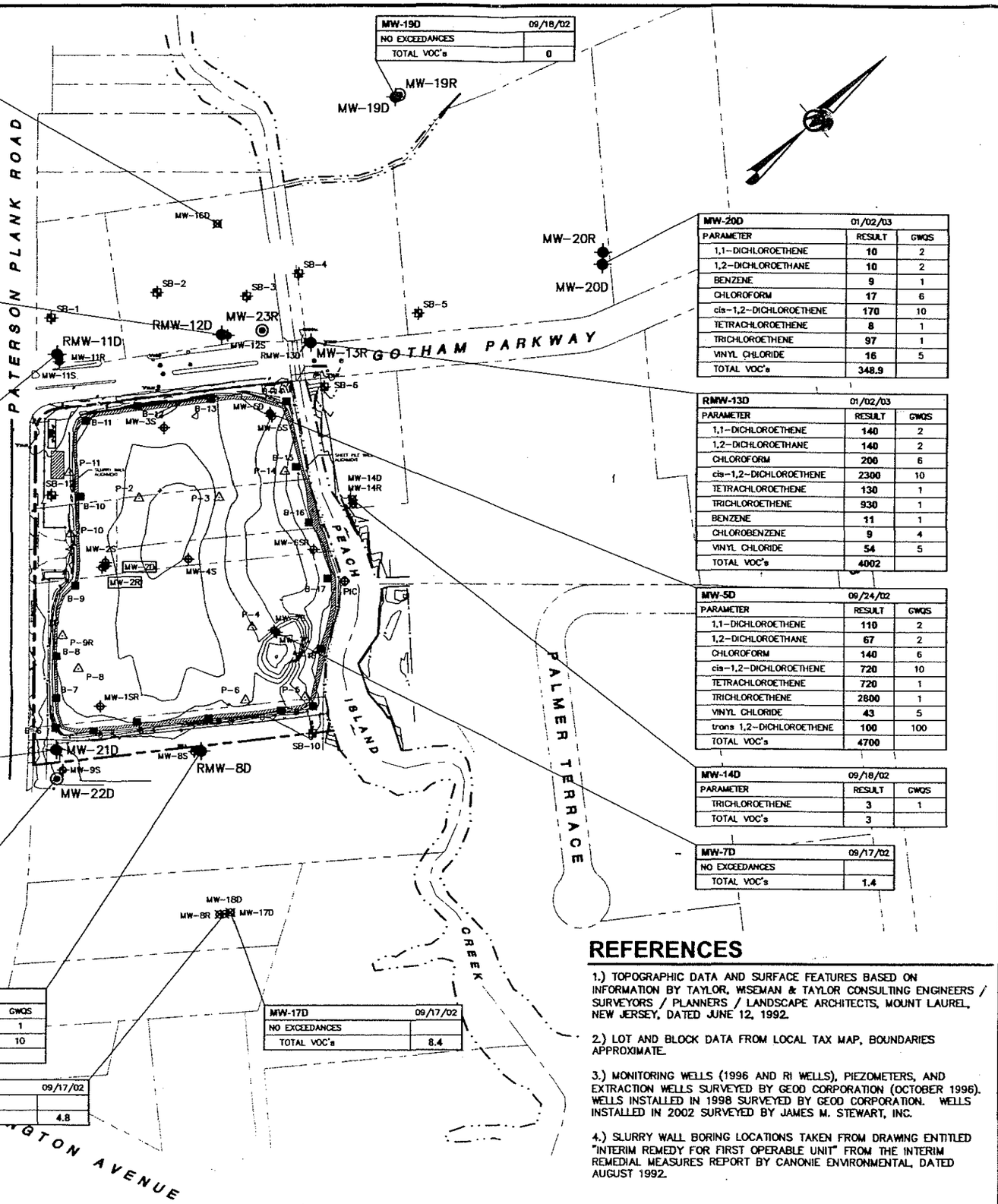
FIGURE 3-3

0186121B


MW-15I
MW-17I
MW-6I
MW-35
(2)
MW-36
(1)
MW-18I
MW-26I
MW-31I
MW-30I
MW-5I
MW-22I
1
MW-19I
MW-24I
MW-7I
MW-7S
MW-7D
MW-20I
5
MW-21I
MW-4I
MW-37
(39)
NJ TRANSIT
MW OLD
UNLOCKED
MW-8I
MW-29I
MW-27I
MW-32S
1A
MW-14I
MW-3D
MW-3I
MW-3S
MW-39
(<1)
MW-40
(<1)
MW-11I
MW-33S
MW-28I
MW-38
(<1)
MW-10I
MW-23I
MW-13I
ROUTE 17
2
MW-34S
MW-12I
ACKERMAN'S CREEK
MW EAST
OF POND
MW WEST
OF POND
MW-41
(<1)
MW-16I
MW-2S
MW-2I
PROPERTY BOUNDARY
FOLLOWS MID-CHANNEL
MW-3
0
150
300
SCALE IN FEET
1" = 150'
LEGEND
SURVEYED EXISTING MONITORING WELL LOCATIONS
NEW MONITORING WELLS
( ) CONCENTRATION IN mg/l
NOTES:
* NOT FOUND IN FIELD; LOCATION
PLOTTED FROM PREVIOUS MAPS
FIGURE 3-4
ENSR
ENSR CONSULTING & ENGINEERING
NEW VOC MONITORING WELLS
UOP SITE
EAST RUTHERFORD, N.J.
DRAWN BY: K.P.B.
DATE: 2/94
PROJECT NO. 0186-002-526
0186116B

The attached figures and tables are reprints from the following document:

Golder Associates Inc. 2003. "Off-Property Groudnwater Investigation Report. OU3. 216 Paterson Plank Road Site, Carlstadt, NJ." (Cherry Hill, NJ). Project Number 943-6222.



MW-16D	09/26/02	
PARAMETER	RESULT	GWQS
1,1-DICHLOROETHENE	5	2
1,2-DICHLOROETHANE	6	2
cis-1,2-DICHLOROETHENE	31	10
TETRACHLOROETHANE	10	1
TRICHLOROETHENE	62	1
TOTAL VOC's	117.6	

MW-15D	09/25/02
NO EXCEEDANCES	
TOTAL VOC's	0.2

RMW-12D	09/26/02	
PARAMETER	RESULT	GWQS
1,1-DICHLOROETHENE	19	2
1,2-DICHLOROETHANE	21	2
CHLOROFORM	12	6
cis-1,2-DICHLOROETHENE	230	10
TETRACHLOROETHENE	14	1
TRICHLOROETHENE	90	1
VINYL CHLORIDE	15	5
TOTAL VOC's	485	

RMW-11D	09/19/02	
PARAMETER	RESULT	GWQS
TETRACHLOROETHANE	3	1
TRICHLOROETHENE	3	1
TOTAL VOC's	7.7	

MW-10D	09/19/02
NO EXCEEDANCES	
TOTAL VOC's	0

MW-21D	09/25/02	
PARAMETER	RESULT	GWQS
cis-1,2-DICHLOROETHENE	13	10
1,1-DICHLOROETHANE	600	70
BENZENE	500	1
METHYLENE CHLORIDE	12	2
TRICHLOROETHENE	17	1
VINYL CHLORIDE	14	5
TOTAL VOC's	2041.5	

MW-22D	09/25/02
NO EXCEEDANCES	
TOTAL VOC's	1.2

RMW-8D	09/17/02	
PARAMETER	RESULT	GWQS
TRICHLOROETHENE	4	1
cis-1,2-DICHLOROETHENE	15	10
TOTAL VOC's	19	

MW-18D	09/17/02
NO EXCEEDANCES	
TOTAL VOC's	4.8

MW-17D	09/17/02
NO EXCEEDANCES	
TOTAL VOC's	8.4

MW-19D	09/18/02
NO EXCEEDANCES	
TOTAL VOC's	0

MW-20D	01/02/03	
PARAMETER	RESULT	GWQS
1,1-DICHLOROETHENE	10	2
1,2-DICHLOROETHANE	10	2
BENZENE	9	1
CHLOROFORM	17	6
cis-1,2-DICHLOROETHENE	170	10
TETRACHLOROETHENE	8	1
TRICHLOROETHENE	97	1
VINYL CHLORIDE	16	5
TOTAL VOC's	348.9	

RMW-13D	01/02/03	
PARAMETER	RESULT	GWQS
1,1-DICHLOROETHENE	140	2
1,2-DICHLOROETHANE	140	2
CHLOROFORM	200	6
cis-1,2-DICHLOROETHENE	2300	10
TETRACHLOROETHENE	130	1
TRICHLOROETHENE	930	1
BENZENE	11	1
CHLOROBENZENE	9	4
VINYL CHLORIDE	54	5
TOTAL VOC's	4002	

MW-5D	09/24/02	
PARAMETER	RESULT	GWQS
1,1-DICHLOROETHENE	110	2
1,2-DICHLOROETHANE	67	2
CHLOROFORM	140	6
cis-1,2-DICHLOROETHENE	720	10
TETRACHLOROETHENE	720	1
TRICHLOROETHENE	2800	1
VINYL CHLORIDE	43	5
trans 1,2-DICHLOROETHENE	100	100
TOTAL VOC's	4700	

MW-14D	09/18/02	
PARAMETER	RESULT	GWQS
TRICHLOROETHENE	3	1
TOTAL VOC's	3	

MW-7D	09/17/02
NO EXCEEDANCES	
TOTAL VOC's	1.4

REFERENCES

1.) TOPOGRAPHIC DATA AND SURFACE FEATURES BASED ON INFORMATION BY TAYLOR, WISEMAN & TAYLOR CONSULTING ENGINEERS / SURVEYORS / PLANNERS / LANDSCAPE ARCHITECTS, MOUNT LAUREL, NEW JERSEY, DATED JUNE 12, 1992.

2.) LOT AND BLOCK DATA FROM LOCAL TAX MAP, BOUNDARIES APPROXIMATE.

3.) MONITORING WELLS (1996 AND RI WELLS), PIEZOMETERS, AND EXTRACTION WELLS SURVEYED BY GEOD CORPORATION (OCTOBER 1996). WELLS INSTALLED IN 1998 SURVEYED BY GEOD CORPORATION. WELLS INSTALLED IN 2002 SURVEYED BY JAMES M. STEWART, INC.

4.) SLURRY WALL BORING LOCATIONS TAKEN FROM DRAWING ENTITLED "INTERIM REMEDY FOR FIRST OPERABLE UNIT" FROM THE INTERIM REMEDIAL MEASURES REPORT BY CANONIE ENVIRONMENTAL, DATED AUGUST 1992.

LEGEND

- MW-8D — MONITORING WELL (INSTALLED DURING THE REMEDIAL INVESTIGATION)
- MW-8D — ABANDONED WELL (SEPTEMBER 1998)
- MW-18D — MONITORING WELL (INSTALLED DURING THE OFF-PROPERTY INVESTIGATION -JULY 1996)
- MW-18D — MONITORING WELL (INSTALLED DURING THE OFF-PROPERTY INVESTIGATION - AUGUST 1998)
- MW-15R — MONITORING WELL (INSTALLED DURING THE OFF-PROPERTY INVESTIGATION - NOVEMBER 2002)
- P-4 — SHALLOW PIEZOMETER (INSTALLED DURING THE REMEDIAL INVESTIGATION)
- MW-4S — EXTRACTION WELL (INSTALLED DURING THE REMEDIAL INVESTIGATION AND RETROFITTED FOR SHALLOW GROUNDWATER EXTRACTION)
- SB-1 — BEDDED CLAY INVESTIGATION SOIL BORING (INSTALLED DURING THE OFF-PROPERTY INVESTIGATION - AUGUST 1998)
- B-6 — SLURRY WALL CONSTRUCTION INVESTIGATION BORING (INSTALLED DURING REMEDIAL DESIGN)
- PIC — STILLING WELL (INSTALLED DURING OFF-PROPERTY INVESTIGATION)
- SITE PROPERTY-BOUNDARY
- PROPERTY/RIGHT-OF-WAY BOUNDARIES
- CONTOUR LINE
- STREAM
- FENCE
- UTILITY POLE
- APPROXIMATE SLURRY WALL ALIGNMENT
- APPROXIMATE SHEET PILE WALL ALIGNMENT

NOTES

1.) COORDINATE SYSTEM SHOWN IS NEW JERSEY STATE PLANE NAD27. ELEVATIONS SHOWN ARE BASED UPON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 1929).

2.) LOCATION OF SLURRY WALL INVESTIGATION BORINGS ARE APPROXIMATE. BORING LOCATIONS WERE PREVIOUSLY SURVEYED USING A SITE SPECIFIC COORDINATE SYSTEM.

3.) GROUNDWATER QUALITY STANDARDS BASED ON "NEW JERSEY REGISTER" N.J.A.C. 7:9-6 "GROUNDWATER STANDARDS" JANUARY 7, 1993. GROUNDWATER ANALYTICAL RESULTS BASED ON SEPTEMBER 2002 SAMPLING EVENT. MW-20D AND MW-13D WERE RESAMPLED JANUARY 2, 2003.

4.) ALL VALUES REPORTED IN PARTS PER BILLION (ppb).

5.) VALUES INDICATED AS TOTAL VOC's INCLUDE ADDITIONAL CONSTITUENTS FOR WHICH MEASURED LEVELS DID NOT EXCEED THE GROUNDWATER QUALITY STANDARD.

200 0 200
SCALE FEET

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

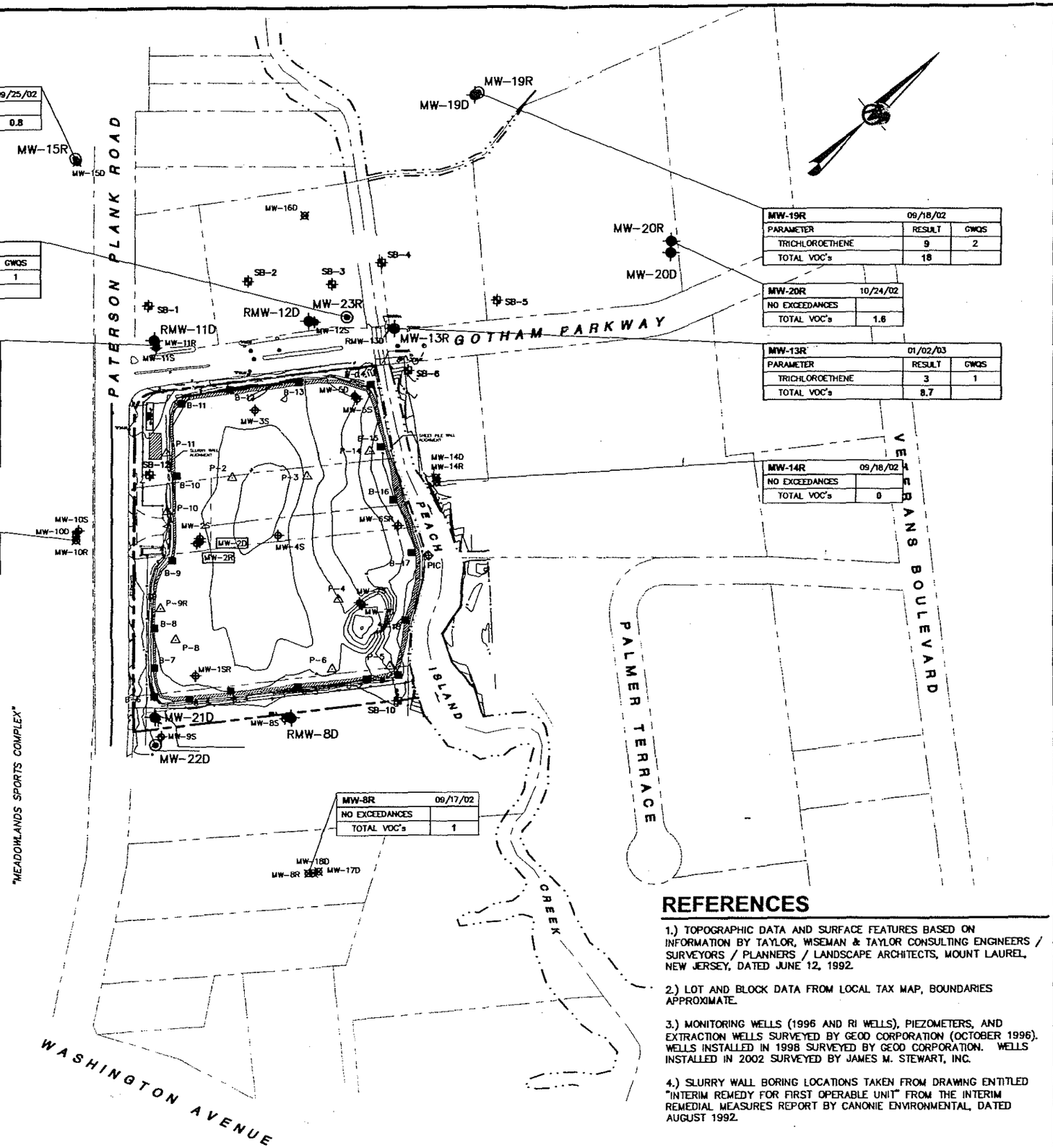
PROJECT
216 PATERSON PLANK ROAD NPL SITE
CARLSTADT, NEW JERSEY

TITLE
TILL GROUNDWATER QUALITY

Golder Associates
Philadelphia, USA

PROJECT No.	943-6222	FILE No.	9436222C009
DESIGN	MD	04/24/03	SCALE AS SHOWN REV. 0
CADD	MJS	05/23/03	
CHECK		5-30-03	FIGURE 10
REVIEW		5/30/03	

rawing file: 9436222C009.dwg May 30, 2003 - 11:28am



MW-15R	09/25/02
NO EXCEEDANCES	
TOTAL VOC's	0.8

MW-23R	09/26/02	
PARAMETER	RESULT	GWQS
TRICHLOROETHENE	5	1
TOTAL VOC's	7	

MW-11R	09/24/02	
PARAMETER	RESULT	GWQS
1,1-DICHLOROETHANE	6	2
1,1-DICHLOROETHENE	13	2
1,2-DICHLOROETHANE	46	2
cis-1,2-DICHLOROETHENE	85	10
TETRACHLOROETHANE	260	1
TRICHLOROETHENE	210	1
TOTAL VOC's	627.8	

MW-10R	09/19/02
NO EXCEEDANCES	
TOTAL VOC's	1

MW-8R	09/17/02
NO EXCEEDANCES	
TOTAL VOC's	1

MW-19R	09/18/02	
PARAMETER	RESULT	GWQS
TRICHLOROETHENE	9	2
TOTAL VOC's	18	

MW-20R	10/24/02
NO EXCEEDANCES	
TOTAL VOC's	1.6

MW-13R	01/02/03	
PARAMETER	RESULT	GWQS
TRICHLOROETHENE	3	1
TOTAL VOC's	8.7	

MW-14R	09/18/02
NO EXCEEDANCES	
TOTAL VOC's	0

LEGEND

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- MW-8D — ABANDONED WELL (SEPTEMBER 1998)
- MW-18D — MONITORING WELL (INSTALLED DURING THE OFF-PROPERTY INVESTIGATION -JULY 1996)
- MW-18D — MONITORING WELL (INSTALLED DURING THE OFF-PROPERTY INVESTIGATION - AUGUST 1998)
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- P-4 — SHALLOW PIEZOMETER (INSTALLED DURING THE REMEDIAL INVESTIGATION)
- MW-4S — EXTRACTION WELL (INSTALLED DURING THE REMEDIAL INVESTIGATION AND RETROFITTED FOR SHALLOW GROUNDWATER EXTRACTION)
- SB-1 — BEDDED CLAY INVESTIGATION SOIL BORING (INSTALLED DURING THE OFF-PROPERTY INVESTIGATION - AUGUST 1998)
- B-6 — SLURRY WALL CONSTRUCTION INVESTIGATION BORING (INSTALLED DURING REMEDIAL DESIGN)
- PIC — STILLING WELL (INSTALLED DURING OFF-PROPERTY INVESTIGATION)
- SITE PROPERTY-BOUNDARY
- PROPERTY/RIGHT-OF-WAY BOUNDARIES
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200 0 200
SCALE FEET

REFERENCES

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REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

PROJECT
216 PATERSON PLANK ROAD NPL SITE
CARLSTADT, NEW JERSEY

TITLE
BEDROCK GROUNDWATER QUALITY

Golder Associates
Philadelphia USA

PROJECT No.	943-6222	FILE No.	9436222C010	
DESIGN	MD	04/24/03	SCALE AS SHOWN	REV. 0
CADD	MJS	05/30/03		
CHECK		5-30-03		
REVIEW				

FIGURE 11

Drawing file: 943622__010.dwg May 30, 2003 - 11:45am

TABLE 5
SUMMARY OF HISTORICAL VOC ANALYTICAL DATA
216 PATERSON PLANK ROAD SITE

	ID	PCE				TCE				DCE				VC			
	NJ STD (µg/L)	1				1				10				5			
		Max. Conc. (µg/L)	Latest Conc. (µg/L)	Reduction from max.	#exceed/ #samples	Max. Conc. (µg/L)	Latest Conc. (µg/L)	Reduction from max.	#exceed/ #samples	Max. Conc. (µg/L)	Latest Conc. (µg/L)	Reduction from max.	#exceed/ #samples	Max. Conc. (µg/L)	Latest Conc. (µg/L)	Reduction from max.	#exceed/ #samples
TILL	MW-5D	900	720	20%	13/13	2800	2800	0%	13/13	910	720	21%	13/13	91	43	53%	9/13
	MW-7D	5	0.4	92%	3/13	8	1	88%	10/13	ND	ND	-	0/13	ND	ND	-	0/13
	RMW-8D	2	ND	100%	1/5	41	4	90%	4/5	180	15	92%	5/5	ND	ND	-	0/5
	MW-10D	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3
	RMW-11D	82	3	96%	5/5	52	3	94%	5/5	24	0.8	97%	2/5	ND	ND	-	0/5
	RMW-12D	22	14	36%	3/5	140	90	36%	4/5	530	230	57%	5/5	29	15	48%	3/5
	RMW-13D	450	130	71%	13/13	6400	930	85%	13/13	10000	2300	77%	12/13	92	54	41%	9/13
	MW-14D	2	ND	100%	1/3	45	3	93%	3/3	ND	ND	-	0/3	ND	ND	-	0/3
	MW-15D	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3
	MW-16D	21	10	52%	3/3	76	62	18%	3/3	31	31	0%	3/3	0.4	0.4	0%	0/3
	MW-17D	0.4	0.4	0%	0/3	1	1	0%	1/3	5	5	0%	0/3	0.2	0.2	0%	0/3
	MW-18D	ND	ND	-	0/3	0.7	0.7	0%	0/3	3	3	0%	0/3	0.2	0.2	0%	0/3
	MW-19D	ND	ND	-	0/2	4	ND	100%	1/2	2	ND	100%	0/2	ND	ND	-	0/2
	MW-20D	12	8	33%	2/3	150	97	35%	2/3	260	170	35%	2/3	24	16	33%	2/3
	MW-21D	ND	ND	-	0/2	61	17	72%	2/2	45	13	71%	2/2	25	14	44%	2/2
	MW-22D	ND	ND	-	0/1	ND	ND	-	0/1	ND	ND	-	0/1	ND	ND	-	0/1
BEDROCK	MW-8R	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3
	MW-10R	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3
	MW-11R	590	260	56%	4/4	420	210	50%	4/4	180	85	53%	3/4	1	1	0%	0/4
	MW-13R	350	0.6	100%	2/3	1800	3	100%	3/3	1400	3	100%	2/3	26	ND	100%	1/3
	MW-14R	ND	ND	-	0/3	2	ND	100%	2/3	ND	ND	-	0/3	ND	ND	-	0/3
	MW-15R	0.3	0.3	0%	0/1	ND	ND	-	0/1	0.2	0.2	0%	0/1	ND	ND	-	0/1
	MW-19R	1	1	0%	1/1	9	9	0%	1/1	2	2	0%	0/1	ND	ND	-	0/1
	MW-20R	ND	ND	-	0/2	0.3	0.3	0%	0/2	0.4	0.4	0%	0/2	ND	ND	-	0/2
	MW-23R	0.8	0.8	0%	0/1	5	5	0%	1/1	0.4	0.4	0%	0/1	ND	ND	-	0/1

TABLE 5
SUMMARY OF HISTORICAL VOC ANALYTICAL DATA
216 PATERSON PLANK ROAD SITE

	ID	111TCA				112TCA				11DCA				11DCE				12DCA			
	NJ STD (µg/L)	30				3				70				2				2			
		Max. Conc. (µg/L)	Latest Conc. (µg/L)	Reduction from max.	#exceed/ #samples	Max. Conc. (µg/L)	Latest Conc. (µg/L)	Reduction from max.	#exceed/ #samples	Max. Conc. (µg/L)	Latest Conc. (µg/L)	Reduction from max.	#exceed/ #samples	Max. Conc. (µg/L)	Latest Conc. (µg/L)	Reduction from max.	#exceed/ #samples	Max. Conc. (µg/L)	Latest Conc. (µg/L)	Reduction from max.	#exceed/ #samples
TILL	MW-5D	78	ND	100%	12/13	1	ND	100%	0/13	36	ND	100%	0/13	160	110	31%	13/13	110	67	39%	13/13
	MW-7D	ND	ND	-	0/13	ND	ND	-	0/13	ND	ND	-	0/13	ND	ND	-	0/13	ND	ND	-	0/13
	RMW-8D	ND	ND	-	0/5	ND	ND	-	0/5	ND	ND	-	0/5	1	ND	100%	0/5	ND	ND	-	0/5
	MW-10D	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3
	RMW-11D	1	ND	100%	0/5	2	ND	100%	0/5	3	0.2	93%	0/5	4	ND	100%	2/5	13	0.7	95%	3/5
	RMW-12D	13	4	69%	0/5	ND	ND	-	0/5	27	13	52%	0/5	37	19	49%	5/5	46	21	54%	5/5
	RMW-13D	90	30	67%	10/13	1	0.9	10%	0/13	94	50	47%	5/13	250	140	44%	12/13	230	140	39%	12/13
	MW-14D	1	ND	100%	0/3	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3
	MW-15D	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3
	MW-16D	3	1	67%	0/3	ND	ND	-	0/3	3	2	33%	0/3	6	5	17%	3/3	11	6	45%	3/3
	MW-17D	ND	ND	-	0/3	ND	ND	-	0/3	0.9	0.9	0%	0/3	0.3	0.3	0%	0/3	ND	ND	-	0/3
	MW-18D	ND	ND	-	0/3	ND	ND	-	0/3	0.7	0.7	0%	0/3	0.2	0.2	0%	0/3	ND	ND	-	0/3
	MW-19D	ND	ND	-	0/2	ND	ND	-	0/2	ND	ND	-	0/2	ND	ND	-	0/2	ND	ND	-	0/2
	MW-20D	4	2	50%	0/3	ND	ND	-	0/3	15	9	40%	0/3	15	10	33%	2/3	13	10	23%	2/3
	MW-21D	ND	ND	-	0/2	ND	ND	-	0/2	2200	600	73%	2/2	0.3	0.3	0%	0/2	1	1	0%	0/2
	MW-22D	ND	ND	-	0/1	ND	ND	-	0/1	1	1	0%	0/1	ND	ND	-	0/1	ND	ND	-	0/1
BEDROCK	MW-8R	ND	ND	-	0/3	ND	ND	-	0/3	1	1	0%	0/3	ND	ND	-	0/3	ND	ND	-	0/3
	MW-10R	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3	1	1	0%	0/3
	MW-11R	6	1	83%	0/4	ND	ND	-	0/4	9	6	33%	0/4	19	13	32%	4/4	63	46	27%	4/4
	MW-13R	41	ND	100%	1/3	ND	ND	-	0/3	43	ND	100%	0/3	140	0.3	100%	1/3	96	ND	100%	1/3
	MW-14R	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3
	MW-15R	ND	ND	-	0/1	ND	ND	-	0/1	ND	ND	-	0/1	ND	ND	-	0/1	ND	ND	-	0/1
	MW-19R	0.2	0.2	0%	0/1	ND	ND	-	0/1	0.3	0.3	0%	0/1	0.7	0.7	0%	0/1	0.6	0.6	0%	0/1
	MW-20R	ND	ND	-	0/2	ND	ND	-	0/2	ND	ND	-	0/2	ND	ND	-	0/2	ND	ND	-	0/2
	MW-23R	ND	ND	-	0/1	ND	ND	-	0/1	ND	ND	-	0/1	0.4	0.4	0%	0/1	ND	ND	-	0/1

TABLE 5
SUMMARY OF HISTORICAL VOC ANALYTICAL DATA
216 PATERSON PLANK ROAD SITE

	ID	CT				CF				Benzene				Ethylbenzene				Toluene				Xylene (total)			
	NJ STD (µg/L)	2				6				1				1000				700				40			
		Max. Conc. (µg/L)	Latest Conc. (µg/L)	Reduction from max.	#exceed/ #samples	Max. Conc. (µg/L)	Latest Conc. (µg/L)	Reduction from max.	#exceed/ #samples	Max. Conc. (µg/L)	Latest Conc. (µg/L)	Reduction from max.	#exceed/ #samples	Max. Conc. (µg/L)	Latest Conc. (µg/L)	Reduction from max.	#exceed/ #samples	Max. Conc. (µg/L)	Latest Conc. (µg/L)	Reduction from max.	#exceed/ #samples	Max. Conc. (µg/L)	Latest Conc. (µg/L)	Reduction from max.	#exceed/ #samples
TILL	MW-5D	ND	ND	-	0/13	180	140	22%	13/13	20	ND	100%	3/13	11	ND	100%	0/13	51	ND	100%	0/13	19	ND	100%	0/13
	MW-7D	ND	ND	-	0/13	ND	ND	-	0/13	ND	ND	-	0/13	ND	ND	-	0/13	2	ND	100%	0/13	ND	ND	-	0/13
	RMW-8D	ND	ND	-	0/5	2	ND	100%	0/5	ND	ND	-	0/5	ND	ND	-	0/5	ND	ND	-	0/5	ND	ND	-	0/5
	MW-10D	ND	ND	-	0/3	3	ND	100%	0/3	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3
	RMW-11D	ND	ND	-	0/5	1	ND	100%	0/5	ND	ND	-	0/5	ND	ND	-	0/5	ND	ND	-	0/5	1	ND	100%	0/5
	RMW-12D	ND	ND	-	0/5	12	12	0%	2/5	ND	ND	-	0/5	84	ND	100%	0/5	ND	ND	-	0/5	ND	ND	-	0/5
	RMW-13D	ND	ND	-	0/13	370	200	46%	12/13	11	11	0%	2/13	ND	ND	-	0/13	0.2	0.2	0%	0/13	0.3	0.3	0%	0/13
	MW-14D	ND	ND	-	0/3	5	ND	100%	0/3	ND	ND	-	0/3	2	ND	100%	0/3	2	ND	100%	0/3	8	ND	100%	0/3
	MW-15D	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3
	MW-16D	ND	ND	-	0/3	1	ND	100%	0/3	0.2	ND	100%	0/3	ND	ND	-	0/3	0.2	ND	100%	0/3	ND	ND	-	0/3
	MW-17D	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3
	MW-18D	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3
	MW-19D	ND	ND	-	0/2	ND	ND	-	0/2	ND	ND	-	0/2	ND	ND	-	0/2	ND	ND	-	0/2	ND	ND	-	0/2
	MW-20D	ND	ND	-	0/3	28	11	61%	2/3	9	9	0%	2/3	ND	ND	-	0/3	0.4	ND	100%	0/3	ND	ND	-	0/3
	MW-21D	ND	ND	-	0/2	17	6	65%	2/2	970	500	48%	2/2	12	12	0%	0/2	81	11	86%	0/2	21	13	38%	0/2
	MW-22D	ND	ND	-	0/1	ND	ND	-	0/1	ND	ND	-	0/1	ND	ND	-	0/1	0.2	ND	100%	0/1	ND	ND	-	0/1
BEDROCK	MW-8R	ND	ND	-	0/3	5	ND	100%	0/3	ND	ND	-	0/3	ND	ND	-	0/3	3	ND	100%	0/3	ND	ND	-	0/3
	MW-10R	ND	ND	-	0/3	7	ND	100%	1/3	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3
	MW-11R	ND	ND	-	0/4	10	2	80%	3/4	1	1	0%	1/4	ND	ND	-	0/4	ND	ND	-	0/4	ND	ND	-	0/4
	MW-13R	ND	ND	-	0/3	270	0.5	100%	1/3	1	1	0%	1/3	ND	ND	-	0/3	0.3	0.3	0%	0/3	ND	ND	-	0/3
	MW-14R	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3	ND	ND	-	0/3
	MW-15R	ND	ND	-	0/1	ND	ND	-	0/1	ND	ND	-	0/1	ND	ND	-	0/1	ND	ND	-	0/1	ND	ND	-	0/1
	MW-19R	ND	ND	-	0/1	ND	ND	-	0/1	0.2	0.2	0%	0/1	ND	ND	-	0/1	0.5	0.5	0%	0/1	ND	ND	-	0/1
	MW-20R	ND	ND	-	0/2	0.2	0.2	0%	0/2	0.3	0.3	0%	0/2	ND	ND	-	0/2	ND	ND	-	0/2	ND	ND	-	0/2
	MW-23R	ND	ND	-	0/1	ND	ND	-	0/1	ND	ND	-	0/1	ND	ND	-	0/1	ND	ND	-	0/1	ND	ND	-	0/1

Abbreviations: PCE: tetrachloroethene, TCE: trichloroethene, DCE: (see note below), VC: vinyl chloride, 111TCA: 1,1,1-trichloroethane, 112TCA-1,1,2-trichloroethane, 11DCA: 1,1-dichloroethane, 11DCE: 1,1-dichloroethene, 12DCA: 1,2-dichloroethane, CA-chloroethane, CT-carbon tetrachloride, CF: chloroform, MC: methylene chloride, CM: chloromethane

Notes: Data summary includes full data record of wells (includes data prior to 1996).

DCE represents Total 1,2-dichloroethene prior to 1997, and cis-1,2-dichloroethene from 1997 to present.

SUMMARY OF ORGAN ANALYSES

216 Paterson Plank Road Site

Volatile Organic Compounds

Matrix: Soil

	Sample Point 0SO-1A			Sample Point 0SB-4B			Sample Point 0SB-4C			Sample Point SB-4CD			Sample Point SB-6A		
	Date Samp.: 8/13/1998			Date Samp.: 8/14/1998			Date Samp.: 8/14/1998			Date Samp.: 8/14/1998			Date Samp.: 8/14/1998		
	Lab ID: E38204-1			Lab ID: E38204-4			Lab ID: E38204-5			Lab ID: E38204-6			Lab ID: E38204-		
	Dilution Factor 1			Dilution Factor 4			Dilution Factor 2			Dilution Factor 2			Dilution Factor 1		
Parameter	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual
2-Butanone (MEK)	1400	1400	U	6600	6600	U	3100	3100	U	3500	3500	U	2200	2200	U
4-Methyl-2-pentanone(MIBK)	1400	1400	U	6600	6600	U	3100	3100	U	3500	3500	U	2200	2200	U
Chloromethane	730	730	U	3300	3300	U	1600	1600	U	1700	1700	U	1100	1100	U
Bromomethane	730	730	U	3300	3300	U	1600	1600	U	1700	1700	U	1100	1100	U
Vinyl chloride	730	730	U	3300	3300	U	1600	1600	U	1700	1700	U	1100	1100	U
Chloroethane	730	730	U	3300	3300	U	1600	1600	U	1700	1700	U	1100	1100	U
Methylene chloride	730	730	U	3300	3300	U	1600	1600	U	1700	1700	U	1100	1100	U
Acetone	3600	3600	U	16000	16000	U	7800	7800	U	8700	8700	U	5500	5500	U
Carbon disulfide	730	730	U	3300	3300	U	1600	1600	U	1700	1700	U	1100	1100	U
1,1-Dichloroethene	730	730	U	3300	3300	U	1600	1600	U	1700	1700	U	1100	1100	U
1,1-Dichloroethane	730	730	U	3300	3300	U	1600	1600	U	1700	1700	U	1100	1100	U
cis-1,2-Dichloroethene	730	730	U	3300	11800		1600	3720		1700	3860		1100	11700	
trans-1,2-Dichloroethene	730	730	U	3300	3300	U	1600	1600	U	1700	1700	U	1100	1100	U
Chloroform	730	730	U	3300	3300	U	1600	1600	U	1700	1700	U	1100	1100	U
1,2-Dichloroethane	730	730	U	3300	3300	U	1600	1600	U	1700	1700	U	1100	1100	U
1,1,1-Trichloroethane	730	730	U	3300	3300	U	1600	1600	U	1700	1700	U	1100	1100	U
Carbon tetrachloride	730	730	U	3300	3300	U	1600	1600	U	1700	1700	U	1100	1100	U
Bromodichloromethane	730	730	U	3300	3300	U	1600	1600	U	1700	1700	U	1100	1100	U
1,2-Dichloropropane	730	730	U	3300	3300	U	1600	1600	U	1700	1700	U	1100	1100	U
cis-1,3-Dichloropropene	730	730	U	3300	3300	U	1600	1600	U	1700	1700	U	1100	1100	U
Trichloroethene	730	730	U	3300	100000		1600	59400		1700	66400		1100	1100	U
Dibromochloromethane	730	730	U	3300	3300	U	1600	1600	U	1700	1700	U	1100	1100	U
1,1,2-Trichloroethane	730	730	U	3300	3300	U	1600	1600	U	1700	1700	U	1100	1100	U
Benzene	730	730	U	3300	3300	U	1600	1600	U	1700	1700	U	1100	1100	U
trans-1,3-Dichloropropene	730	730	U	3300	3300	U	1600	1600	U	1700	1700	U	1100	1100	U
Bromoform	730	730	U	3300	3300	U	1600	1600	U	1700	1700	U	1100	1100	U
2-Hexanone	1400	1400	U	6600	6600	U	3100	3100	U	3500	3500	U	2200	2200	U
Tetrachloroethene	730	730	U	3300	5090		1600	3350		1700	3810		1100	1950	
Toluene	730	730	U	3300	20300		1600	11800		1700	12800		1100	1100	U
1,1,2,2-Tetrachloroethane	730	730	U	3300	3300	U	1600	1600	U	1700	1700	U	1100	1100	U
Chlorobenzene	730	730	U	3300	3300	U	1600	2830		1700	3230		1100	1100	U
Ethylbenzene	730	730	U	3300	1780	J	1600	1510	J	1700	1630	J	1100	1100	U
Styrene	730	730	U	3300	3300	U	1600	1600	U	1700	1700	U	1100	1100	U
Total Xylenes	730	730	U	3300	12200		1600	8530		1700	9910		1100	1100	U
1,3-Dichlorobenzene	730	730	U	3300	3300	U	1600	1600	U	1700	1700	U	1100	1100	U
1,4-Dichlorobenzene	730	730	U	3300	3300	U	1600	1600	U	1700	1700	U	1100	1100	U
1,2-Dichlorobenzene	730	730	U	3300	3300	U	1600	1600	U	1700	1700	U	1100	1100	U

Notes:

All units are ug/kg .

The Sample Quantitation Limit (SQL) is the laboratory Reporting Limit multiplied by the dilution factor.

The Qual cloumn indicates the qualifier, if any, applied to the result following data validation by Golder Associates.

Sample SB-4CD is a field duplicate of OSB-4C.

SUMMARY OF ORGA[illegible] ANALYSES

943-6222

216 Paterson Plank Road Site

Volatile Organic Compounds

Matrix: Soil

	Sample Point SB-10A			Sample Point SB-12A			Sample Point			Sample Point			Sample Point		
	Date Samp.: 8/14/1998			Date Samp.: 8/14/1998			Date Samp.:			Date Samp.:			Date Samp.:		
	Lab ID: E38204-8			Lab ID: E38204-9			Lab ID:			Lab ID:			Lab ID:		
	Dilution Factor 1			Dilution Factor 1			Dilution Factor			Dilution Factor			Dilution Factor		
Parameter	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual
2-Butanone (MEK)	1500	1500	U	1700	1700	U									
4-Methyl-2-pentanone(MIBK)	1500	1500	U	1700	1700	U									
Chloromethane	730	730	U	860	860	U									
Bromomethane	730	730	U	860	860	U									
Vinyl chloride	730	730	U	860	860	U									
Chloroethane	730	730	U	860	860	U									
Methylene chloride	730	730	U	860	860	U									
Acetone	3700	3700	U	4300	4300	U									
Carbon disulfide	730	730	U	860	860	U									
1,1-Dichloroethene	730	730	U	860	860	U									
1,1-Dichloroethane	730	730	U	860	860	U									
cis-1,2-Dichloroethene	730	8250		860	860	U									
trans-1,2-Dichloroethene	730	730	U	860	860	U									
Chloroform	730	730	U	860	860	U									
1,2-Dichloroethane	730	730	U	860	860	U									
1,1,1-Trichloroethane	730	730	U	860	860	U									
Carbon tetrachloride	730	730	U	860	860	U									
Bromodichloromethane	730	730	U	860	860	U									
1,2-Dichloropropane	730	730	U	860	860	U									
cis-1,3-Dichloropropene	730	730	U	860	860	U									
Trichloroethene	730	5910		860	860	U									
Dibromochloromethane	730	730	U	860	860	U									
1,1,2-Trichloroethane	730	730	U	860	860	U									
Benzene	730	730	U	860	860	U									
trans-1,3-Dichloropropene	730	730	U	860	860	U									
Bromoform	730	730	U	860	860	U									
2-Hexanone	1500	1500	U	1700	1700	U									
Tetrachloroethene	730	1740		860	860	U									
Toluene	730	730	U	860	860	U									
1,1,2,2-Tetrachloroethane	730	730	U	860	860	U									
Chlorobenzene	730	730	U	860	860	U									
Ethylbenzene	730	730	U	860	860	U									
Styrene	730	730	U	860	860	U									
Total Xylenes	730	730	U	860	860	U									
1,3-Dichlorobenzene	730	730	U	860	860	U									
1,4-Dichlorobenzene	730	730	U	860	860	U									
1,2-Dichlorobenzene	730	730	U	860	860	U									

Notes:

All units are ug/kg .

The Sample Quantitation Limit (SQL) is the laboratory Reporting Limit multiplied by the dilution factor.

The Qual cloumn indicates the qualifier, if any, applied to the result following data validation by Golder Associates.

Sample SB-4CD is a field duplicate of OSB-4C.

SUMMARY OF ORGA... ANALYSES

216 Paterson Plank Road Site

Semivolatile Compounds

943-6222

Matrix: Soil

	Sample Point 0SO-1A			Sample Point 0SB-4B			Sample Point 0SB-4C			Sample Point SB-4CD			Sample Point SB-6A		
	Date Samp.: 8/13/1998			Date Samp.: 8/14/1998			Date Samp.: 8/14/1998			Date Samp.: 8/14/1998			Date Samp.: 8/14/1998		
	Lab ID: E38204-1			Lab ID: E38204-4			Lab ID: E38204-5			Lab ID: E38204-6			Lab ID: E38204-7		
	Dilution Factor 1			Dilution Factor 1			Dilution Factor 1			Dilution Factor 1			Dilution Factor 1		
Parameter	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual
4,6-Dinitro-o-cresol	860	860	U	950	950	U	960	960	U	970	970	U	1200	1200	U
3&4-Methylphenol	210	210	U	240	240	U	240	240	U	240	54.8	J	310	310	U
4-Chloro-3-methyl phenol	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
Phenol	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
bis(2-Chloroethyl)ether	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
2-Chlorophenol	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
4-Chlorophenyl phenyl ether	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
1,3-Dichlorobenzene	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
1,4-Dichlorobenzene	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
1,2-Dichlorobenzene	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
2-Methylphenol	210	210	U	240	240	U	240	240	U	240	54.5	J	310	310	U
bis(2-Chloroisopropyl)ether	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
N-Nitroso-di-n-propylamine	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
Hexachloroethane	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
Nitrobenzene	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
Isophorone	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
2-Nitrophenol	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
2,4-Dimethylphenol	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
bis(2-Chloroethoxy)methane	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
2,4-Dichlorophenol	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
1,2,4-Trichlorobenzene	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
Naphthalene	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
4-Chloroaniline	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
Hexachlorobutadiene	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
2-Methylnaphthalene	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
Hexachlorocyclopentadiene	860	860	U	950	950	U	960	960	U	970	970	U	1200	1200	U
2,4,6-Trichlorophenol	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
2,4,5-Trichlorophenol	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
2-Chloronaphthalene	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
2-Nitroaniline	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U

Notes:

All units are ug/kg .

The Sample Quantitation Limit (SQL) is the laboratory Reporting Limit multiplied by the dilution factor.

The Qual cloumn indicates the qualifier, if any, applied to the result following data validation by Golder Associates.

Sample SB-4CD is a field duplicate of OSB-4C.

SUMMARY OF ORGANICS ANALYSES

216 Paterson Plank Road Site

Semivolatile Compounds

Matrix: Soil

	Sample Point 0SO-1A			Sample Point 0SB-4B			Sample Point 0SB-4C			Sample Point SB-4CD			Sample Point SB-6A		
	Date Samp.: 8/13/1998			Date Samp.: 8/14/1998			Date Samp.: 8/14/1998			Date Samp.: 8/14/1998			Date Samp.: 8/14/1998		
	Lab ID: E38204-1			Lab ID: E38204-4			Lab ID: E38204-5			Lab ID: E38204-6			Lab ID: E38204-7		
	Dilution Factor 1			Dilution Factor 1			Dilution Factor 1			Dilution Factor 1			Dilution Factor 1		
Parameter	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual
Dimethyl phthalate	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
Acenaphthylene	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
2,6-Dinitrotoluene	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
3-Nitroaniline	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
Acenaphthene	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
2,4-Dinitrophenol	860	860	U	950	950	U	960	960	U	970	970	U	1200	1200	U
4-Nitrophenol	860	860	U	950	950	U	960	960	U	970	970	U	1200	1200	U
Dibenzofuran	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
2,4-Dinitrotoluene	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
Diethylphthalate	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
Fluorene	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
4-Nitroaniline	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
N-Nitrosodiphenylamine	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
4-Bromophenyl-phenylether	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
Hexachlorobenzene	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
Pentachlorophenol	860	860	U	950	950	U	960	960	U	970	970	U	1200	1200	U
Phenanthrene	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
Anthracene	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
Carbazole	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
Di-n-butylphthalate	210	63	J	240	54.2	J	240	240	U	240	240	U	310	310	U
Fluoranthene	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
Pyrene	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
Butylbenzylphthalate	210	207	J	240	238	J	240	239	J	240	140	J	310	56.7	J
3,3'-Dichlorobenzidine	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
Benzo(a)anthracene	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
Chrysene	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
bis(2-Ethylhexyl)phthalate	210	59.5	J	240	70.9	J	240	240	U	240	240	U	310	310	U
Di-n-octyl phthalate	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
Benzo(b)fluoranthene	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
Benzo(k)fluoranthene	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U

Notes:

All units are ug/kg .

The Sample Quantitation Limit (SQL) is the laboratory Reporting Limit multiplied by the dilution factor.

The Qual cloumn indicates the qualifier, if any, applied to the result following data validation by Golder Associates.

Sample SB-4CD is a field duplicate of OSB-4C.

SUMMARY OF ORGA... ANALYSES

216 Paterson Plank Road Site

Semivolatile Compounds

Matrix: Soil

	Sample Point 0SO-1A			Sample Point 0SB-4B			Sample Point 0SB-4C			Sample Point SB-4CD			Sample Point SB-6A		
	Date Samp.: 8/13/1998			Date Samp.: 8/14/1998			Date Samp.: 8/14/1998			Date Samp.: 8/14/1998			Date Samp.: 8/14/1998		
	Lab ID: E38204-1			Lab ID: E38204-4			Lab ID: E38204-5			Lab ID: E38204-6			Lab ID: E38204-7		
	Dilution Factor 1			Dilution Factor 1			Dilution Factor 1			Dilution Factor 1			Dilution Factor 1		
Parameter	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual
Benzo(a)pyrene	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
Indeno(1,2,3-cd)pyrene	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
Dibenz(a,h)Anthracene	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U
Benzo(g,h,i)perylene	210	210	U	240	240	U	240	240	U	240	240	U	310	310	U

Notes:

All units are ug/kg .

The Sample Quantitation Limit (SQL) is the laboratory Reporting Limit multiplied by the dilution factor.

The Qual cloumn indicates the qualifier, if any, applied to the result following data validation by Golder Associates.

Sample SB-4CD is a field duplicate of OSB-4C.

SUMMARY OF ORGAN.. . ANALYSES
216 Paterson Plank Road Site
Semivolatile Compounds

Matrix: Soil

	Sample Point SB-10A			Sample Point SB-12A			Sample Point			Sample Point			Sample Point		
	Date Samp.: 8/14/1998			Date Samp.: 8/14/1998			Date Samp.:			Date Samp.:			Date Samp.:		
	Lab ID: E38204-8			Lab ID: E38204-9			Lab ID:			Lab ID:			Lab ID:		
	Dilution Factor 1			Dilution Factor 1			Dilution Factor			Dilution Factor			Dilution Factor		
Parameter	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual
3&4-Methylphenol	200	200	U	240	240	U									
4,6-Dinitro-o-cresol	820	820	U	950	950	U									
4-Chloro-3-methyl phenol	200	200	U	240	240	U									
Phenol	200	200	U	240	240	U									
bis(2-Chloroethyl)ether	200	200	U	240	240	U									
2-Chlorophenol	200	200	U	240	240	U									
4-Chlorophenyl phenyl ether	200	200	U	240	240	U									
1,3-Dichlorobenzene	200	200	U	240	240	U									
1,4-Dichlorobenzene	200	200	U	240	240	U									
1,2-Dichlorobenzene	200	200	U	240	240	U									
2-Methylphenol	200	200	U	240	240	U									
bis(2-Chloroisopropyl)ether	200	200	U	240	240	U									
N-Nitroso-di-n-propylamine	200	200	U	240	240	U									
Hexachloroethane	200	200	U	240	240	U									
Nitrobenzene	200	200	U	240	240	U									
Isophorone	200	200	U	240	240	U									
2-Nitrophenol	200	200	U	240	240	U									
2,4-Dimethylphenol	200	200	U	240	240	U									
bis(2-Chloroethoxy)methane	200	200	U	240	240	U									
2,4-Dichlorophenol	200	200	U	240	240	U									
1,2,4-Trichlorobenzene	200	200	U	240	240	U									
Naphthalene	200	200	U	240	240	U									
4-Chloroaniline	200	200	U	240	240	U									
Hexachlorobutadiene	200	200	U	240	240	U									
2-Methylnaphthalene	200	200	U	240	240	U									
Hexachlorocyclopentadiene	820	820	U	950	950	U									
2,4,6-Trichlorophenol	200	200	U	240	240	U									
2,4,5-Trichlorophenol	200	200	U	240	240	U									
2-Chloronaphthalene	200	200	U	240	240	U									
2-Nitroaniline	200	200	U	240	240	U									

Notes:

All units are ug/kg .
The Sample Quantitation Limit (SQL) is the laboratory Reporting Limit multiplied by the dilution factor.
The Qual cloumn indicates the qualifier, if any, applied to the result following data validation by Golder Associates.
Sample SB-4CD is a field duplicate of OSB-4C.

SUMMARY OF ORGANIC ANALYSES

216 Paterson Plank Road Site

Semivolatile Compounds

943-6222

Matrix: Soil

	Sample Point SB-10A			Sample Point SB-12A			Sample Point			Sample Point			Sample Point		
	Date Samp.: 8/14/1998			Date Samp.: 8/14/1998			Date Samp.:			Date Samp.:			Date Samp.:		
	Lab ID: E38204-8			Lab ID: E38204-9			Lab ID:			Lab ID:			Lab ID:		
	Dilution Factor 1			Dilution Factor 1			Dilution Factor			Dilution Factor			Dilution Factor		
Parameter	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual
Dimethyl phthalate	200	200	U	240	240	U									
Acenaphthylene	200	200	U	240	240	U									
2,6-Dinitrotoluene	200	200	U	240	240	U									
3-Nitroaniline	200	200	U	240	240	U									
Acenaphthene	200	200	U	240	240	U									
2,4-Dinitrophenol	820	820	U	950	950	U									
4-Nitrophenol	820	820	U	950	950	U									
Dibenzofuran	200	200	U	240	240	U									
2,4-Dinitrotoluene	200	200	U	240	240	U									
Diethylphthalate	200	200	U	240	240	U									
Fluorene	200	200	U	240	240	U									
4-Nitroaniline	200	200	U	240	240	U									
N-Nitrosodiphenylamine	200	200	U	240	240	U									
4-Bromophenyl-phenylether	200	200	U	240	240	U									
Hexachlorobenzene	200	200	U	240	240	U									
Pentachlorophenol	820	820	U	950	950	U									
Phenanthrene	200	200	U	240	240	U									
Anthracene	200	200	U	240	240	U									
Carbazole	200	200	U	240	240	U									
Di-n-butylphthalate	200	200	U	240	240	U									
Fluoranthene	200	200	U	240	240	U									
Pyrene	200	200	U	240	240	U									
Butylbenzylphthalate	200	40.1	J	240	47.3	J									
3,3'-Dichlorobenzidine	200	200	U	240	240	U									
Benzo(a)anthracene	200	200	U	240	240	U									
Chrysene	200	200	U	240	240	U									
bis(2-Ethylhexyl)phthalate	200	200	U	240	240	U									
Di-n-octyl phthalate	200	200	U	240	240	U									
Benzo(b)fluoranthene	200	200	U	240	240	U									
Benzo(k)fluoranthene	200	200	U	240	240	U									

Notes:

All units are ug/kg .

The Sample Quantitation Limit (SQL) is the laboratory Reporting Limit multiplied by the dilution factor.

The Qual cloumn indicates the qualifier, if any, applied to the result following data validation by Golder Associates.

Sample SB-4CD is a field duplicate of OSB-4C.

SUMMARY OF ORGA ANALYSES

943-6222

216 Paterson Plank Road Site

Semivolatile Compounds

Matrix: Soil

	Sample Point SB-10A Date Samp.: 8/14/1998 Lab ID: E38204-8 Dilution Factor 1			Sample Point SB-12A Date Samp.: 8/14/1998 Lab ID: E38204-9 Dilution Factor 1			Sample Point Date Samp.: Lab ID: Dilution Factor			Sample Point Date Samp.: Lab ID: Dilution Factor			Sample Point Date Samp.: Lab ID: Dilution Factor		
Parameter	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual
Benzo(a)pyrene	200	200	U	240	240	U									
Indeno(1,2,3-cd)pyrene	200	200	U	240	240	U									
Dibenz(a,h)Anthracene	200	200	U	240	240	U									
Benzo(g,h,i)perylene	200	200	U	240	240	U									

Notes:

All units are ug/kg

The Sample Quantitation Limit (SQL) is the laboratory Reporting Limit multiplied by the dilution factor.

The Qual cloumn indicates the qualifier, if any, applied to the result following data validation by Golder Associates.

Sample SB-4CD is a field duplicate of OSB-4C.

SUMMARY OF ORGANICS ANALYSES

216 Paterson Plank Road Site

Polychlorinated Biphenyls

Matrix: Soil

	Sample Point 0SB-4B			Sample Point 0SB-4C			Sample Point 0SO-1A			Sample Point SB-4CD			Sample Point SB-6A		
	Date Samp.: 8/14/1998			Date Samp.: 8/14/1998			Date Samp.: 8/13/1998			Date Samp.: 8/14/1998			Date Samp.: 8/14/1998		
	Lab ID: E38204-4			Lab ID: E38204-5			Lab ID: E38204-1			Lab ID: E38204-6			Lab ID: E38204-7		
	Dilution Factor 1			Dilution Factor 1			Dilution Factor 1			Dilution Factor 1			Dilution Factor 1		
Parameter	SQL	Result	Qual	SQL	Result	Qual	SQL	Result	Qual	SQL	Result	Qual	SQL	Result	Qual
Aroclor 1248	33	24	U	33	24	U	33	22	U	33	24	U	33	31	U
Aroclor 1221	67	24	U	67	24	U	67	22	U	67	24	U	67	31	U
Aroclor 1016	33	24	U	33	24	U	33	22	U	33	24	U	33	31	U
Aroclor 1254	33	24	U	33	24	U	33	22	U	33	24	U	33	31	U
Aroclor 1260	33	24	U	33	24	U	33	22	U	33	24	U	33	31	U
Aroclor 1242	33	24	U	33	24	U	33	22	U	33	24	U	33	31	U
Aroclor 1232	33	24	U	33	24	U	33	22	U	33	24	U	33	31	U

	Sample Point SB-10A			Sample Point SB-12A			Sample Point			Sample Point			Sample Point		
	Date Samp.: 8/14/1998			Date Samp.: 8/14/1998			Date Samp.:			Date Samp.:			Date Samp.:		
	Lab ID: E38204-8			Lab ID: E38204-9			Lab ID:			Lab ID:			Lab ID:		
	Dilution Factor 1			Dilution Factor 1			Dilution Factor			Dilution Factor			Dilution Factor		
Parameter	SQL	Result	Qual	SQL	Result	Qual	SQL	Result	Qual	SQL	Result	Qual	SQL	Result	Qual
Aroclor 1260	33	20	U	33	24	U									
Aroclor 1248	33	20	U	33	24	U									
Aroclor 1232	33	20	U	33	24	U									
Aroclor 1016	33	20	U	33	24	U									
Aroclor 1254	33	20	U	33	24	U									
Aroclor 1221	67	20	U	67	24	U									
Aroclor 1242	33	20	U	33	24	U									

Notes:

All units are ug/kg .

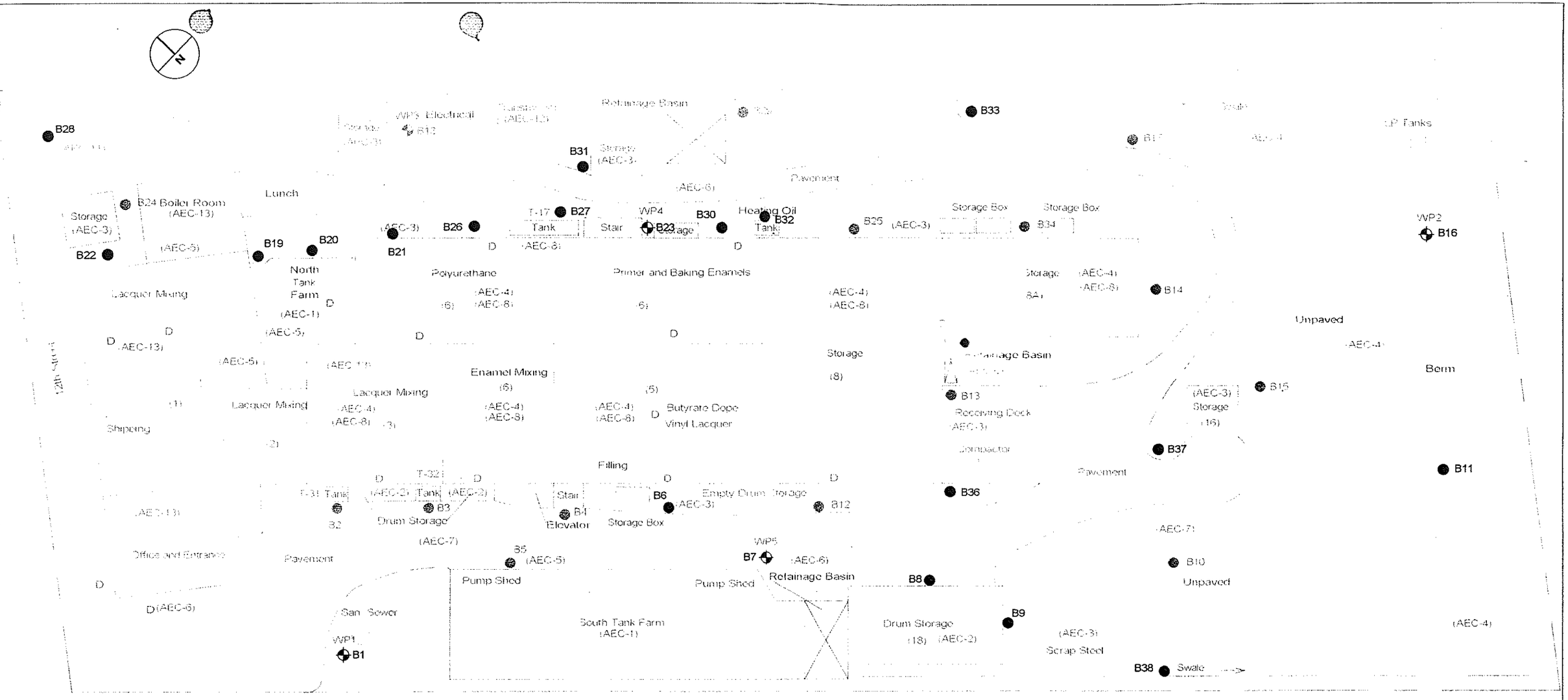
The Sample Quantitation Limit (SQL) is the laboratory Reporting Limit multiplied by the dilution factor.

The Qual cloumn indicates the qualifier, if any, applied to the result following data validation by Golder Associates.

Sample SB-4CD is a field duplicate of OSB-4C.

The attached figures and tables are reprints from the following document:

Environmental Engineering Corporation. 2001. “Site Investigation Report – Randolph Products Company, Carlstadt, NJ” (Madison, NJ).



Reference: Site Plans dated January 28, 1983 and October 21, 1985 by Louis P. Jacobitti, Architect - Planner
(6): Building reference numbers, see text
Locations are approximate
D: Floor and storm drains (see 10/21/85 Site Plan)

AEC-1: Existing AST's
AEC-2: Diked drum and material storage areas
AEC-3: Current material storage buildings and structures without secondary containment
AEC-4: Historic material storage areas
AEC-5: Former underground piping systems
AEC-6: Existing underground spill containment system
AEC-7: Former septic system discharge
AEC-8: Material drips and spills throughout the facility
AEC-9: Contaminated sites within the vicinity of the property
AEC-10: NJDEP Case 94-05-06-1515-00
AEC-11: Former UST's
AEC-12: Potential PCB materials
AEC-13: Potential asbestos containing materials (ACM)

Soil borings with temporary well points
Soil boring

Figure 3
Soil Analytical Results - Volatile Organics
Randolph Products Company
Carlstadt, New Jersey
Scale: 1" = 40' 9/29/2000

Locations where VO contamination was detected at concentrations less than Soil Cleanup Criteria are shown in Black.
Locations where VO contamination exceeds Soil Cleanup Criteria (Impact to Groundwater and Non-residential) are highlighted in Red.
Methylene Chloride was detected at concentrations exceeding Impact to Groundwater Quality Cleanup Criteria at all locations except B-7. Acetone was detected at concentrations below Soil Cleanup Criteria in nine of the samples analyzed. Laboratory induced contamination is suspected.

Table 2
Soil Analytical Results - VOCs
Randolph Products Inc.
Carlstadt, NJ
May, 2000

		NJDEP Soil Cleanup Criteria (SCC)			Soil Sample Number, Depth (ft), and Lab ID#							
					B-1	B-2	B-3	B-4	B-5	B-6	B-7	B-8
					1.0-2.0	1.0-2.0	1.5-2.5	1.0-2.0	1.0-2.0	1.0-2.0	1.0-2.0	1.0-2.0
					5150	5151	5152	5153	5154	5155	5156	5157
Parameter	CAS#	Non-residential (Restricted Use) (ppm)	Residential (Unrestricted Use) (ppm)	Impact to Groundwater (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)
Acetone	67-64-1	1000	1000	100	2.2 (B)	0.84 (B)	0.86 (B)	0.91 (B)	0.91 (B)	0.85 (B)		1.6 (B)
Benzene	71-43-2	13	3	1							19	
2-Butanone (MEK)	78-93-3	1000	1000	50								1.2
n-Butylbenzene	104-51-8	NS	NS	NS							3.6	
sec-Butylbenzene	135-98-8	NS	NS	NS							1.3	
Chlorobenzene	108-90-7	680	37	1							4.3	
1,2-Dichlorobenzene	95-50-1	10,000	5100	50							1.8	
1,1-Dichloroethane	75-34-3	1000	570	10							2.5	
1,1-Dichloroethene	75-35-4	150	8	10							1.5	
cis-1,2-dichloroethene	156-59-2	1000	79	1							19	
Ethylbenzene	100-41-4	1000	1000	100	1.4						1200	1.0
Isopropylbenzene	98-82-8	NS	NS	NS	.41 (J)						50	0.18 (J)
p-Isopropyltoluene	99-87-6	NS	NS	NS	.39 (J)						1.5	
4-Methyl 2-pentanone (MIBK)	108-10-1	NS	NS	NS								2.1
Methylene chloride	75-09-2	210	49	1	2.1 (B)	1.7 (B)	1.5 (B)	1.6 (B)	1.7 (B)	1.8 (B)	0.96 (B)	2.3 (B)
Naphthalene	91-20-3	4200	230	100	1.5						5.4	0.22 (J)
n-Propylbenzene	103-65-1	NS	NS	NS	.26 (J)						50	
Tetrachloroethene (PCE)	127-18-4	6	4	1							85	
Toluene	108-88-3	1000	1000	500	1.8					0.24 (J)	12000	5.7
1,1,1-Trichloroethane	71-55-6	1000	210	50							7.7	
Trichloroethene	79-01-6	54	23	1							13	
1,2,4-Trimethylbenzene	95-36-3	NS	NS	NS	2.1						110	0.51 (J)
1,3,5-Trimethylbenzene	108-67-8	NS	NS	NS	1.1						30	0.36 (J)
Xylenes, total	1330-20-7	1000	410	67	12						4400	10.8
VOC TICs		NS	NS	NS	29	2.9					996	25.4
Total VOCs		1000	1000	1000	49	2.9	0	0	0	0	19002	46
Lowest dilution factor (LDF)					139	113	111	113	109	112	132	120

Results are highlighted by color to denote where the corresponding NJDEP Soil Cleanup Criteria is exceeded.
All parameters detected in the May 2000 soils investigation are listed.
Blank cells indicate non-detect results; method detection limits (MDLs) are below the most stringent Soil Cleanup Criteria where the LDF is approximately 100. (J) = estimated value (below MDL), not included in total VOCs.
VOCs = volatile organic compounds; TICs = tentatively identified compounds; NS = not specified

Table 2
Soil Analytical Results - VOCs
Randolph Products Inc.
Carlstadt, NJ
May, 2000

		NJDEP Soil Cleanup Criteria (SCC)			Soil Sample Number, Depth (ft), and Lab ID#							
					B-9	B-10	B-11	B-12	B-13	B-14	B-15	B-16
					1.0-2.0	1.5-2.5	0.5-1.0	1.0-2.0	2.0-3.0	1.5-2.0	1.5-2.0	1.0-2.0
					5158	5159	5160	5161	5162	5163	5164	5165
Parameter	CAS#	Non-residential (Restricted Use) (ppm)	Residential (Unrestricted Use) (ppm)	Impact to Groundwater (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)
Acetone	67-64-1	1000	1000	100	1.2 (B)		3.5					
Benzene	71-43-2	13	3	1								
2-Butanone (MEK)	78-93-3	1000	1000	50								
n-Butylbenzene	104-51-8	NS	NS	NS								
sec-Butylbenzene	135-98-8	NS	NS	NS								
Chlorobenzene	108-90-7	680	37	1								
1,2-Dichlorobenzene	95-50-1	10,000	5100	50								
1,1-Dichloroethane	75-34-3	1000	570	10								
1,1-Dichloroethene	75-35-4	150	8	10								
cis-1,2-dichloroethene	156-59-2	1000	79	1								
Ethylbenzene	100-41-4	1000	1000	100			4.1					
Isopropylbenzene	98-82-8	NS	NS	NS								
p-Isopropyltoluene	99-87-6	NS	NS	NS			1.0					
4-Methyl 2-pentanone (MIBK)	108-10-1	NS	NS	NS								
Methylene chloride	75-09-2	210	49	1	1.8 (B)	2.6 (B)	3.4 (B)	3.5 (B)	3.7 (B)	2.0 (B)	2.4 (B)	2.5 (B)
Naphthalene	91-20-3	4200	230	100			5.7					2.4
n-Propylbenzene	103-65-1	NS	NS	NS			0.20 (J)					
Tetrachloroethene (PCE)	127-18-4	6	4	1								
Toluene	108-88-3	1000	1000	500			19					0.54 (J)
1,1,1-Trichloroethane	71-55-6	1000	210	50			0.27 (J)					
Trichloroethene	79-01-6	54	23	1								
1,2,4-Trimethylbenzene	95-36-3	NS	NS	NS			2.3					0.74 (J)
1,3,5-Trimethylbenzene	108-67-8	NS	NS	NS			2.2					0.32 (J)
Xylenes, total	1330-20-7	1000	410	67	0.29 (J)		49					0.63 (J)
VOC TICs		NS	NS	NS			60.7	1.3	0.6	1.1	1.3	1.5
Total VOCs		1000	1000	1000			148	1.3	0.8	1.1	1.3	3.9
Lowest dilution factor (LDF)					111	121	134	126	114	110	128	128

Results are highlighted by color to denote where the corresponding NJDEP Soil Cleanup Criteria is exceeded.
All parameters detected in the May 2000 soils investigation are listed.
Blank cells indicate non-detect results; method detection limits (MDLs) are below the most stringent Soil Cleanup Criteria where the LDF is approximately 100. (J) = estimated value (below MDL), not included in total VOCs.
VOCs = volatile organic compounds; TICs = tentatively identified compounds; NS = not specified

Table 2
Soil Analytical Results - VOCs
Randolph Products Inc.
Carlstadt, NJ
May, 2000

		NJDEP Soil Cleanup Criteria (SCC)			Soil Sample Number, Depth (ft), and Lab ID#							
					B-17	B-18	B-19	B-20	B-21	B-22	B-23	B-24
					1.0-2.0	0.5-1.0	1.5-2.5	1.5-2.0	1.0-2.0	1.0-2.0	2.5-3.5	1.3-2.3
					5186	5234	5235	5236	5237	5238	5239	5240
Parameter	CAS#	Non-residential (Restricted Use) (ppm)	Residential (Unrestricted Use) (ppm)	Impact to Groundwater (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)
Acetone	67-64-1	1000	1000	100								
Benzene	71-43-2	13	3	1								
2-Butanone (MEK)	78-93-3	1000	1000	50								
n-Butylbenzene	104-51-8	NS	NS	NS								
sec-Butylbenzene	135-98-8	NS	NS	NS								
Chlorobenzene	108-90-7	680	37	1								
1,2-Dichlorobenzene	95-50-1	10,000	5100	50								
1,1-Dichloroethane	75-34-3	1000	570	10								
1,1-Dichloroethene	75-35-4	150	8	10								
cis-1,2-dichloroethene	156-59-2	1000	79	1								
Ethylbenzene	100-41-4	1000	1000	100					0.30 (J)		0.16 (J)	
Isopropylbenzene	98-82-8	NS	NS	NS								
p-Isopropyltoluene	99-87-6	NS	NS	NS								
4-Methyl 2-pentanone (MIBK)	108-10-1	NS	NS	NS								
Methylene chloride	75-09-2	210	49	1	2.3 (B)	2.4 (B)	2.4 (B)	2.2 (B)	2.7 (B)	2.7 (B)	2.0 (B)	2.2 (B)
Naphthalene	91-20-3	4200	230	100							14.0	
n-Propylbenzene	103-65-1	NS	NS	NS								
Tetrachloroethene (PCE)	127-18-4	6	4	1								
Toluene	108-88-3	1000	1000	500			14.0	0.13 (J)	1.3	0.74 (J)	0.37 (J)	
1,1,1-Trichloroethane	71-55-6	1000	210	50								
Trichloroethene	79-01-6	54	23	1								
1,2,4-Trimethylbenzene	95-36-3	NS	NS	NS					0.19 (J)			
1,3,5-Trimethylbenzene	108-67-8	NS	NS	NS								
Xylenes, total	1330-20-7	1000	410	67			0.28 (J)		1.66 (J)		4.5	
VOC TICs		NS	NS	NS	1.3	1.4	1.6	1.9	2.1	2.0	36.3	2.1
Total VOCs		1000	1000	1000	1.3	1.4	16	1.9	3.4	2.0	55	2.1
Lowest dilution factor (LDF)					117	113	107	111	119	132	113	119

Results are highlighted by color to denote where the corresponding NJDEP Soil Cleanup Criteria is exceeded.
All parameters detected in the May 2000 soils investigation are listed.
Blank cells indicate non-detect results; method detection limits (MDLs) are below the most stringent Soil Cleanup Criteria where the LDF is approximately 100. (J) = estimated value (below MDL), not included in total VOCs.
VOCs = volatile organic compounds; TICs = tentatively identified compounds; NS = not specified

Table 2
Soil Analytical Results - VOCs
Randolph Products Inc.
Carlstadt, NJ
May, 2000

		NJDEP Soil Cleanup Criteria (SCC)			Soil Sample Number, Depth (ft), and Lab ID#							
					B-25	B-26	B-27	B-28	B-29	B-30	B-31	B-32
					1.5-2.0	1.0-2.0	2.5-3.5	1.5-2.5	1.0-2.0	1.0-2.0	1.0-2.0	1.0-2.0
					5241	5242	5243	5244	5245	5246	5247	5248
Parameter	CAS#	Non-residential (Restricted Use) (ppm)	Residential (Unrestricted Use) (ppm)	Impact to Groundwater (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)
Acetone	67-64-1	1000	1000	100								
Benzene	71-43-2	13	3	1								
2-Butanone (MEK)	78-93-3	1000	1000	50								
n-Butylbenzene	104-51-8	NS	NS	NS						0.32 (J)		0.21 (J)
sec-Butylbenzene	135-98-8	NS	NS	NS						0.20 (J)		0.17 (J)
Chlorobenzene	108-90-7	680	37	1								
1,2-Dichlorobenzene	95-50-1	10,000	5100	50								
1,1-Dichloroethane	75-34-3	1000	570	10								
1,1-Dichloroethene	75-35-4	150	8	10								
cis-1,2-dichloroethene	156-59-2	1000	79	1								
Ethylbenzene	100-41-4	1000	1000	100							2.6	
Isopropylbenzene	98-82-8	NS	NS	NS								
p-Isopropyltoluene	99-87-6	NS	NS	NS								
4-Methyl 2-pentanone (MIBK)	108-10-1	NS	NS	NS								
Methylene chloride	75-09-2	210	49	1	2.0 (B)	1.9 (B)	1.9 (B)	2.5 (B)	2.1 (B)	2.4 (B)	2.8 (B)	2.0 (B)
Naphthalene	91-20-3	4200	230	100				0.28 (J)				
n-Propylbenzene	103-65-1	NS	NS	NS								
Tetrachloroethene (PCE)	127-18-4	6	4	1								
Toluene	108-88-3	1000	1000	500		1.0					18	0.18 (J)
1,1,1-Trichloroethane	71-55-6	1000	210	50								
Trichloroethene	79-01-6	54	23	1								
1,2,4-Trimethylbenzene	95-36-3	NS	NS	NS			0.18 (J)					
1,3,5-Trimethylbenzene	108-67-8	NS	NS	NS								
Xylenes, total	1330-20-7	1000	410	67		0.57 (J)	1.6				10.6	
VOC TICs		NS	NS	NS			10.6			32.7	30.8	24.6
Total VOCs		1000	1000	1000		1.0	12			33	62	25
Lowest dilution factor (LDF)					111	111	118	117	125	134	144	110

Results are highlighted by color to denote where the corresponding NJDEP Soil Cleanup Criteria is exceeded.
All parameters detected in the May 2000 soils investigation are listed.
Blank cells indicate non-detect results; method detection limits (MDLs) are below the most stringent Soil Cleanup Criteria where the LDF is approximately 100. (J) = estimated value (below MDL), not included in total VOCs.
VOCs = volatile organic compounds; TICs = tentatively identified compounds; NS = not specified

Table 2
Soil Analytical Results - VOCs
Randolph Products Inc.
Carlstadt, NJ
May, 2000

		NJDEP Soil Cleanup Criteria (SCC)			Soil Sample Number, Depth (ft), and Lab ID#							
					B-33	B-34	B-35	B-36	B-37	B-38	TB-1	TB-2
					1.0-1.5	1.0-2.0	1.5-2.5	1.0-2.0	0.5-1.5	1.5-2.0		
					5249	5250	5251	5252	5253	5254	5167	5255
Parameter	CAS#	Non-residential (Restricted Use) (ppm)	Residential (Unrestricted Use) (ppm)	Impact to Groundwater (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)
Acetone	67-64-1	1000	1000	100								
Benzene	71-43-2	13	3	1								
2-Butanone (MEK)	78-93-3	1000	1000	50								
n-Butylbenzene	104-51-8	NS	NS	NS								
sec-Butylbenzene	135-98-8	NS	NS	NS								
Chlorobenzene	108-90-7	680	37	1								
1,2-Dichlorobenzene	95-50-1	10,000	5100	50								
1,1-Dichloroethane	75-34-3	1000	570	10								
1,1-Dichloroethene	75-35-4	150	8	10								
cis-1,2-dichloroethene	156-59-2	1000	79	1								
Ethylbenzene	100-41-4	1000	1000	100						0.22 (J)		
Isopropylbenzene	98-82-8	NS	NS	NS								
p-Isopropyltoluene	99-87-6	NS	NS	NS								
4-Methyl 2-pentanone (MIBK)	108-10-1	NS	NS	NS								
Methylene chloride	75-09-2	210	49	1	2.2 (B)	1.5 (B)	1.7 (B)	1.6 (B)	1.6 (B)	1.6 (B)	1.5 (B)	1.7 (B)
Naphthalene	91-20-3	4200	230	100								
n-Propylbenzene	103-65-1	NS	NS	NS								
Tetrachloroethene (PCE)	127-18-4	6	4	1								
Toluene	108-88-3	1000	1000	500	0.16 (J)			0.14 (J)		0.35 (J)		
1,1,1-Trichloroethane	71-55-6	1000	210	50								
Trichloroethene	79-01-6	54	23	1								
1,2,4-Trimethylbenzene	95-36-3	NS	NS	NS						0.29 (J)		
1,3,5-Trimethylbenzene	108-67-8	NS	NS	NS								
Xylenes, total	1330-20-7	1000	410	67	0.30 (J)				3.0	1.97 (J)		
VOC TICs		NS	NS	NS	22.6					1.5		
Total VOCs		1000	1000	1000	23				3.0	1.5		
Lowest dilution factor (LDF)					118	121	124	114	110	118	125	125

Results are highlighted by color to denote where the corresponding NJDEP Soil Cleanup Criteria is exceeded.
All parameters detected in the May 2000 soils investigation are listed.
Blank cells indicate non-detect results; method detection limits (MDLs) are below the most stringent Soil Cleanup Criteria where the LDF is approximately 100. (J) = estimated value (below MDL), not included in total VOCs.
VOCs = volatile organic compounds; TICs = tentatively identified compounds; NS = not specified

Table 3
Soil Analytical Results - BNAs
Randolph Products Inc.
Carlstadt, NJ
May, 2000

		NJDEP Soil Cleanup Criteria (SCC)			Soil Sample Number, Depth (ft), and Lab ID#							
					B-1	B-2	B-3	B-4	B-5	B-6	B-7	B-8
					1.0-2.0	1.0-2.0	1.5-2.5	1.0-2.0	1.0-2.0	1.0-2.0	1.0-2.0	1.0-2.0
					5150	5151	5152	5153	5154	5155	5156	5157
Parameter	CAS#	Non-residential (Restricted Use) (ppm)	Residential (Unrestricted Use) (ppm)	Impact to Groundwater (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)
Acenaphthene	83-32-9	10000	34000	100	0.32 (J)						2.2	
Acenaphthylene	208-96-8	NS	NS	NS	0.05 (J)						0.11 (J)	0.07 (J)
Anthracene	120-12-7	10000	10000	100	0.54						2.9	0.08 (J)
Benzo(a)Anthracene	56-55-3	4	0.9	500	1.1						8.5	0.7
Benzo(a)Pyrene	50-32-8	0.66	0.66	100	1.3						5.2	1.1
Benzo(b)fluoranthene	205-99-2	4	0.9	50	1.5						6.1	1.5
Benzo(g,h,i)Perylene	191-24-2	NS	NS	NS	0.5						1.9	0.44 (J)
Benzo(k)Fluoranthene	207-08-9	4	0.9	500	1.9						3.8	0.9
Bis(2-Ethylhexyl)phthalate	117-81-7	210	49	100	23.0	0.12 (J)	0.5	0.04 (J)	0.05 (J)	0.06 (J)	280	52.0
Butylbenzylphthalate	85-68-7	10000	1100	100	0.4							
Chrysene	218-01-9	40	9	500	0.7						6.1	0.8
Dibenzo(a,h)Anthracene	53-70-3	0.66	0.66	100							1.2	
Dibenzofuran	132-64-9	NS	NS	NS	0.15 (J)						1.7	
Diethylphthalate	84-66-2	10000	10000	50	0.07 (J)							
2,4-Dimethylphenol	105-67-9	NS	NS	NS	0.07 (J)						0.6	0.16 (J)
Di-n-Butylphthalate	84-74-2	10000	5700	100	0.5						4.7	0.7
Di-n-octyl phthalate	117-84-0	10000	1100	100	0.21 (J)						1.7	0.13 (J)
Fluoranthene	206-44-0	10000	2300	100	2.0						21.0	0.6
Fluorene	86-73-7	10000	2300	100	0.30 (J)						3.1	
Indeno(1,2,3-cd)Pyrene	193-39-5	4	0.9	500	0.5						2.0	0.5
Isophorone	78-59-1	10000	1100	50	0.09 (J)							
2-Methylnaphthalene	91-57-6	NS	NS	NS	0.09 (J)						1.1	0.6
2-Methylphenol	95-48-7	NS	NS	NS							1.0	
3&4-Methylphenol	108-39-4	NS	NS	NS							1.3	0.08 (J)
Naphthalene	91-20-3	4200	230	100	0.5						3.7	0.24 (J)
4-Nitroaniline	100-01-6	NS	NS	NS								
Nitrobenzene	98-95-3	50	28	50								0.11 (J)
Phenanthrene	85-01-8	NS	NS	NS	1.8						19.0	0.24 (J)
Phenol	103-95-2	10000	10000	50								
Pyrene	129-00-0	10000	1700	100	4.2						14.0	1.1
BNA TICs		NS	NS	NS	56.8	1.8	1.5	1.0	0.8	1.4	105.2	52.8
Total BNAs					97.2	1.8	2.0	1.0	0.8	1.4	498.0	113.2

Results are highlighted by color to denote where the corresponding NJDEP Soil Cleanup Criteria is exceeded.
All parameters detected in the May 2000 soils investigation are listed. TICs detected in associated lab blank not included in BNA TICs total.
Blank cells indicate non-detect results; method detection limits (MDLs) are below the most stringent Soil Cleanup Criteria. (J) = esimated value (bleow MDL), not included in total BNAs..
BNAs = base/neutral/acid extractable compounds; TICs = tentatively identified compounds; NS = not specified

Table 3
Soil Analytical Results - BNAs
Randolph Products Inc.
Carlstadt, NJ
May, 2000

		NJDEP Soil Cleanup Criteria (SCC)			Soil Sample Number, Depth (ft), and Lab ID#							
					B-9	B-10	B-11	B-12	B-13	B-14	B-15	B-16
					1.0-2.0	1.5-2.5	0.5-1.0	1.0-2.0	2.0-3.0	1.5-2.0	1.5-2.0	1.0-2.0
					5158	5159	5160	5161	5162	5163	5164	5165
Parameter	CAS#	Non-residential (Restricted Use) (ppm)	Residential (Unrestricted Use) (ppm)	Impact to Groundwater (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)
Acenaphthene	83-32-9	10000	34000	100			1.0					3.5
Acenaphthylene	208-96-8	NS	NS	NS			0.06 (J)					0.27 (J)
Anthracene	120-12-7	10000	10000	100			2.3					5.7
Benzo(a)Anthracene	56-55-3	4	0.9	500			1.8					19.0
Benzo(a)Pyrene	50-32-8	0.66	0.66	100			4.4					17.0
Benzo(b)fluoranthene	205-99-2	4	0.9	50			5.7					21.0
Benzo(g,h,i)Perylene	191-24-2	NS	NS	NS			1.5					4.5
Benzo(k)Fluoranthene	207-08-9	4	0.9	500			5.1					11.0
Bis(2-Ethylhexyl)phthalate	117-81-7	210	49	100	0.08 (J)	4.9	18.0			1.0	0.05 (J)	9.1
Butylbenzylphthalate	85-68-7	10000	1100	100		1.0	0.16 (J)					
Chrysene	218-01-9	40	9	500			2.1					18.0
Dibenzo(a,h)Anthracene	53-70-3	0.66	0.66	100			0.9					2.6
Dibenzofuran	132-64-9	NS	NS	NS			0.6					1.9
Diethylphthalate	84-66-2	10000	10000	50								0.22 (J)
2,4-Dimethylphenol	105-67-9	NS	NS	NS			0.1 (J)					
Di-n-Butylphthalate	84-74-2	10000	5700	100	0.04 (J)		0.16 (J)					0.7
Di-n-octyl phthalate	117-84-0	10000	1100	100			0.18 (J)					0.17 (J)
Fluoranthene	206-44-0	10000	2300	100			4.7					34.0
Fluorene	86-73-7	10000	2300	100			1.1					3.3
Indeno(1,2,3-cd)Pyrene	193-39-5	4	0.9	500			1.6					4.7
Isophorone	78-59-1	10000	1100	50								
2-Methylnaphthalene	91-57-6	NS	NS	NS			0.33 (J)					0.9
2-Methylphenol	95-48-7	NS	NS	NS								
3&4-Methylphenol	108-39-4	NS	NS	NS								0.06 (J)
Naphthalene	91-20-3	4200	230	100			1.7					2.7
4-Nitroaniline	100-01-6	NS	NS	NS								
Nitrobenzene	98-95-3	50	28	50								
Phenanthrene	85-01-8	NS	NS	NS			5.0					27.0
Phenol	103-95-2	10000	10000	50			0.30 (J)					
Pyrene	129-00-0	10000	1700	100			12.0			0.04 (J)		34.0
BNA TICs		NS	NS	NS	3.8	6.1	47.2	6.5	0.6	0.7	0.6	351.6
Total BNAs					3.8	12.0	116.7	6.5	0.6	1.7	0.6	572.2

Results are highlighted by color to denote where the corresponding NJDEP Soil Cleanup Criteria is exceeded.
All parameters detected in the May 2000 soils investigation are listed. TICs detected in associated lab blank not included in BNA TICs total.
Blank cells indicate non-detect results; method detection limits (MDLs) are below the most stringent Soil Cleanup Criteria. (J) = esimated value (bleow MDL), not included in total BNAs..
BNAs = base/neutral/acid extractable compounds; TICs = tentatively identified compounds; NS = not specified

Table 3
Soil Analytical Results - BNAs
Randolph Products Inc.
Carlstadt, NJ
May, 2000

		NJDEP Soil Cleanup Criteria (SCC)			Soil Sample Number, Depth (ft), and Lab ID#							
					B-17	B-18	B-19	B-20	B-21	B-22	B-23	B-24
					1.0-2.0	0.5-1.0	1.5-2.5	1.5-2.0	1.0-2.0	1.0-2.0	2.5-3.5	1.3-2.3
					5166	5234	5235	5236	5237	5238	5239	5240
Parameter	CAS#	Non-residential (Restricted Use) (ppm)	Residential (Unrestricted Use) (ppm)	Impact to Groundwater (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)
Acenaphthene	83-32-9	10000	34000	100							2.2	
Acenaphthylene	208-96-8	NS	NS	NS							0.15 (J)	
Anthracene	120-12-7	10000	10000	100							2.9	
Benzo(a)Anthracene	56-55-3	4	0.9	500	0.12 (J)						4.8	
Benzo(a)Pyrene	50-32-8	0.66	0.66	100	0.13 (J)						4.8	
Benzo(b)fluoranthene	205-99-2	4	0.9	50	0.14 (J)		0.07 (J)				8.4	
Benzo(g,h,i)Perylene	191-24-2	NS	NS	NS							1.5	
Benzo(k)Fluoranthene	207-08-9	4	0.9	500	0.19 (J)						5.5	
Bis(2-Ethylhexyl)phthalate	117-81-7	210	49	100	6.0	0.07 (J)	0.6		0.17 (J)	0.15 (J)	57.0	
Butylbenzylphthalate	85-68-7	10000	1100	100	0.16 (J)						0.24 (J)	
Chrysene	218-01-9	40	9	500	0.13 (J)		0.05 (J)				4.5	
Dibenzo(a,h)Anthracene	53-70-3	0.66	0.66	100							0.8	
Dibenzofuran	132-64-9	NS	NS	NS							1.3	
Diethylphthalate	84-66-2	10000	10000	50								
2,4-Dimethylphenol	105-67-9	NS	NS	NS								
Di-n-Butylphthalate	84-74-2	10000	5700	100	1.9						0.22 (J)	
Di-n-octyl phthalate	117-84-0	10000	1100	100			0.15 (J)					
Fluoranthene	206-44-0	10000	2300	100	0.19 (J)		0.1 (J)				6.0	
Fluorene	86-73-7	10000	2300	100							2.2	
Indeno(1,2,3-cd)Pyrene	193-39-5	4	0.9	500	0.04 (J)						1.6	
Isophorone	78-59-1	10000	1100	50								
2-Methylnaphthalene	91-57-6	NS	NS	NS							0.6	
2-Methylphenol	95-48-7	NS	NS	NS			0.15 (J)					
3&4-Methylphenol	108-39-4	NS	NS	NS			0.07 (J)					
Naphthalene	91-20-3	4200	230	100					0.04 (J)		1.9	
4-Nitroaniline	100-01-6	NS	NS	NS								
Nitrobenzene	98-95-3	50	28	50								
Phenanthrene	85-01-8	NS	NS	NS	0.11 (J)						12.0	
Phenol	103-95-2	10000	10000	50								
Pyrene	129-00-0	10000	1700	100	0.23 (J)		0.06 (J)				6.4	
BNA TICs		NS	NS	NS	8.6	27.4	2.1	0.4	13.1	0.5	13.1	1.1
Total BNAs					16.5	27.4	2.7	0.4	13.1	0.5	135.5	1.1

Results are highlighted by color to denote where the corresponding NJDEP Soil Cleanup Criteria is exceeded.
All parameters detected in the May 2000 soils investigation are listed. TICs detected in associated lab blank not included in BNA TICs total.
Blank cells indicate non-detect results; method detection limits (MDLs) are below the most stringent Soil Cleanup Criteria. (J) = esimated value (bleow MDL), not included in total BNAs.
BNAs = base/neutral/acid extractable compounds; TICs = tentatively identified compounds; NS = not specified

Table 3
Soil Analytical Results - BNAs
Randolph Products Inc.
Carlstadt, NJ
May, 2000

		NJDEP Soil Cleanup Criteria (SCC)			Soil Sample Number, Depth (ft), and Lab ID#							
					B-25	B-26	B-27	B-28	B-29	B-30	B-31	B-32
					1.5-2.0	1.0-2.0	2.5-3.5	1.5-2.5	1.0-2.0	1.0-2.0	1.0-2.0	1.0-2.0
					5241	5242	5243	5244	5245	5246	5247	5248
Parameter	CAS#	Non-residential (Restricted Use) (ppm)	Residential (Unrestricted Use) (ppm)	Impact to Groundwater (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)
Acenaphthene	83-32-9	10000	34000	100				0.07 (J)		0.5		
Acenaphthylene	208-96-8	NS	NS	NS								
Anthracene	120-12-7	10000	10000	100		0.04 (J)		0.16 (J)		0.08 (J)		
Benzo(a)Anthracene	56-55-3	4	0.9	500		0.15 (J)	0.05 (J)	0.5			0.12 (J)	
Benzo(a)Pyrene	50-32-8	0.66	0.66	100	0.04 (J)	0.24 (J)	0.06 (J)	0.5				
Benzo(b)fluoranthene	205-99-2	4	0.9	50	0.05 (J)	0.37 (J)	0.08 (J)	0.7			0.18 (J)	
Benzo(g,h,i)Perylene	191-24-2	NS	NS	NS		0.15 (J)		0.26 (J)			0.22 (J)	
Benzo(k)Fluoranthene	207-08-9	4	0.9	500		0.27 (J)	0.05 (J)	0.43 (J)			0.20 (J)	
Bis(2-Ethylhexyl)phthalate	117-81-7	210	49	100		1.5	0.24 (J)	2.6	0.12 (J)	0.32 (J)	0.05 (J)	0.15 (J)
Butylbenzylphthalate	85-68-7	10000	1100	100		0.16 (J)						
Chrysene	218-01-9	40	9	500		0.22 (J)	0.06 (J)	0.6			0.13 (J)	
Dibenzo(a,h)Anthracene	53-70-3	0.66	0.66	100								
Dibenzofuran	132-64-9	NS	NS	NS						0.22 (J)		
Diethylphthalate	84-66-2	10000	10000	50								
2,4-Dimethylphenol	105-67-9	NS	NS	NS								
Di-n-Butylphthalate	84-74-2	10000	5700	100		0.05 (J)		0.7			2.7	
Di-n-octyl phthalate	117-84-0	10000	1100	100								
Fluoranthene	206-44-0	10000	2300	100	0.09 (J)	0.22 (J)	0.14 (J)	0.8		0.09 (J)	0.10 (J)	0.06 (J)
Fluorene	86-73-7	10000	2300	100				0.12 (J)		0.8		0.27 (J)
Indeno(1,2,3-cd)Pyrene	193-39-5	4	0.9	500		0.18 (J)	0.04 (J)					
Isophorone	78-59-1	10000	1100	50								
2-Methylnaphthalene	91-57-6	NS	NS	NS						0.28 (J)		
2-Methylphenol	95-48-7	NS	NS	NS								
3&4-Methylphenol	108-39-4	NS	NS	NS								
Naphthalene	91-20-3	4200	230	100				0.09 (J)				
4-Nitroaniline	100-01-6	NS	NS	NS				4.3				
Nitrobenzene	98-95-3	50	28	50								
Phenanthrene	85-01-8	NS	NS	NS	0.05 (J)	0.1 (J)	0.09 (J)	0.6		1.4	0.05 (J)	0.38 (J)
Phenol	103-95-2	10000	10000	50								
Pyrene	129-00-0	10000	1700	100	0.06 (J)	0.26 (J)	0.09 (J)	1.9		0.14 (J)	0.30 (J)	0.08 (J)
BNA TICs		NS	NS	NS	22.4	8.0	12.1	22.7	14.4	45.4	20.8	13.7
Total BNAs					22.4	9.5	12.1	36.0	14.4	48.0	23.5	13.7

Results are highlighted by color to denote where the corresponding NJDEP Soil Cleanup Criteria is exceeded.
All parameters detected in the May 2000 soils investigation are listed. TICs detected in associated lab blank not included in BNA TICs total.
Blank cells indicate non-detect results; method detection limits (MDLs) are below the most stringent Soil Cleanup Criteria. (J) = esimated value (bleow MDL), not included in total BNAs..
BNAs = base/neutral/acid extractable compounds; TICs = tentatively identified compounds; NS = not specified

Table 3
Soil Analytical Results - BNAs
Randolph Products Inc.
Carlstadt, NJ
May, 2000

					Soil Sample Number, Depth (ft), and Lab ID#							
					B-33	B-34	B-35	B-36	B-37	B-38		
					1.0-1.5	1.0-2.0	1.5-2.5	1.0-2.0	0.5-1.5	1.5-2.0		
		NJDEP Soil Cleanup Criteria (SCC)			5249	5250	5251	5252	5253	5254		
Parameter	CAS#	Non-residential (Restricted Use) (ppm)	Residential (Unrestricted Use) (ppm)	Impact to Groundwater (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)		
Acenaphthene	83-32-9	10000	34000	100	0.31 (J)							
Acenaphthylene	208-96-8	NS	NS	NS								
Anthracene	120-12-7	10000	10000	100	0.5							
Benzo(a)Anthracene	56-55-3	4	0.9	500	1.0	0.06 (J)						
Benzo(a)Pyrene	50-32-8	0.66	0.66	100	0.9							
Benzo(b)fluoranthene	205-99-2	4	0.9	50	1.1					0.04 (J)		
Benzo(g,h,i)Perylene	191-24-2	NS	NS	NS	0.23 (J)							
Benzo(k)Fluoranthene	207-08-9	4	0.9	500	1.1							
Bis(2-Ethylhexyl)phthalate	117-81-7	210	49	100	38.0	4.7		0.15 (J)	0.09 (J)	1.8		
Butylbenzylphthalate	85-68-7	10000	1100	100	2.0	0.33 (J)						
Chrysene	218-01-9	40	9	500	1.0	0.07 (J)						
Dibenzo(a,h)Anthracene	53-70-3	0.66	0.66	100								
Dibenzofuran	132-64-9	NS	NS	NS	0.08 (J)							
Diethylphthalate	84-66-2	10000	10000	50								
2,4-Dimethylphenol	105-67-9	NS	NS	NS								
Di-n-Butylphthalate	84-74-2	10000	5700	100	0.8	0.08 (J)						
Di-n-octyl phthalate	117-84-0	10000	1100	100	0.6	0.08 (J)						
Fluoranthene	206-44-0	10000	2300	100	1.6	0.09 (J)						
Fluorene	86-73-7	10000	2300	100	0.23 (J)							
Indeno(1,2,3-cd)Pyrene	193-39-5	4	0.9	500	0.25 (J)							
Isophorone	78-59-1	10000	1100	50								
2-Methylnaphthalene	91-57-6	NS	NS	NS	0.06 (J)							
2-Methylphenol	95-48-7	NS	NS	NS								
3&4-Methylphenol	108-39-4	NS	NS	NS								
Naphthalene	91-20-3	4200	230	100					0.05 (J)			
4-Nitroaniline	100-01-6	NS	NS	NS								
Nitrobenzene	98-95-3	50	28	50								
Phenanthrene	85-01-8	NS	NS	NS	1.4	0.04 (J)						
Phenol	103-95-2	10000	10000	50								
Pyrene	129-00-0	10000	1700	100	3.0	0.18 (J)						
BNA TICs		NS	NS	NS	10.1	7.3	0.3	59.7	12.2	8.1		
Total BNAs					62.9	12.0	0.3	59.7	12.2	9.9		

Results are highlighted by color to denote where the corresponding NJDEP Soil Cleanup Criteria is exceeded.
All parameters detected in the May 2000 soils investigation are listed. TICs detected in associated lab blank not included in BNA TICs total.
Blank cells indicate non-detect results; method detection limits (MDLs) are below the most stringent Soil Cleanup Criteria. (J) = esimated value (bleow MDL), not included in total BNAs..
BNAs = base/neutral/acid extractable compounds; TICs = tentatively identified compounds; NS = not specified

Table 4
Soil Analytical Results - Metals
Randolph Products Inc.
Carlstadt, NJ
May, 2000

		NJDEP Soil Cleanup Criteria (SCC)			Soil Sample Number, Depth (ft), and Lab ID#							
					B-1	B-2	B-3	B-4	B-5	B-6	B-7	B-8
					1.0-2.0	1.0-2.0	1.5-2.5	1.0-2.0	1.0-2.0	1.0-2.0	1.0-2.0	1.0-2.0
					5150	5151	5152	5153	5154	5155	5156	5157
Parameter	CAS#	Non-residential (Restricted Use) (ppm)	Residential (Unrestricted Use) (ppm)	Impact to Groundwater (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)
Antimony	7440-36-0	340	14	NS	13.7							38.0
Arsenic	7440-38-2	20	20	NS	3.4	1.6	1.7	2.2	4.1	3.6	4.6	8.7
Beryllium	7440-41-7	2	2	NS	0.9	1.0	1.1	0.9	1.6	0.9	0.9	1.7
Cadmium	7440-43-9	100	1	NS	4.2	1.6	1.9	1.8	2.8	1.4	2.7	10.4
Chromium *					803	13.0	15.9	13.0	23.7	12.5	111	2650
Copper	7440-50-8	600	600	NS	38.9	11.8	9.4	12.5	8.7	16.6	20.1	116
Lead	7439-92-1	600	400	NS	1610					27.9	484	7150
Mercury	7439-97-6	270	14	NS	0.8						1.3	2.6
Nickel	7440-02-0	2400	250	NS	19.7	9.5	15.0	10.5	21.3	10.3	14.5	19.2
Silver	7440-22-4	4100	110	NS	1.1		0.7	0.7	1.3		0.9	1.0
Zinc	7440-66-6	1500	1500	NS	1470	31.7	37.7	31.0	76.3	37.0	361	1640

		NJDEP Soil Cleanup Criteria (SCC)			Soil Sample Number, Depth (ft), and Lab ID#							
					B-9	B-10	B-11	B-12	B-13	B-14	B-15	B-16
					1.0-2.0	1.5-2.5	0.5-1.0	1.0-2.0	2.0-3.0	1.5-2.0	1.5-2.0	1.0-2.0
					5158	5159	5160	5161	5162	5163	5164	5165
Parameter	CAS#	Non-residential (Restricted Use) (ppm)	Residential (Unrestricted Use) (ppm)	Impact to Groundwater (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)
Antimony	7440-36-0	340	14	NS			22.9					
Arsenic	7440-38-2	20	20	NS	2.8	1.4	2.6	3.0	4.6	1.8	2.0	5.6
Beryllium	7440-41-7	2	2	NS	0.9	0.5	0.8	1.6	1.2	0.8	0.8	0.9
Cadmium	7440-43-9	100	1	NS	2.1	1.1	6.6	3.1	2.9	1.5	1.9	4.6
Chromium *					16.5	13.9	996	23.2	15.8	13.1	15.5	51.3
Copper	7440-50-8	600	600	NS	11.3	110	58.8	10.2	14.3	8.3	32.0	70.3
Lead	7439-92-1	600	400	NS		35.5	2550	19.3		19.1		390
Mercury	7439-97-6	270	14	NS	0.3	0.7	2.4					4.8
Nickel	7440-02-0	2400	250	NS	11.0	15.6	13.0	20.9	15.4	8.9	8.6	16.4
Silver	7440-22-4	4100	110	NS	0.9		0.8	0.8				1.0
Zinc	7440-66-6	1500	1500	NS	57.2	110	1690	71.5	46.2	31.8	22.2	265

		NJDEP Soil Cleanup Criteria (SCC)			Soil Sample Number, Depth (ft), and Lab ID#							
					B-17	B-18	B-19	B-20	B-21	B-22	B-23	B-24
					1.0-2.0	0.5-1.0	1.5-2.5	1.5-2.0	1.0-2.0	1.0-2.0	2.5-3.5	1.3-2.3
					5166	5234	5235	5236	5237	5238	5239	5240
Parameter	CAS#	Non-residential (Restricted Use) (ppm)	Residential (Unrestricted Use) (ppm)	Impact to Groundwater (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)
Antimony	7440-36-0	340	14	NS								
Arsenic	7440-38-2	20	20	NS	3.9		8.3		3.9	1.9	4.2	3.8
Beryllium	7440-41-7	2	2	NS	0.6	0.7	1.0	0.9	0.8	1.0	1.4	0.5
Cadmium	7440-43-9	100	1	NS	1.2	1.1	2.1	1.2	1.4	2.3	8.0	0.9
Chromium *					12.8	10.9	11.0	10.9	30.4	14.4	41.8	13.7
Copper	7440-50-8	600	600	NS	9.3	10.0	15.1	11.1	14.4	23.8	21.4	
Lead	7439-92-1	600	400	NS	25.4		33.1		84.7	33.8	766	
Mercury	7439-97-6	270	14	NS	3.6						1.1	
Nickel	7440-02-0	2400	250	NS	7.8	9.6	7.6	11.6	12.1	10.8	19.9	6.0
Silver	7440-22-4	4100	110	NS		112						
Zinc	7440-66-6	1500	1500	NS	86.4		34.7	[illegible]	[illegible]	146	592	23.6

Results are highlighted by color to denote where the corresponding NJDEP Soil Cleanup Criteria is exceeded.
Chromium III/IV not differentiated, no Soil Cleanup Criteria provided.
All parameters detected in the May 2000 soils investigation are listed. (Metals selenium and thallium not detected in any samples)
Blank cells indicate non-detect results; method detection limits (MDLs) are below the most stringent Soil Cleanup Criteria.
NS = Not specified

Environmental Engineering Corporation

Table 4
Soil Analytical Results - Metals
Randolph Products Inc.
Carlstadt, NJ
May, 2000

		NJDEP Soil Cleanup Criteria (SCC)			Soil Sample Number, Depth (ft), and Lab ID#							
					B-25	B-26	B-27	B-28	B-29	B-30	B-31	B-32
					1.5-2.0	1.0-2.0	2.5-3.5	1.5-2.5	1.0-2.0	1.0-2.0	1.0-2.0	1.0-2.0
					5241	5242	5243	5244	5245	5246	5247	5248
Parameter	CAS#	Non-residential (Restricted Use) (ppm)	Residential (Unrestricted Use) (ppm)	Impact to Groundwater (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)
Antimony	7440-36-0	340	14	NS								
Arsenic	7440-38-2	20	20	NS	2.6	6.0	1.9	4.8	1.5	2.9	12.7	3.5
Beryllium	7440-41-7	2	2	NS	1.6	1.0	0.9	1.1	0.5	1.7	2.7	2.0
Cadmium	7440-43-9	100	1	NS	2.4	12.2	1.3	3.6	0.8	2.5	8.5	2.7
Chromium *					23.3	24.3	14.3	54.7	6.3	23.6	82.6	26.2
Copper	7440-50-8	600	600	NS	10.2	24.2	6.4	62.6	3.6	8.9	68.3	11.0
Lead	7439-92-1	600	400	NS	24.6	104		275			62.1	20.5
Mercury	7439-97-6	270	14	NS		1.2		5.0	0.4	0.7	19.7	
Nickel	7440-02-0	2400	250	NS	22.7	16.1	12.6	24.2	4.5	23.6	26.5	26.6
Silver	7440-22-4	4100	110	NS				1.5			2.1	
Zinc	7440-66-6	1500	1500	NS	78.1	190	55.9	1770	24.1	67.0	583	84.3

		NJDEP Soil Cleanup Criteria (SCC)			Soil Sample Number, Depth (ft), and Lab ID#							
					B-33	B-34	B-35	B-36	B-37	B-38		
					1.0-1.5	1.0-2.0	1.5-2.5	1.0-2.0	0.5-1.5	1.5-2.0		
					5249	5250	5251	5252	5253	5254		
Parameter	CAS#	Non-residential (Restricted Use) (ppm)	Residential (Unrestricted Use) (ppm)	Impact to Groundwater (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)		
Antimony	7440-36-0	340	14	NS								
Arsenic	7440-38-2	20	20	NS	6.9	2.9	3.1	2.1		22.1		
Beryllium	7440-41-7	2	2	NS	1.1	0.8	1.8	1.5		1.2		
Cadmium	7440-43-9	100	1	NS	3.7	1.5	2.7	2.4		3.9		
Chromium *					87.2	25.6	24.5	36.8	4.7	43.0		
Copper	7440-50-8	600	600	NS	50.2	30.5	10.3	12.4	204	25.3		
Lead	7439-92-1	600	400	NS	308	50.4	23.3	49.1	52.1	245		
Mercury	7439-97-6	270	14	NS	8.2	2.0				2.3		
Nickel	7440-02-0	2400	250	NS	19.6	12.9	24.3	21.1	4.7	22.5		
Silver	7440-22-4	4100	110	NS	1.4	1.1		1.3				
Zinc	7440-66-6	1500	1500	NS	348	87.0	78.2	122	263	615		

Results are highlighted by color to denote where the corresponding NJDEP Soil Cleanup Criteria are exceeded.
Chromium III/IV not differentiated, no Soil Cleanup Criteria provided.
All parameters detected in the May 2000 soils investigation are listed. (Metals selenium and thallium not detected in any samples)
Blank cells indicate non-detect results, method detection limits (MDLs) are below the most stringent Soil Cleanup Criteria.
NS = Not specified

Table 5
Soil Analytical Results - Pesticides, PCBs, and Misc.
Randolph Products Inc.
Carlstadt, NJ
May, 2000

		NJDEP Soil Cleanup Criteria (SCC)			Soil Sample Number, Depth (ft), and Lab ID#				
					B-7	B-10	B-12	B-15	B-18
					1.0-2.0	1.5-2.5	1.0-2.0	1.5-2.0	0.5-1.0
					5156	5159	5161	5164	5234
Parameter	CAS#	Non-residential (Restricted Use) (ppm)	Residential (Unrestricted Use) (ppm)	Impact to Groundwater (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)
A-BHC	319-84-6	NS	NS	NS					
B-BHC	319-85-7	NS	NS	NS					
Heptachlor Epoxide	1024-57-3	NS	NS	NS					0.0006 (J)
A-Chlordane	5103-71-9	NS	NS	NS					
G-Chlordane	5103-74-2	NS	NS	NS					
4,4'-DDD	72-54-8	12	3	50	0.067				0.002
4,4'-DDE	72-55-9	9	2	50		0.002			0.0005 (J)
4,4'-DDT	50-29-3	9	2	500					0.002
Dieldrin	60-57-1	0.18	0.042	50	0.003				
Endosulfan II	33213-65-9	NS	NS	NS					
Endosulfan Sulfate	1031-07-8	NS	NS	NS					
Endrin Ketone	53494-70-5	NS	NS	NS					0.006
Methoxychlor	72-43-5	5200	280	50					
Aroclor-1254	11097-69-1	2	0.49	50					
Aroclor-1260	11096-82-5	2	0.49	50	0.556				
Phenols, total		NS	NS	NS	9.500		0.590		

		NJDEP Soil Cleanup Criteria (SCC)			Soil Sample Number, Depth (ft), and Lab ID#				
					B-23	B-29	B-33	B-36	B-38
					2.5-3.5	1.0-2.0	1.0-1.5	1.0-2.0	1.5-2.0
					5239	5245	5249	5252	5254
Parameter	CAS#	Non-residential (Restricted Use) (ppm)	Residential (Unrestricted Use) (ppm)	Impact to Groundwater (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)	Analytical Result (ppm)
A-BHC	319-84-6	NS	NS	NS	0.002				
B-BHC	319-85-7	NS	NS	NS	0.038				
Heptachlor Epoxide	1024-57-3	NS	NS	NS					
A-Chlordane	5103-71-9	NS	NS	NS	0.004		0.010		0.002
G-Chlordane	5103-74-2	NS	NS	NS	0.014		0.001		0.0007 (J)
4,4'-DDD	72-54-8	12	3	50			0.082		0.006
4,4'-DDE	72-55-9	9	2	50			0.004		0.001 (J)
4,4'-DDT	50-29-3	9	2	500			0.110		2.360
Dieldrin	60-57-1	0.18	0.042	50	0.003		0.024		0.001 (J)
Endosulfan II	33213-65-9	NS	NS	NS	0.041				
Endosulfan Sulfate	1031-07-8	NS	NS	NS			0.004		
Endrin Ketone	53494-70-5	NS	NS	NS					
Methoxychlor	72-43-5	5200	280	50	0.192				
Aroclor-1254	11097-69-1	2	0.49	50			[illegible]		0.111
Aroclor-1260	11096-82-5	2	0.49	50	0.461		0.25[illegible]		
Phenols, total		NS	NS	NS	1.43	0.47			

Results are highlighted by color to denote where the corresponding NJDEP Soil Cleanup Criteria is exceeded.
All parameters detected in the May 2000 soils investigation are listed.
Blank cells indicate non-detect results; method detection limits (MDLs) are below the most stringent Soil Cleanup Criteria. (J) = estimated value (below MDL)
Cyanid analyzed for and not detected in any samples.

Environmental Engineering Corporation

Table 6
Groundwater Analytical Results - VOCs
Randolph Products Inc.
Carlstadt, NJ
May, 2000

			Groundwater Sample Number, Boring Location, and Lab ID#					
			WP-1	WP-2	WP-3	WP-4	WP-5	TB
			B-1	B-16	B-18	B-23	B-7	
			5262	5260	5261	5264	5263	5265
Parameter	CAS#	Ground Water Quality Standard (GWQS) (ug/l)	Analytical Result (ug/l)	Analytical Result (ug/l)	Analytical Result (ug/l)	Analytical Result (ug/l)	Analytical Result (ug/l)	Analytical Result (ug/l)
Acetone	67-64-1	700	16	7.4	10	380000	2400	6.7
Benzene	71-43-2	1		1.3		20	920	
2-Butanone (MEK)	78-93-3	300	2.6			990000	1500	
Chlorobenzene	108-90-7	50 (interim)					40	
Chloroform	67-66-3	6					39	
1,1-Dichloroethane	75-34-3	50 (interim)					160	
1,2-Dichloroethane	107-06-2	2					210	
cis-1,2-dichloroethene	156-59-2	70 (interim)				32	790	
1,2-Dichloropropane	78-87-5	1					14	
Ethylbenzene	100-41-4	700		11		2600	5800	
Methylene chloride	75-09-2	3 (interim)	1.3		1.3	690	500	12
4-Methyl 2-pentanone (MIBK)	108-10-1	400				19000	2900	
Tetrachloroethene (PCE)	127-18-4	1					110	
Toluene	108-88-3	1000		2.8	0.7	4100	91000	
1,1,2-Trichloroethane	79-00-5	3					36	
Trichloroethene	79-01-6	1					160	
Vinyl chloride	75-01-4	5					76	
Xylenes, total	1330-20-7	1000 (interim)		25.1		10100	27000	
VOC TICs			ND	404	30	8250	1579	27
Total VOCs			20	452	42	1414692	135234	46

Shaded values indicate results exceeding the GWQS.
All parameters detected in the May 2000 groundwater investigation are listed.
Blank cells indicate non-detect results; method detection limits (MDLs) are below the GWQS. (J) = estimated value (below MDL), not included in total VOCs.
VOCs = volatile organic compounds; TICs = tentatively identified compounds; NS = not specified

Table 7
Groundwater Analytical Results - BNAs
Randolph Products Inc.
Carlstadt, NJ
May, 2000

			Groundwater Sample Number, Boring Location, and Lab ID#		
			WP-1	WP-2	WP-3
			B-1	B-16	B-18
			5262	5260	5261
Parameter	CAS#	Ground Water Quality Standard (GWQS) (ug/l)	Analytical Result (ug/l)	Analytical Result (ug/l)	Analytical Result (ug/l)
Bis(2-Ethylhexyl)phthalate	117-81-7	30	2 (B) (J)	2 (B) (J)	2 (B) (J)
BNA TICs			19	25	94
Total BNAs			19	25	94

Shaded values indicate results exceeding the GWQS.
All parameters detected in the May 2000 groundwater investigation are listed.
Blank cells indicate non-detect results; method detection limits (MDLs) are below the GWQS.
(J) = estimated value (below MDL), not included in total BNAs. (B) = compound also detected in associated laboratory blank.
BNAs = base/neutral/acid extractable compounds; TICs = tentatively identified compounds; NS = not specified

Table 8
Groundwater Analytical Results - Metals
Randolph Products Inc.
Carlstadt, NJ
May, 2000

			Groundwater Sample Number, Boring Location, and Lab ID#		
			WP-1	WP-2	WP-3
			B-1	B-16	B-18
			5262	5260	5261
Parameter	CAS#	Ground Water Quality Standard (GWQS) (ug/l)	Analytical Result (ug/l)	Analytical Result (ug/l)	Analytical Result (ug/l)
Arsenic	7440-38-2	8	49.4	12.8	13.0
Cadmium	7440-43-9	4	10.8	14.4	
Copper	7440-50-8	1000			48.6
Lead	7439-92-1	10	20.2	10.5	191
Mercury	7439-97-6	2		1.54	
Zinc	7440-66-6	5000			578

Shaded values indicate results exceeding the GWQS.
All parameters detected in the May 2000 groundwater investigation are listed.
Blank cells indicate non-detect results; method detection limits (MDLs) are below the GWQS.

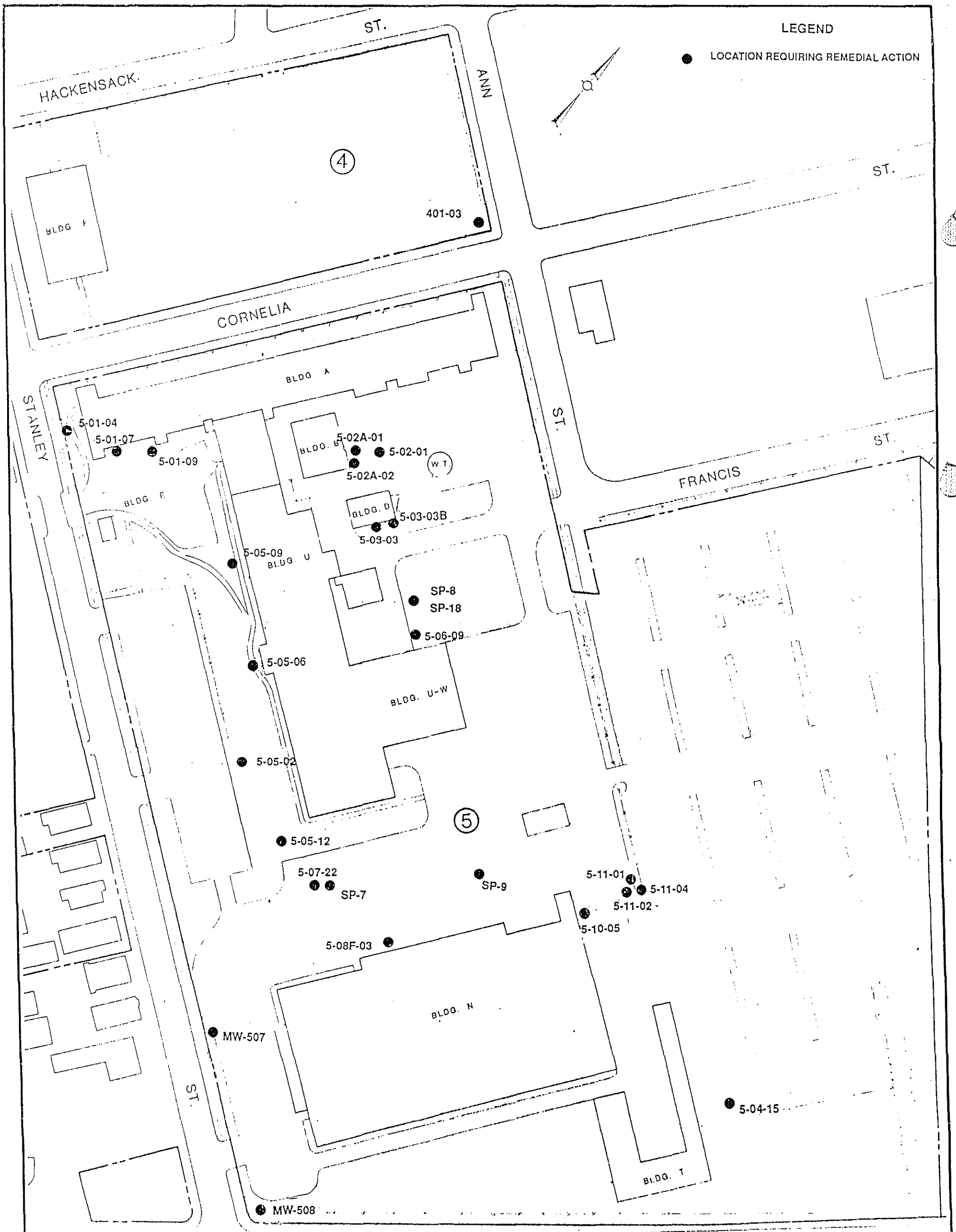
Table 9
Groundwater Analytical Results - Pesticides, PCBs, and Misc.
Randolph Products Inc.
Carlstadt, NJ
May, 2000

			Groundwater Sample Number, Boring Location, and Lab ID#		
			WP-1	WP-2	WP-3
			B-1	B-16	B-18
			5262	5260	5261
Parameter	CAS#	Ground Water Quality Standard (GWQS) (ug/l)	Analytical Result (ug/l)	Analytical Result (ug/l)	Analytical Result (ug/l)
A-BHC	319-84-6	0.02	0.004 (J)		0.008 (J)
B-BHC	319-85-7	0.2	0.008 (J)		
G-BHC (Lindane)	58-89-9	0.2	0.003 (J)		
D-BHC	319-86-8	NS		0.008 (J)	
Heptachlor	76-44-8	0.4	0.001 (J)	0.010 (J)	
Aldrin	309-00-2	0.04	0.002 (J)	0.003 (J)	
Heptachlor Epoxide	1024-57-3	0.2	0.002 (J)		
A-Chlordane	5103-71-9	NS			0.001 (J)
G-Chlordane	5103-74-2	NS			0.011 (J)
4,4'-DDT	50-29-3	0.1	0.018 (J)	0.014 (J)	0.112
Cyanide, total		NS			Not analyzed

Shaded values indicate results exceeding the GWQS.
All parameters detected in the May 2000 groundwater investigation are listed.
Blank cells indicate non-detect results; method detection limits (MDLs) are below the GWQS.
NS = not specified; (J) = estimated value (below MDL)

The attached figures and tables are reprints from the following document:

ERM-Northeast. 1992. "Verification Report for ECRA Soil Remediation Parcel Numbers 4 and 5. ECRA Case Number: 87576 and 87577 – Becton Dickenson and Company." (Woodbury, NY). Document Number: 18605001.724.



TITLE

SOIL REMEDIATION AREAS
PARCEL NOS. 4 & 5

PREPARED FOR

BECTON, DICKINSON & CO.
EAST RUTHERFORD, N.J.

ERM-Northeast
Environmental Resources Management

SCALE 1"=85' ±

DATE

FIGURE 00220-P5

146621

TABLE 2-2
SOIL DELINEATION SAMPLING RESULTS
PARCEL NOS. 4 AND 5
BECTON DICKINSON AND COMPANY
EAST RUTHERFORD, BERGEN COUNTY

LOCATION:	SAMPLE DEPTH:	CONCENTRATIONS OF PARAMETERS OF CONCERN (ppm) Cr	Cu	Hg	Pb	Zn	TPH	BN	PAH	CaPAH	VOC
401-03-T	3.0 ft.								0.506J	0.289J	
401-03-U	3.0 ft.								2.219J	0.267J	
401-03-V	3.0 ft.								0.046J	N.D.	
401-03-VD	3.0 ft.								0.123J	0.038J	
401-03-W	3.0 ft.							N.D.	N.D.	N.D.	
401-03-WD	3.0 ft.							N.D.	N.D.	N.D.	
401-03-X1	6.0 ft.								2.601J	0.772	
501-07-T	1.5 ft.	213		6.98	326	125					
501-07-U	1.5 ft.	29.8		0.747	251	138					
501-07-V	1.5 ft.	39.5		4.79	97.7	46.5					
501-07-W	1.5 ft.	639		11.7	245	1500					
501-07-X2	3.0 ft.	13.2		0.0500	<10.8	25.9					
501-09-T	3.0 ft.			10.7							
501-09-T5		SAMPLING TERMINATED DUE TO BUILDING LOCATION									
501-09-U		SAMPLING TERMINATED DUE TO BUILDING LOCATION									
501-09-V10	3.0 ft.			2.64							
501-09-V15		SAMPLING TERMINATED DUE TO RETAINING WALL									
501-09-W	3.0 ft.			10.9							
501-09-W5	3.0 ft.			5.70							
501-09-W10	3.0 ft.			1.71							
501-09-X4	6.0 ft.			0.138							
501-09-X5	7.0 ft.			0.182							
502-01-T	1.25 ft.		14.9	2.74					7.397J	2.773J	
502-01-T5	1.25 ft.			0.509							
502-01-U5	1.25 ft.			1.91					4.787J	1.684J	
502-01-U10	1.25 ft.			0.904							
502-01-V	1.25 ft.		24.1	1.17					6.619J	2.598J	
502-01-V5	1.25 ft.			5.33							
502-01-W5	1.25 ft.			0.743					9.072J	3.221J	
502-01-X2	2.5 ft.		77.9	1.47					0.243J	N.D.	

TABLE 2-2 (CONTINUED)

LOCATION:	SAMPLE DEPTH:	CONCENTRATIONS OF PARAMETERS OF CONCERN (ppm) Cr	Cu	Hg	Pb	Zn	TPH	BN	PAH	CaPAH	VOC
502A-01-T	1.25 ft.			0.616			392	2.7 J,B	1.145J	0.201J	
502A-01-U	1.25 ft.			0.652			110	0.52 J,B	0.054J	0.054J	
502A-01-V	1.25 ft.			1.63			<28.1	25.2 J,B	19.510J	11.497J	
502A-01-W	1.25 ft.			1.14			93	17.4 J,B	10.904J	7.589J	
502A-01-XB	2.0 ft.										0.281 B
502A-01-X2	2.5 ft.			0.479			48.6	4.1 J,B	0.839J	0.518J	
502A-02-T	3.0 ft.			2.05			<27.0				
502A-02-T5		SAMPLING TERMINATED DUE TO LOCATION 502A-01									
502A-02-U	3.0 ft.			0.245			<27.9				
502A-02-V	3.0 ft.			1.2			87.9				
502A-02-W	3.0 ft.			1.46			<31.2				
502A-02-X1	4.0 ft.			5.65			<28.7				
502A-02-X2	5.0 ft.			4.42			<26.9				
502A-02-X3	6.0 ft.			9.97							
503-03-T5		SAMPLING TERMINATED DUE TO BUILDING LOCATION									
503-03-U		SAMPLING TERMINATED DUE TO LOCATION 503-03B									
503-03-V		SAMPLING TERMINATED DUE TO LOCATION 503-03B									
503-03-W	0.75 ft.						33.4				
503-03-X1	1.5 ft.						65				
503-03-X1A	1.0 ft.							22.4 J,B		N.D.	
503-03-X1D	1.5 ft.						73.2				
503-03-X2	2.5 ft.						70.7				
503-03-XB	2.0 ft.										0.204 J,B
503-03-BW5	0.75 ft.						78.7				
505-02-T	1.25 ft.							6.25	1.350J	0.620J	
505-02-U	1.25 ft.							3.31	N.D.	N.D.	
505-02-V	1.25 ft.							5.72	1.12J	N.D.	
505-02-W	1.25 ft.							10.53	4.81J	1.720J	
505-02-X1	2.5 ft.							1.276J,B	0.919J	0.136	
505-06-T	1.0 ft.			1.88							
505-06-U	1.0 ft.			5.78							
505-06-U5	1.0 ft.			0.294							
505-06-V5	1.0 ft.			0.737							
505-06-W	1.0 ft.			0.551							
505-06-X	1.0 ft.			9.32							
505-06-X1	2.0 ft.			0.108							
505-06-X2	3.0 ft.			0.438							

TABLE 2-2 (CONTINUED)

LOCATION:	SAMPLE DEPTH:	CONCENTRATIONS OF PARAMETERS OF CONCERN (ppm) Cr	Cu	Hg	Pb	Zn	TPH	BN	PAH	CaPAH	VOC
505-09-T	2.0 ft.			3.04							
505-09-T5	2.0 ft.			4.22							
505-09-T10	2.0 ft.			9.16							
505-09-T15	2.0 ft.			6.05							
505-09-T20	2.0 ft.			6.84							
505-09-T25	2.0 ft.			2.09							
505-09-T30	2.0 ft.			0.67							
505-09-U	2.0 ft.			1.2							
505-09-U10	2.0 ft.			5.39							
505-09-U10D	2.0 ft.			6.66							
505-09-U15	2.0 ft.			3.45							
505-09-U20		SAMPLING TERMINATED DUE TO BUILDING LOCATION									
505-09-V	2.0 ft.			2.58							
505-09-V5	2.0 ft.			6.45							
505-09-V10	2.0 ft.			1.99							
505-09-V15	2.0 ft.			1.63							
505-09-W	2.0 ft.			3.72							
505-09-W5	2.0 ft.			0.611							
505-09-X	2.5 ft.			8.83							
505-09-X1	4.0 ft.	SAMPLING TERMINATED DUE TO GROUNDWATER									
506-09-T	2.0 ft.		11	0.18							
506-09-U	2.0 ft.		31	0.37							
506-09-U10	2.0 ft.		68	2.1							
506-09-V10	2.0 ft.	SAMPLING TERMINATED DUE TO BUILDING LOCATION									
506-09-W	2.0 ft.		70	0.86							
506-09-X1	4.0 ft.	SAMPLING TERMINATED DUE TO GROUNDWATER									
507-22-T	1.25 ft.			0.309							
507-22-UU	1.25 ft.			3.71							
507-22-V	1.25 ft.			3.85							
507-22-V5	1.25 ft.			13.7							
507-22-V10	1.25 ft.			7.88							
507-22-V10D	1.25 ft.			7.37							
507-22-V15	1.25 ft.			12.7							
507-22-V20	1.25 ft.			3.44							
507-22-V20D	1.25 ft.			3.61							
507-22-V40	1.25 ft.			0.807							
507-22-W	1.25 ft.			1.88							
507-22-WW	1.25 ft.			0.488							
507-22-X	2.0 ft.			5.17							
507-22-X1	2.5 ft.	SAMPLING TERMINATED DUE TO GROUNDWATER									

TABLE 2-2 (CONTINUED)

LOCATION:	SAMPLE DEPTH	CONCENTRATIONS OF PARAMETERS OF CONCERN (ppm) Cr	Cu	Hg	Pb	Zn	TPH	BN	PAH	CaPAH	VOC
508F-03-T	3.0 ft.			3.84							
508F-03-T5	3.0 ft.			5.02							
508F-03-T10	3.0 ft.			1.82							
508F-03-U	3.0 ft.			1.93							
508F-03-U5	3.0 ft.			5.15							
508F-03-U10	3.0 ft.			7.92							
508F-03-U15	3.0 ft.			4.16							
508F-03-U15D	3.0 ft.			5.67							
508F-03-U25	3.0 ft.			1.8							
508F-03-U30	3.0 ft.			4.2							
508F-03-V10		SAMPLING TERMINATED DUE TO BUILDING LOCATION									
508F-03-W35	3.0 ft.			1.5							
508F-03-W10V	3.0 ft.			0.681							
508F-03-W25V	3.0 ft.			3.2							
508F-03-X3	6.0 ft.	SAMPLING TERMINATED DUE TO GROUNDWATER									
511-01-T10	0.75 ft.						36.2				
511-01-U5	0.75 ft.						61.4				
511-01-U10	0.75 ft.						<29.5				
511-01-V		SAMPLING TERMINATED DUE TO LOCATION 511-02									
511-01-W10	0.75 ft.						349				
511-01-W10D	0.75 ft.						202				
511-01-X1	1.5 ft.	SAMPLING TERMINATED DUE TO GROUNDWATER									
511-02-T		SAMPLING TERMINATED DUE TO LOCATION 511-01									
511-02-U		SAMPLING TERMINATED DUE TO LOCATION 511-04									
511-02-V5	0.75 ft.						73.9				
511-02-W5	0.75 ft.						62.4				
511-02-X1	1.5 ft.	SAMPLING TERMINATED DUE TO GROUNDWATER									
511-04-T5		SAMPLING TERMINATED DUE TO LOCATION 511-01									
511-04-U	.75 ft.						177				
511-04-V	.75 ft.						260				
511-04-W5	.75 ft.	SAMPLING TERMINATED DUE TO LOCATION 511-02									
511-04-X1	1.5 ft.	SAMPLING TERMINATED DUE TO GROUNDWATER									
511-04-X1A	1.0 ft.							13.7 J,B		1.75 J	0.002 J,B
MW-507-T5	1.75 ft.							0.37	0.370J	N.D.	
MW-507-T10	1.75 ft.								N.D.	N.D.	
MW-507-U	1.75 ft.							N.D.	N.D.	N.D.	
MW-507-V	1.75 ft.							2.76	2.760J	N.D.	
MW-507-W		SAMPLING TERMINATED DUE TO PROPERTY LINE									
MW-507-X1	3.5 ft.	SAMPLING TERMINATED DUE TO GROUNDWATER									

TABLE 2-2 (CONTINUED)

LOCATION:	SAMPLE DEPTH	CONCENTRATIONS OF PARAMETERS OF CONCERN (ppm) Cr	Cu	Hg	Pb	Zn	TPH	BN	PAH	CaPAH	VOC
SP-9-T	0.75 ft.		192	1.66							
SP-9-U15	0.75 ft.			2.21							
SP-9-U20	0.75 ft.			1.85							
SP-9-UV	0.75 ft.		72.2	10.1							
SP-9-V5	0.75 ft.		86.5	0.20							
SP-9-W	0.75 ft.		111	0.476							
SP-9-X1	1.5 ft.	SAMPLING TERMINATED DUE TO GROUNDWATER									

NOTES:

Values are only given for parameter(s) of concern sampled for at each location.

N.D.= Non-Detectable

J= Estimated value; one or more of the chemical constituents meets the identification criteria but the concentration is less than the specified detection limit.

B= One or more of the chemical constituents were identified in QA/QC blank sample.

The attached figures and tables are reprints from the following document:

ERM-Northeast. 1995. "ISRA Remedial Investigation Report and Remedial Action Plan Addendum Sub-Building Soils Parcel No. 5 ISRA Case No. 87577 – Becton Dickinson and Company." (Woodbury, NY).

And

ERM-Northeast. 1994. "ISRA Site Investigation Report Sub-Building Soils Parcel No. 5 – Becton Dickinson and Company." (Woodbury, NY).

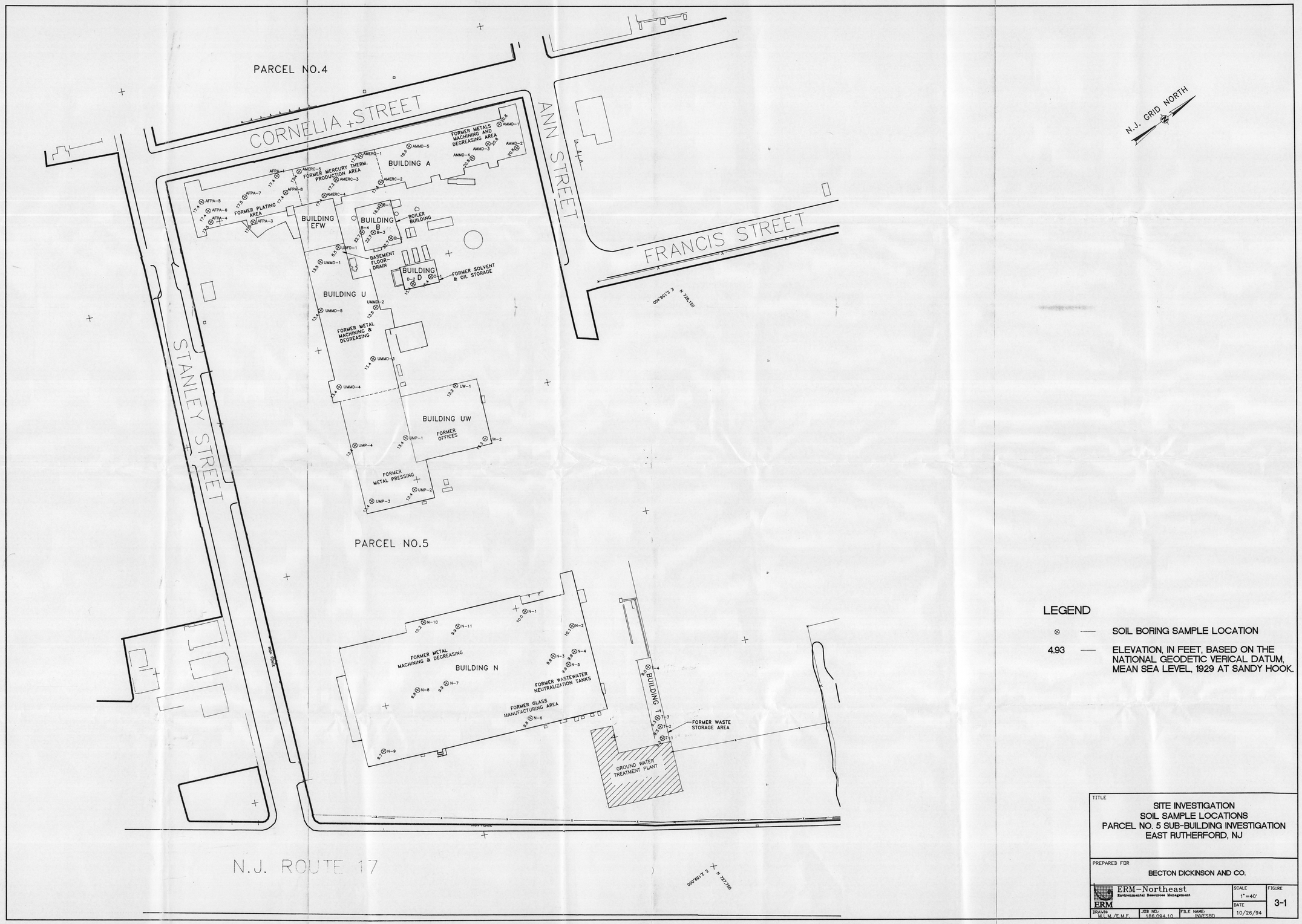

PARCEL NO.4
CORNELIA STREET
ANN STREET
FRANCIS STREET
STANLEY STREET
N.J. GRID NORTH
BUILDING A
FORMER METALS MACHINING AND DEGREASING AREA
FORMER MERCURY THERM. PRODUCTION AREA
FORMER PLATING AREA
BUILDING EFW
BUILDING B
BOILER BUILDING
BASEMENT FLOOR-DRAIN
BUILDING D
FORMER SOLVENT & OIL STORAGE
BUILDING U
FORMER METAL MACHINING & DEGREASING
BUILDING UW
FORMER OFFICES
FORMER METAL PRESSING
PARCEL NO.5
FORMER METAL MACHINING & DEGREASING
BUILDING N
FORMER WASTEWATER NEUTRALIZATION TANKS
FORMER GLASS MANUFACTURING AREA
BUILDING T
FORMER WASTE STORAGE AREA
GROUND WATER TREATMENT PLANT
N.J. ROUTE 17
LEGEND
⊗ — SOIL BORING SAMPLE LOCATION
4.93 — ELEVATION, IN FEET, BASED ON THE NATIONAL GEODETIC VERICAL DATUM, MEAN SEA LEVEL, 1929 AT SANDY HOOK.
TITLE
SITE INVESTIGATION
SOIL SAMPLE LOCATIONS
PARCEL NO. 5 SUB-BUILDING INVESTIGATION
EAST RUTHERFORD, NJ
PREPARED FOR
BECTON DICKINSON AND CO.
ERM-Northeast
Environmental Resources Management
SCALE 1"=40'
FIGURE 3-1
DATE 10/26/94
DRAWN M.L.M./E.M.F.
JOB NO. 186.094.10
FILE NAME: INVESRD

Table 3-1
SOIL QUALITY DATA - BUILDING A
PARCEL NO. 5 SUB-BUILDING INVESTIGATION
BECTON DICKINSON AND COMPANY
EAST RUTHERFORD, BERGEN COUNTY
ISRA CASE NO. 87577

Sample Number	A-FPA-1	A-FPA-1	A-FPA-2	A-FPA-2	A-FPA-3	A-FPA-4	A-FPA-5
Date Collected	4/4/94	4/4/94	4/5/94	4/5/94	4/5/94	4/5/94	4/5/94
Depth Collected	0-6"	18-24"	0-6"	18-24"	0-6"	0-6"	0-6"
Volatile Organic Compounds (in ppb) *							
Trichloroethene	NA	1.4 U	NA	1.4 U	NA	NA	NA
Xylenes	NA	0.28 U	NA	0.27 U	NA	NA	NA
Chloroform	NA	0.23 U	NA	0.22 U	NA	NA	NA
Methylene Chloride	NA	0.49 U	NA	0.47 U	NA	NA	NA
Toluene	NA	0.35 U	NA	0.34 U	NA	NA	NA
1,1Dichloroethane	NA	1.3 U	NA	1.3 U	NA	NA	NA
Total Petroleum Hydrocarbons (TPH, in ppm)	1.06 U	NA	1.06 U	NA	1.15 U	1.12 U	1.15 U
Metals (in ppm)							
Cadmium	0.22 U	NA	0.22 U	NA	0.75	0.23 U	0.24 U
Chromium	6.0 J	NA	6.5 J	NA	11.9 J	19.2 J	8.7 J
Copper	11	NA	7.2	NA	50.3	73.6	9.4
Lead	3.1 R	NA	3.0 J	NA	94.4 J	34.0 J	19.2 J
Nickel	7.2	NA	9.9	NA	36.8	1020	488
Zinc	25.2	NA	18.9	NA	114	72.6	31.2
Mercury	0.07 BJ	NA	0.05 UJ	NA	14.1 J	0.51 J	0.06 UJ

Notes:

NA: Not Analyzed

U: Indicates analyte was analyzed for, but not detected. Detection limit is given.

J: QC qualifier, indicates estimated value.

* Only those compounds that have been detected are listed.

Shaded values indicate an exceedance of soil remedial action criteria.

Table 3-1 (continued)
SOIL QUALITY DATA - BUILDING A
PARCEL NO. 5 SUB-BUILDING INVESTIGATION
BECTON DICKINSON AND COMPANY
EAST RUTHERFORD, BERGEN COUNTY
ISRA CASE NO. 87577

Sample Number	A-FPA-6	A-FPA-6	A-FPA-7	A-FPA-7	A-FPA-8	A-FPA-8
Date Collected	4/11/94	4/11/94	4/12/94	4/12/94	4/13/94	4/13/94
Depth Collected	36-42"	102-108"	78-84"	120-126"	60-66"	120-126"
Volatile Organic Compounds (in ppb) *						
Trichloroethene	NA	3.0	NA	1.5 U	NA	1.6 U
Xylenes	NA	3.1	NA	0.30 U	NA	0.31 U
Chloroform	NA	1.5	NA	0.25 U	NA	0.25 U
Methylene Chloride	NA	0.54 U	NA	0.52 U	NA	0.53 U
Toluene	NA	2.0	NA	0.38 U	NA	0.39 U
1,1Dichloroethane	NA	0.37 U	NA	0.88 U	NA	0.90 U
Total Petroleum Hydrocarbons (TPH, in ppm)	46.2	NA	24.1	NA	41.5	NA
Metals (in ppm)						
Cadmium	0.24 UJ	NA	0.22 UJ	NA	0.22 UJ	NA
Chromium	197 J	NA	17.0 J	NA	7.4 J	NA
Copper	150 J	NA	6.7 J	NA	6.1 J	NA
Lead	61.6 J	NA	1.6 UJ	NA	2.2 R	NA
Nickel	29.4 J	NA	57.7 J	NA	7.3 J	NA
Zinc	51.9 J	NA	15.7 J	NA	17.4 J	NA
Mercury	0.20 J	NA	0.05 UJ	NA	0.05 UJ	NA

Notes:

NA: Not Analyzed

U: Indicates analyte was analyzed for, but not detected. Detection limit is given.

J: QC qualifier, indicates estimated value.

* Only those compounds that have been detected are listed.

Shaded values indicate an exceedance of soil remedial action criteria.

Table 3-1 (continued)
SOIL QUALITY DATA - BUILDING A
PARCEL NO. 5 SUB-BUILDING INVESTIGATION
BECTON DICKINSON AND COMPANY
EAST RUTHERFORD, BERGEN COUNTY
ISRA CASE NO. 87577

Sample Number	A-MMD-1	A-MMD-2	A-MMD-3	A-MMD-4	A-MMD-4	A-MMD-5	A-MMD-5
Date Collected	4/5/94	4/5/94	4/5/94	4/4/94	4/4/94	4/4/94	4/4/94
Depth Collected	0-6"	0-6"	0-6"	0-6"	18-24"	0-6"	18-24"
Volatile Organic Compounds (in ppb)*							
Trichloroethene	NA	NA	NA	NA	1.4 U	NA	1.5 U
Xylenes	NA	NA	NA	NA	0.27 U	NA	0.30 U
Chloroform	NA	NA	NA	NA	0.22 U	NA	0.24 U
Methylene Chloride	NA	NA	NA	NA	0.47 U	NA	0.52 U
Toluene	NA	NA	NA	NA	0.34 U	NA	0.37 U
1,1Dichloroethane	NA	NA	NA	NA	1.3 U	NA	1.3 U
Total Petroleum Hydrocarbons (TPH, in ppm)	1.14 U	1.13 U	1.14 U	1.11 U	NA	1.12 U	NA
Semi-Volatile Organic Compounds (in ppb)*							
Acenaphthene	NA	NA	NA	61 U	NA	NA	NA
Anthracene	NA	NA	NA	48 U	NA	NA	NA
Benzo (a) anthracene	NA	NA	NA	55 U	NA	NA	NA
Benzo (a) pyrene	NA	NA	NA	70 U	NA	NA	NA
Benzo (b) fluoranthene	NA	NA	NA	52 U	NA	NA	NA
Benzo (g,h,i) perylene	NA	NA	NA	69 U	NA	NA	NA
Benzo (k) fluoranthene	NA	NA	NA	60 U	NA	NA	NA
Chrysene	NA	NA	NA	53 U	NA	NA	NA
Dibenzo (a,h) anthracene	NA	NA	NA	73 U	NA	NA	NA
Fluoranthene	NA	NA	NA	67 U	NA	NA	NA
Fluorene	NA	NA	NA	34 U	NA	NA	NA
Indeno (1,2,3-cd) pyrene	NA	NA	NA	73 U	NA	NA	NA
Phenanthrene	NA	NA	NA	43 U	NA	NA	NA
Pyrene	NA	NA	NA	59 U	NA	NA	NA
Metals (in ppm)							
Cadmium	0.24 U	0.31 B	0.24 U	0.23 U	NA	0.23 U	NA
Chromium	9.2 J	14.8 J	10.3 J	10.1 J	NA	9.5 J	NA
Copper	29.9	185	119	8	NA	13.6	NA
Lead	5.2 J	8.9 R	6.8 R	4.6 R	NA	6.7 R	NA
Nickel	11.7	39.1	18.9	10.5	NA	9.9	NA
Zinc	29.1	80.4	50.6	30.4	NA	30.6	NA
Mercury	0.06 UJ	0.28 J	0.06 UJ	0.06 UJ	NA	0.06 UJ	NA

Notes: NA: Not Analyzed
U: Indicates analyte was analyzed for, but not detected.
Detection limit is given.
J: QC qualifier, indicates estimated value.

* Only those compounds that have been detected are listed.

Shaded values indicate an exceedance of soil remedial action criteria.

Table 3-1 (continued)
SOIL QUALITY DATA - BUILDING A
PARCEL NO. 5 SUB-BUILDING INVESTIGATION
BECTON DICKINSON AND COMPANY
EAST RUTHERFORD, BERGEN COUNTY
ISRA CASE NO. 87577

Sample Number	A-MERC-1	A-MERC-2	A-MERC-3	A-MERC-4	A-MERC-5
Date Collected	4/4/94	4/4/94	4/4/94	4/4/94	4/4/94
Depth Collected	0-6"	0-6"	0-6"	0-6"	0-6"
Metals (in ppm)	***Permeable Soil Criteria in Parentheses***				
Cadmium	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA
Copper	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	NA
Nickel	NA	NA	NA	NA	NA
Zinc	NA	NA	NA	NA	NA
Mercury	0.06 U J	0.06 U J	0.05 U J	0.05 U J	0.07 U J

Notes:

NA: Not Analyzed

U: Indicates analyte was analyzed for, but not detected.
Detection limit is given.

J: QC qualifier, indicates estimated value.

* Only those compounds that have been detected are listed.

Shaded values indicate an exceedance of soil remedial action criteria.

Table 3-1 (Continued)
SOIL QUALITY DATA - BUILDING U
PARCEL NO. 5 SUB BUILDING INVESTIGATION
BECTON DICKINSON AND COMPANY
EAST RUTHERFORD, BERGEN COUNTY
ISRA CASE NO. 87577

Sample Number	UW-1	UW-1	UW-1	UW-2	UW-2	U-MMD-1	U-MMD-1	U-MMD-2	U-MMD-2	U-MMD-3	U-MMD-3	U-MMD-4	U-MMD-4	U-MMD-5	U-MMD-5
Date Collected	4/6/94	4/6/94	4/6/94	4/13/94	4/13/94	4/5/94	4/5/94	4/5/94	4/5/94	4/5/94	4/5/94	4/6/94	4/6/94	4/6/94	4/6/94
Depth Collected	0-6"	18-24"	42-48"	0-6"	18-24"	0-6"	18-24"	0-6"	18-24"	0-6"	18-24"	0-6"	18-24"	0-6"	18-24"
Volatile Organic Compounds (in ppb)*															
Benzene	NA	0.34 U	0.34 U	NA	0.34 U	NA	0.36 U	NA	5.9 U	NA	0.36 U	NA	5.6 U	NA	1.5
Ethyl Benzene	NA	0.18 U	0.18 U	NA	0.18 U	NA	0.19 U	NA	5.9 U	NA	0.19 U	NA	5.6 U	NA	2.6
Trichloroethene	NA	1.5 U	1.5 U	NA	1.5 U	NA	8.1	NA	44	NA	1.5 U	NA	9.5	NA	15
Xylenes	NA	0.29 U	0.29 U	NA	0.29 U	NA	2.8	NA	0.32 U	NA	0.30 U	NA	0.3	NA	11
Chloroform	NA	0.23 U	0.23 U	NA	0.23 U	NA	0.24 U	NA	4.2 U	NA	0.24 U	NA	2.1	NA	4.3
Methylene Chloride	NA	0.50 U	0.50 U	NA	0.50 U	NA	0.52 U	NA	8.1	NA	0.52 U	NA	3.0	NA	4.9
Toluene	NA	0.36 U	0.36 U	NA	0.36 U	NA	1.7	NA	1.7	NA	0.38 U	NA	5.6 U	NA	3.9
Total Petroleum Hydrocarbons (TPH, in ppm)	1.06 U	NA	NA	33.2	NA	1.09 U	NA	1.03 U	NA	1.13 U	NA	1.12 U	NA	214	NA
Semi-Volatile Organic Compounds (in ppb)*															
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	57 U	NA	NA	NA	NA	NA	49 J	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	44 U	NA	NA	NA	NA	NA	89	NA
Benzo (a) anthracene	NA	NA	NA	NA	NA	NA	NA	130	NA	NA	NA	NA	NA	190	NA
Benzo (a) pyrene	NA	NA	NA	NA	NA	NA	NA	110	NA	NA	NA	NA	NA	170	NA
Benzo (b) fluoranthene	NA	NA	NA	NA	NA	NA	NA	110	NA	NA	NA	NA	NA	190	NA
Benzo (g,h,i) perylene	NA	NA	NA	NA	NA	NA	NA	90	NA	NA	NA	NA	NA	69	NA
Benzo (k) fluoranthene	NA	NA	NA	NA	NA	NA	NA	130	NA	NA	NA	NA	NA	170	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	150	NA	NA	NA	NA	NA	230	NA
Dibenzo (a,h) anthracene	NA	NA	NA	NA	NA	NA	NA	68 U	NA	NA	NA	NA	NA	73 U	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	270	NA	NA	NA	NA	NA	410	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	32 U	NA	NA	NA	NA	NA	42	NA
Indeno (1,2,3-cd) pyrene	NA	NA	NA	NA	NA	NA	NA	95	NA	NA	NA	NA	NA	95	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	150	NA	NA	NA	NA	NA	420	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	260	NA	NA	NA	NA	NA	310	NA
Metals (in ppm)															
Cadmium	0.22 U	NA	NA	0.22 UJ	NA	0.30 B	NA	0.35 B	NA	0.24 U	NA	0.24 U	NA	0.27 B	NA
Chromium	8.2	NA	NA	7.7 J	NA	6.6 J	NA	22.1 J	NA	12.2 J	NA	12.1 J	NA	40.3 J	NA
Copper	13.8	NA	NA	10.5 J	NA	36.2	NA	64.6	NA	25	NA	29.2	NA	34.9 J	NA
Lead	8.7	NA	NA	7.3 R	NA	33.4 J	NA	268	NA	763 J	NA	505 J	NA	39.5 J	NA
Nickel	10.3	NA	NA	10.4 J	NA	7	NA	21.1	NA	11.5	NA	10	NA	15.0 J	NA
Zinc	39.4	NA	NA	29.8 J	NA	35.6	NA	87.7	NA	91.5	NA	90.3	NA	47.4 R	NA
Mercury	0.05 U	NA	NA	0.05 UJ	NA	2.2	NA	40.2	NA	0.84 J	NA	3.5 J	NA	2.7 J	NA

Notes:

NA: Not Analyzed

U: Indicates analyte was analyzed for, but not detected. Detection limit is given.

J: QC qualifier, indicates estimated value.

* Only those compounds that have been detected are listed.

Shaded values indicate an exceedance in the soil remedial action criteria.

Table 3-1 (Continued)
SOIL QUALITY DATA - BUILDING U
PARCEL NO. 5 SUB BUILDING INVESTIGATION
BECTON DICKINSON AND COMPANY
EAST RUTHERFORD, BERGEN COUNTY
ISRA CASE NO. 87577

Sample Number	UMP-1	UMP-2	UMP-3	UMP-4	U-BFD-1
Date Collected	4/6/94	4/6/94	4/6/94	4/6/94	4/8/94
Depth Collected	0-6"	0-6"	0-6"	0-6"	0-6"

Total Petroleum Hydrocarbons (TPH, in ppm)	4.83	15.4	1.11 U	1.11 U	1.24 U

Metals (in ppm)

Cadmium	0.92	0.27 B	0.46 B	0.23 U	0.26 UJ
Chromium	25.7 J	8.7 J	15.6 J	14.3 J	7.9 J
Copper	376 J	134 J	34.3 J	12.3	17.8 J
Lead	669 J	816 J	4120 J	105 J	7.5 R
Nickel	97.7 J	21.5 J	10.5 J	10.1	7.8 J
Zinc	852 J	168 J	171 J	64.4	23.8 J
Mercury	22.0 J	14.5 J	1.4 J	2.0 J	0.06 UJ

Notes:

Shaded values indicate soil criteria exceedences

U: Indicates analyte was analyzed for ,but not detected.
Detection limit is given.

J: QC qualifier, indicates estimated value.

* Only those compounds that have been detected are listed.

Shaded values indicate an exceedance in the soil remedial action criteria.

Table 3-1 (Continued)
SOIL QUALITY DATA - BUILDING B
PARCEL NO. 5 SUB - BUILDING INVESTIGATION
BECTON DICKINSON AND COMPANY
EAST RUTHERFORD, BERGEN COUNTY
ISRA CASE NO. 87577

Sample Number	B-1	B-1	B-2	B-3	B-4	B-4
Date Collected	4/13/94	4/14/94	4/8/94	4/8/94	4/13/94	4/13/94
Depth Collected	24-30"	42-48"	0-6"	0-6"	84-90"	90-96"
Volatile Organic Compounds (in ppb)*						
Trichloroethene	NA	1.6 U	NA	NA	NA	1.5 U
Xylenes	NA	0.32 U	NA	NA	NA	0.30 U
Chloroform	NA	0.26 U	NA	NA	NA	0.24 U
Methylene Chloride	NA	0.56 U	NA	NA	NA	0.52 U
Toluene	NA	0.40 U	NA	NA	NA	0.38 U
1,1Dichloroethane	NA	0.93 U	NA	NA	NA	0.87 U
Total Petroleum Hydrocarbons (TPH, in ppm)	36.7	NA	12.3	6.73	57.6	NA

Notes:
NA: Not Analyzed
U: Indicates analyte was analyzed for, but not detected. Detection limit is given.
J: QC qualifier, indicates estimated value.

* Only those compounds that have been detected are listed.

Shaded values indicate an exceedance of the soil remedial action criteria.

Table 3-1 (continued)
SOIL QUALITY DATA - BUILDING D
PARCEL NO. 5 SUB-BUILDING INVESTIGATION
BECTON DICKINSON AND COMPANY
EAST RUTHERFORD, BERGEN COUNTY
ISRA CASE NO. 87577

Sample Number	D-1	D-1	D-2	D-2
Date Collected	4/8/94	4/8/94	4/8/94	4/9/94
Depth Collected	0-6"	18-24"	48-54"	60-66"

Volatile Organic Compounds (in ppb) *

Benzene	NA	2.3	NA	0.38 U
Ethyl Benzene	NA	1.4	NA	0.20 U
Trichloroethene	NA	67	NA	13
Xylenes	NA	3.9	NA	3
Chloroform	NA	9.1 J	NA	0.26 U
Methylene Chloride	NA	6.8 J	NA	0.55 U
Toluene	NA	4	NA	2.1

Total Petroleum Hydrocarbons (TPH, in ppm)	1.10 U	NA	6.74	NA

Notes:

NA: Not Analyzed

U: Indicates analyte was analyzed for, but not detected. Detection limit is given.

J: QC qualifier, indicates estimated value.

* Only those compounds that have been detected are listed.

Shaded values indicate an exceedance of the soil remedial action criteria.

Table 3-1 (Continued)
SOIL QUALITY DATA - BUILDING N
PARCEL NO. 5 SUB-BUILDING INVESTIGATION
BECTON DICKINSON AND COMPANY
EAST RUTHERFORD, BERGEN COUNTY
ISRA CASE NO. 87577

Sample Number	N-1	N-1	N-2	N-2	N-3	N-3	N-4	N-4	N-5	N-5	N-6	N-6	N-7	N-7
Date Collected	4/6/94	4/6/94	4/7/94	4/7/94	4/7/94	4/7/94	4/7/94	4/7/94	4/7/94	4/7/94	4/7/94	4/7/94	4/7/94	4/7/94
Depth Collected	0-6"	18-24"	0-6"	18-24"	0-6"	18-24"	0-6"	18-24"	0-6"	18-24"	0-6"	18-24"	0-6"	18-24"
Volatile Organic Compounds (in ppb)*														
Trichloroethene	NA	1.5 U	NA	0.5 U	NA	0.5 U	NA	0.5 U	NA	1.5 U	NA	1.5 U	NA	5.2
Xylenes	NA	7	NA	0.29 U	NA	0.29 U	NA	0.29 U	NA	1.4	NA	3.4	NA	0.29 U
Chloroform	NA	0.23 U	NA	0.23 U	NA	0.23 U	NA	0.51 U	NA	0.23 U	NA	2.4	NA	0.24 U
Methylene Chloride	NA	0.50 U	NA	0.50 U	NA	0.50 U	NA	0.50 U	NA	0.50 U	NA	1.9	NA	0.51 U
Toluene	NA	0.36 U	NA	0.36 U	NA	0.36 U	NA	0.37 U	NA	0.36 U	NA	1.5	NA	0.37 U
Total Petroleum Hydrocarbons (TPH, in ppm)	1.08 U	NA	1.09 U	NA	7.23	NA	1.06 U	NA	1.08 U	NA	1.10 U	NA	1.07 U	NA
Metals (in ppm)														
Cadmium	0.23 U	NA	0.23 U	NA	0.23 U	NA	0.22 U	NA	0.23 U	NA	0.23 U	NA	0.22 U	NA
Chromium	1.3 J	NA	1.2 J	NA	1.3 J	NA	4.6 J	NA	4.4 J	NA	5.7 J	NA	2.9 J	NA
Copper	3.3 J	NA	1.2 BJ	NA	5.7 J	NA	4.5 J	NA	4.2 J	NA	5.3 J	NA	4.7 J	NA
Lead	1.7 UJ	NA	1.7 UJ	NA	2.6 J	NA	1.9 J	NA	3.4 J	NA	4.3 J	NA	1.7 J	NA
Nickel	1.8 BJ	NA	1.2 BJ	NA	3.8 BJ	NA	3.6 BJ	NA	3.3 BJ	NA	5.7 J	NA	3.6 BJ	NA
Zinc	4.9 R	NA	2.6 R	NA	15.5 R	NA	10.9 R	NA	9.4 R	NA	13.9 R	NA	9.3 R	NA
Mercury	0.21 J	NA	0.05 UJ	NA	0.06 UJ	NA	0.05 UJ	NA	0.05 UJ	NA	0.06 UJ	NA	0.05 UJ	NA

Notes:

NA: Not Analyzed

U: Indicates analyte was analyzed for, but not detected. Detection limit is given.

J: QC qualifier, indicates estimated value.

* Only those compounds that have been detected are listed.

Shaded values indicate an exceedance of soil remedial action criteria.

Table 3-1 (Continued)
SOIL QUALITY DATA - BUILDING N
PARCEL NO. 5 SUB-BUILDING INVESTIGATION
BECTON DICKINSON AND COMPANY
EAST RUTHERFORD, BERGEN COUNTY
ISRA CASE NO. 87577

Sample Number	N-8	N-8	N-9	N-9	N-10	N-10	N-10	N-11	N-11
Date Collected	4/7/94	4/7/94	4/6/94	4/6/94	4/6/94	4/6/94	4/11/94	4/7/94	4/7/94
Depth Collected	0-6"	18-24"	0-6"	18-24"	0-6"	18-24"	90-96"	0-6"	18-24"
Volatile Organic Compounds (in ppb)*									
Trichloroethene	NA	190	NA	1.5 U	NA	1.5 U	NA	NA	1.5 U
Xylenes	NA	0.29 U	NA	0.29 U	NA	0.29 U	NA	NA	1.2
Chloroform	NA	0.24 U	NA	0.24 U	NA	0.24 U	NA	NA	0.23 U
Methylene Chloride	NA	0.51 U	NA	0.50 U	NA	0.51 U	NA	NA	0.50 U
Toluene	NA	0.37 U	NA	0.36 U	NA	0.37 U	NA	NA	0.36 U
Total Petroleum Hydrocarbons (TPH, in ppm)	1.10 U	NA	1.07 U	NA	1.09 U	NA	NA	1.10 U	NA
Metals (in ppm)									
Cadmium	0.23 U	NA	0.23 U	NA	0.39 B	NA	NA	0.23 U	NA
Chromium	5.6 J	NA	2.0 J	NA	3.9 J	NA	NA	4.4 J	NA
Copper	6.6 J	NA	3.8 J	NA	70.4 J	NA	NA	5.1 J	NA
Lead	4.3 J	NA	1.7 UJ	NA	34.1 J	NA	NA	1.7 UJ	NA
Nickel	4.9 J	NA	2.8 BJ	NA	55.5 J	NA	NA	5.3 J	NA
Zinc	13.2 R	NA	7.8 R	NA	70.2 R	NA	NA	10.9 R	NA
Mercury	0.06 UJ	NA	0.05 UJ	NA	0.84 J	NA	29.5 J	0.06 UJ	NA

Notes:

NA: Not Analyzed

U: Indicates analyte was analyzed for, but not detected. Detection limit is given.

J: QC qualifier, indicates estimated value.

* Only those compounds that have been detected are listed.

Shaded values indicate an exceedance of soil remedial action criteria.

Table 3-1 (Continued)
SOIL QUALITY DATA - BUILDING T
PARCEL NO. 5 SUB BUILDING INVESTIGATION
BECTON DICKINSON AND COMPANY
EAST RUTHERFORD, BERGEN COUNTY
ISRA CASE NO. 87577

Sample Number	T-1	T-1	T-2	T-2	T-3	T-3	T-4	T-4
Date Collected	4/7/94	4/7/94	4/7/94	4/7/94	4/7/94	4/7/94	4/7/94	4/7/94
Depth Collected	0-6"	18-24"	24-30"	42-48"	0-6"	18-24"	24-30"	42-48"
Volatile Organic Compounds (in ppb)								
Trichloroethene	NA	1.5 U	NA	1.5	NA	5.1	NA	2.8
Xylenes	NA	1.7	NA	.031 U	NA	0.30 U	NA	0.30 U
Chloroform	NA	4.1	NA	3.1	NA	1.7	NA	3
Methylene Chloride	NA	4.9	NA	3.6	NA	2.2	NA	4.5
Toluene	NA	1.6	NA	0.38 U	NA	1.6	NA	0.38 U
Total Petroleum Hydrocarbons (TPH, in ppm)	67.8 J	NA	2500	NA	3890	NA	1290	NA
Semi-Volatile Organic Compounds (in ppb)								
Anthracene	40 J	NA	NA	NA	NA	NA	NA	NA
Benzo (a) anthracene	180	NA	NA	NA	NA	NA	NA	NA
Benzo (b) fluoranthene	160	NA	NA	NA	NA	NA	NA	NA
Benzo (k) fluoranthene	140	NA	NA	NA	NA	NA	NA	NA
Benzo (g,h,i) perylene	97	NA	NA	NA	NA	NA	NA	NA
Benzo (a) pyrene	180	NA	NA	NA	NA	NA	NA	NA
Chrysene	220	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	370	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	210	NA	NA	NA	NA	NA	NA	NA
Pyrene	350	NA	NA	NA	NA	NA	NA	NA
Indeno (1,2,3-cd) pyrene	130	NA	NA	NA	NA	NA	NA	NA
Metals (in ppm)								
Cadmium	0.87	NA	2.3	NA	0.48 B	NA	0.76	NA
Chromium	9.5 J	NA	11.0 J	NA	13.0 J	NA	9.9 J	NA
Copper	62.0 J	NA	85.9 J	NA	34.6 J	NA	39.2 J	NA
Lead	76.8 J	NA	116 J	NA	30.7 J	NA	58.2 J	NA
Nickel	12.9 J	NA	12.1 J	NA	12.9 J	NA	37.8 J	NA
Zinc	98.0 R	NA	204 J	NA	52.0 J	NA	296 J	NA
Mercury	0.37 J	NA	0.48 J	NA	0.33 J	NA	0.42 J	NA

Notes:

NA: Not Analyzed
U: Indicates analyte was analyzed for, but not detected. Detection limit is given.
J: QC qualifier, indicates estimated value.

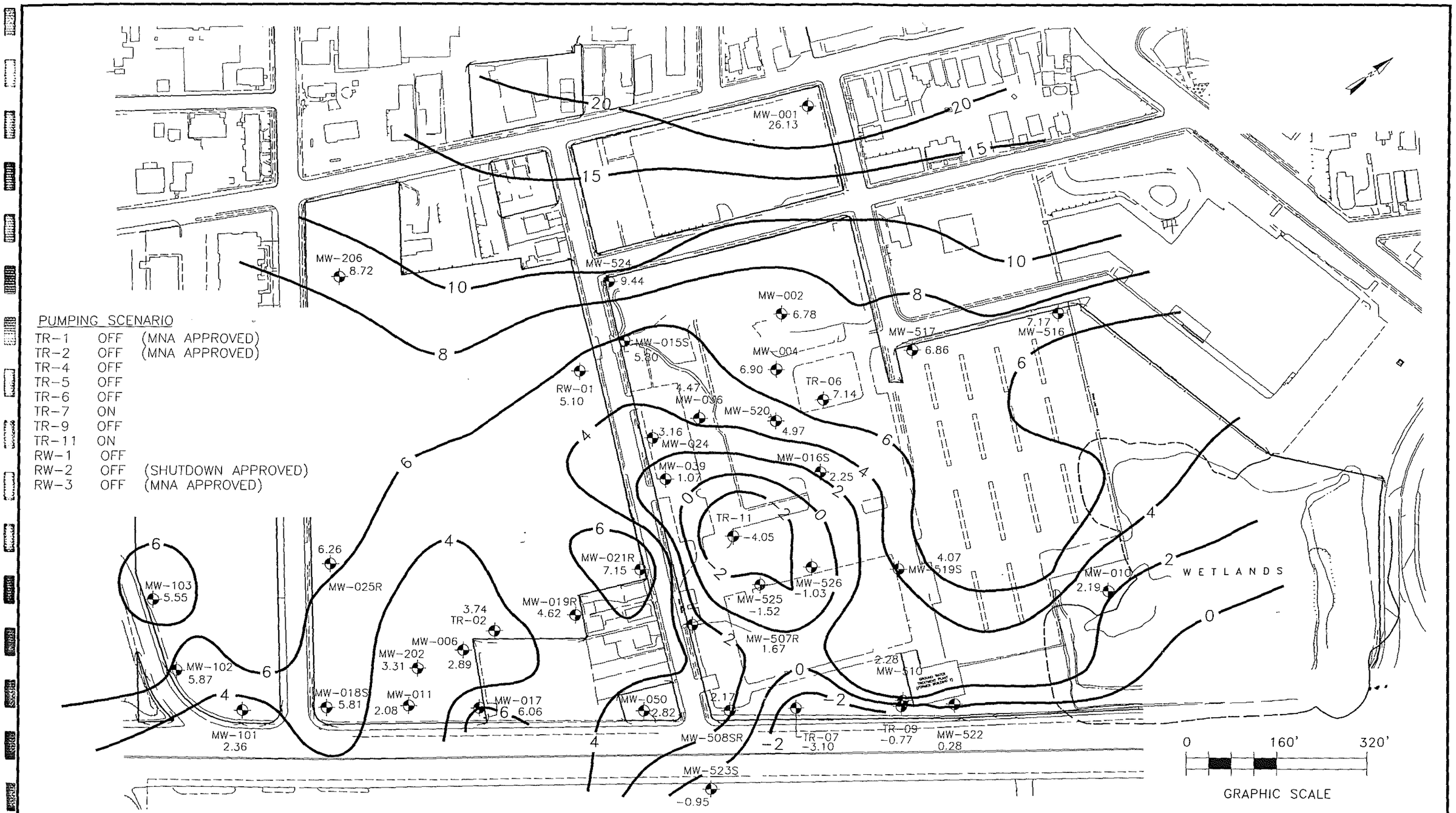
* Only those compounds that have been detected are listed.

Shaded values indicate an exceedance of soil remedial action criteria.

The attached figures and tables are reprints from the following document:

Environmental Resources Management Letter. 1999. “Becton Dickinson and Company.” From: AJ Coenen (ERM Northeast, NJ), To: M Morrison (NJDEP, NJ), Dated: March 26, 1999.

18 Oct. 2002 Letter to Mr Morrison (NJDEP) from ERM
Re: Response to NJDEP Comment Letter of 16 July 2002



NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION

BECTON DICKINSON
EAST RUTHERFORD, NJ

Environmental Resources Management
ERM

CHECKED	DATE
DESIGN ENGINEER	
PROJECT ENGINEER	
PROJECT MANAGER	
APPROVED	

WATER TABLE CONTOUR MAP
11/13/00

DRAWN GD/EMF DATE 4/22/02 REVISION DATE

DRAWING NO. 7

REV. NO.

Table 1: VOC Concentrations in Monitoring Wells
Former Becton Dickinson and Company Facility, East Rutherford, New Jersey
Semi-Annual Monitoring - 2 to 4 November 1998
ISRA Case No. 87577

	MW-206	MW-18S	MW-42R	MW-50	Trench-1	Trench-2	MW-17	MW-19	MW-6	MW-202	MW-11	MW-101	MW-21R	MW-510	MW-522	Trench-9	Trench-7	RW-3	MW-36	Trench-4	MW-39
PARAMETER, ppb:																					
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND J	ND J	ND J	ND J	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND J	ND J	ND J	ND J	ND
Vinyl chloride **	ND	ND	56	ND	150	1	ND	5.5	ND	2.5	ND	1.6	ND	19	ND	ND	74	19	30	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.7	ND	ND	ND
Methylene chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND	ND	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.6 J	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	0.5 J	ND	ND	ND	ND	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND	1.6	ND	ND	ND	ND
total-1,2-Dichloroethene **	1 J	ND	20	ND	760	10	0.7 J	2.8	0.6 J	ND	ND	5	ND	9.4	ND	ND	180	49	370	1.5 J	72
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.6	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene **	6.1	5.5	ND	ND	ND	5.2	ND	ND	ND	ND	ND	ND	2.1	ND	ND	ND	83	0.9 J	720	150	820
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether	ND J	ND J	ND	ND J	ND	ND J	ND J	ND J	ND	ND J	ND J	ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	0.9 J	1.8	ND	ND	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.3	ND	ND	5	12
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL VOCs	8.0	7.3	76.5	ND	910.0	18.1	0.7	8.8	0.6	2.5	ND	6.6	2.1	28.4	ND	ND	344.1	70.6	1120.0	156.5	904.0

NOTES:

** Contaminants of concern.

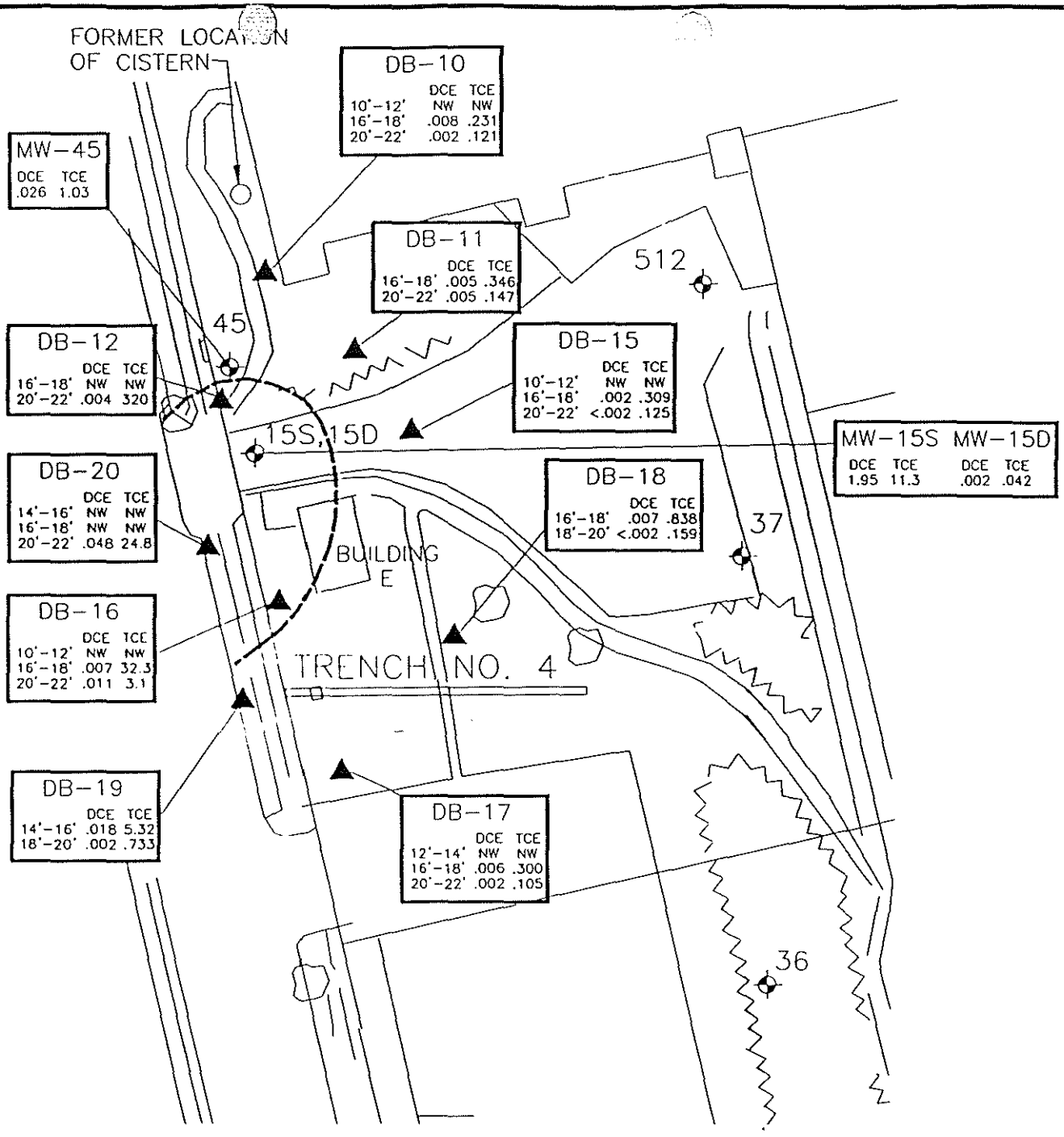
ND - Compound was analyzed for but not detected.

J - Indicates an estimated value.

18600568.xls/as

The attached figures and tables are reprints from the following document:

Environmental Resources Management Letter. 1999. “Submission of Groundwater Remedial Action Work Plan Addendum - Becton Dickinson and Company.” From: MB Teetsel (ERM Northeast, NJ), To: M Morrison (NJDEP, NJ), Dated: July 26, 1999.



LEGEND

- - - AERIAL EXTENT OF TCE>1% SOLUBILITY

▲ GEOPROBE BORING

⊕ MONITORING WELL

NW NO WATER

ALL RESULTS ARE IN mg/L

TITLE

BUILDING E AREA
DNAPL DELINEATION
EAST RUTHERFORD, NEW JERSEY

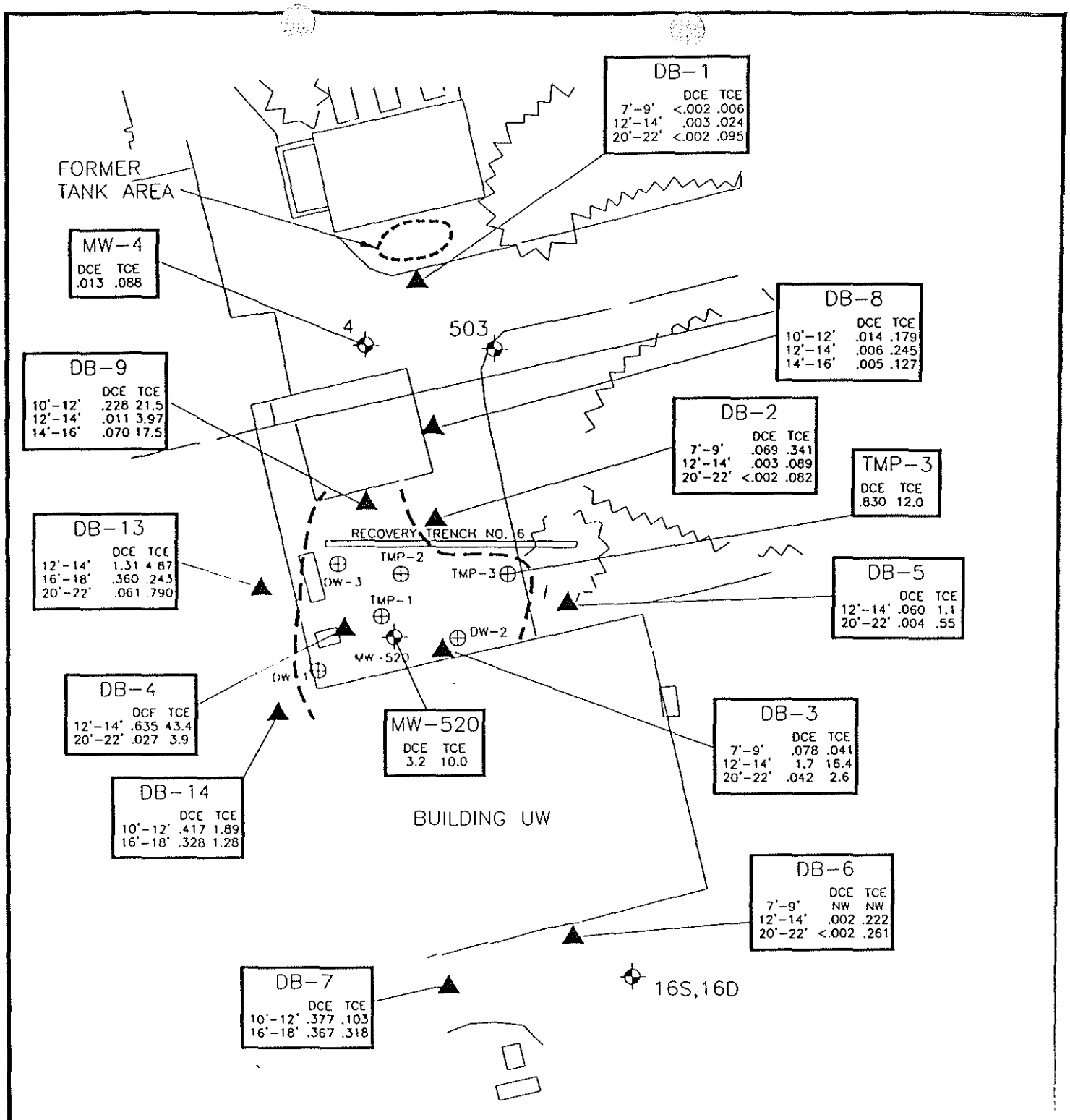
PREPARED FOR

BECTON DICKINSON AND COMPANY

ERM-Northeast
Environmental Resources Management
ERM

SCALE	FIGURE
1"=40'	2-6

DRAWN:	JOB NO.:	FILE NAME:	DATE
M.M./Y.S.	186.157	18600043	6/29/99



LEGEND

- - - AERIAL EXTENT OF TCE>1% SOLUBILITY

▲ GEOPROBE BORING

⊕ MONITORING WELL

NW NO WATER

ALL RESULTS ARE IN mg/L

⊕ TEMPORARY MONITORING WELL

TITLE

BUILDING U-W AREA
DNAPL DELINEATION
EAST RUTHERFORD, NEW JERSEY

PREPARED FOR

BECTON DICKINSON AND COMPANY

ERM-Northeast
Environmental Resources Management
ERM

SCALE	FIGURE
1"=40'	2-7

DRAWN:	JOB NO.:	FILE NAME:	DATE
M.M./Y.S.	186.157	18600042	6/29/99

TABLE 5-1
NATURAL ATTENUATION PARAMETERS
BD - EAST RUTHERFORD

NATURAL ATTENUATION MONITORING[1]							
SAMPLE NO.:	MW-523s	MW-523m	MW-1	MW-42mr	MW-508sr	TR-1	TR-7
SAMPLE DATE:	3/12/99	3/12/99	3/11/1999[2]	3/12/1999[2]	3/11/1999[2]	3/12/1999[2]	3/12/1999[2]
pH (std. units)	6.01	6.02	6.65	5.95	6.62	6.20	6.31
Temperature (°C)	10.3	11.30	13.9	9.9	10.6	12.6	13.4
Dissolved Oxygen	0.19	0.50	2.66	0.95	1.10	2.68	1.46
Spec. Cond. (umho/cm)	3280	6460	1220	1260	617	1280	2130
Redox Potential (mV)	125	111	153	81	108	103	129
Total Iron	13.9	90.3	0.13	6.43	1.08	24.4	13.1
Total Manganese	0.654	0.971	0.018	0.543	1.370	0.994	0.995
Nitrate-Nitrogen	0.1 U	0.1 U	4.49	0.1 U	0.1 U	0.1 U	0.1 U
Total Organic Carbon	11.2	46.7	1	3	3.6	8.9	13.8
Total Alkalinity[3]	363	643	164	158	101	238	383
Chloride	792	1490.0	227.0	259.0	101.0	173.0	374.0
Sulfate	52.2	554.0	41.0	54.2	20.4	76.8	53.5
Carbon Dioxide	340	590	160	150	86	280	430
Trichloroethene (ug/l)	5 U	13 U	5 U	5 U	3.5 J	5 U	83
cis-1,2-dichloroethene (ug/l)	5 U	45	5 U	20	440	760	180
Vinyl Chloride (ug/l)	5 U	650	5 U	56	410	150	74
Methane (ug/l)	4,600	1600	5 U	150	510	3400	2900
Ethane (ug/l)	5.0 U	36	5 U	5 U	110	6.8	51
Ethene (ug/l)	5.0 U	1100	5 U	5 U	96	5 U	6.6

NOTES:

[1]Units are milligrams per liter except where noted.

[2]TCE, DCE and vinyl chloride sample collected November 1998.

[3]Units are mg/l as $CaCO_3$

U - Compound not found relative to the indicated detection limit.

J - Estimated concentration.

The attached figures and tables are reprints from the following document:

Environmental Resources Management Letter. 1999. “Becton Dickinson and Company.” From: AJ Coenen (ERM Northeast, NJ), To: M Morrison (NJDEP, NJ), Dated: October 8, 1999.

Table 1: VOC Concentrations in Monitoring Wells
Former Becton Dickinson and Company Facility, East Rutherford, New Jersey
Semi-Annual Monitoring - May 19th to 25th 1999
ISRA Case No. 87577

	MW-1	DUP 2 052199	MW-101	MW-11	MW-15S	MW-15SDL	MW-16S	MW-17	MW-18S	MW-19	MW-202	MW-206	MW-21	MW-36	MW-36DL	MW-39	MW-39DL	MW-4
PARAMETER, ppb:																		
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ND	ND	ND	ND	ND	ND	3.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride **	ND	ND	1.5	ND	ND	ND	21	ND	ND	10	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	0.8 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.8 J	ND	ND	ND	ND	ND	ND	ND	ND
total-1,2-Dichloroethene **	ND	ND	5.9	ND	2500	2000 D	78	ND	0.9 J	7.5	ND	2.1	0.6 J	45	46 D	120	110 D	22
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.7 J	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene **	0.6 J	0.6 J	ND	ND	7800 E	6600 D	13	ND	8.7	0.6 J	ND	13	4.5	730 E	800 D	660 E	600 D	160 E
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	0.7 J	0.6 J	ND	ND	13 J	ND	0.9 J	ND	1.4	ND	ND	1.3	0.6 J	ND	ND	8.2 J	ND	0.8 J
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL VOCs	1.3	1.2	8.2	ND	10313.0	8600.0	116.8	ND	11.0	18.9	ND	17.1	5.7	775.0	846.0	788.2	710.0	182.8

NOTES:

** Contaminants of concern.

ND - Compound was analyzed for but not detected.

J - Indicates an estimated value.

B - Analyte was found in the blank as well as the sample.

NA - Not analyzed for.

E - Value exceedes calibration range (Use result from secondary analysis)

D - Value from a secondary analyusis (dilution)

Table 1: VOC Concentrations in Monitoring Wells
Former Becton Dickinson and Company Facility, East Rutherford, New Jersey
Semi-Annual Monitoring - May 19th to 25th 1999
ISRA Case No. 87577

	MW-42MR	MW-42MRDL	MW-4	MW-4DL	MW-50	MW-508-SR	MW-508-SRDL	MW-510	MW-510DL	MW-520	MW-520DL	DUP 1 052099	UP 1 052099D	MW-522	MW-523S	MW-6	RW-1	RW-1DL
PARAMETER, ppb:																		
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.6 J	ND	ND	ND
Vinyl chloride **	54 E	53 D	ND	ND	ND	740	860 D	55 E	52 D	290	ND	240	ND	ND	34	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
total-1,2-Dichloroethene **	9.8	ND	22	19 D	0.9 J	2200 E	2400 D	20	18 D	21000 E	22000 D	18000 E	21000 D	ND	3	ND	23	29 D
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene **	ND	ND	160 E	120 D	ND	ND	ND	ND	ND	2500	2300 D	2200	2200 D	0.5 J	ND	1.3	440 E	250 D
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	0.8 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.6	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL VOCs	64.4	53.0	182.8	139.0	0.9	2940.0	3260.0	75.0	70.0	23790.0	24300.0	20440.0	23200.0	0.5	37.6	1.3	465.6	279.0

Table 1: VOC Concentrations in Monitoring Wells
Former Becton Dickinson and Company Facility, East Rutherford, New Jersey
Semi-Annual Monitoring - May 19th to 25th 1999
ISRA Case No. 87577

	RW-3	TR-1	TR-2	TR-4	TR-4DL	TR-5	TR-6	TR-6DL	TR-7	TR-9	TR-11	TR-11DL	FB051999	FB052099	TRIP BLANK	TRIP BLANK
PARAMETER, ppb:																
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride **	18	ND	ND	ND	ND	ND	ND	ND	6	ND	20	25 D	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.3 J	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
total-1,2-Dichloroethene **	24	1.1	ND	3.1 J	ND	49	350	230 D	6.9	ND	260 E	310 D	ND	1.7	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene **	ND	ND	2	300 E	320 D	9.2	3600 E	3500 D	ND	ND	170	190 D	ND	4	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	5.8	ND	ND	ND	ND	ND	ND	5.1	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	1.2	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL VOCs	42.0	1.1	2.0	308.9	320.0	58.2	3950.0	3730.0	14.1	ND	456.4	525.0	ND	5.7	ND	ND

Table 2: Additional Parameters in Monitoring Wells
Former Becton Dickinson and Company Facility, East Rutherford, New Jersey
Semi-Annual Monitoring - May 19th to 25th 1999
ISRA Case No. 87577

Analyte/Paramter	Method	Units	MW-1	DUP 2	MW-15S	MW-24	MW-36	MW-39	W-42M	MW-523S	MW-523M	MW-6	RW-1	TR-1	TR-7
Alkalinity to pH 8.3	EPA 310.1	mg/l	1.0 U	1.0 U					1.0 U	1.0 U	1.0 U	1.0 U		1.0 U	1.0 U
Alkalinity to pH 4.5	EPA 310.1	mg/l	174	170					227	303	236	304		301	491
Nitrate Nitrogen	EPA 353.2	ug/l	5080	5270					100 U	100 U	100 UJ	780		100 U	100 U
Iron	EPA 236.1	ug/l	100 UJ	100 UJ					5830	22400	30000	1140		3080	26100 J
Manganese	EPA 243.1	ug/l	10 U	10 U					1370	872	631	14		2080	585
Total Organic Carbon	EPA 415.1	mg/l	1.2	1					5.0	12.8	9.1	6.8		22.3	15.6
Chloride	EPA 325.3	mg/l	235	222					257	1200	653	4.9		5.2	11.1
Sulfate	EPA 375.4	mg/l	40.5	41.3					26	88	50 U	30.6		18.2	27
Methane	SW-846 8000B	ug/l	5.0 U	5.0 U					1000	2900	690	14		30	2300
Ethane	SW-846 8000B	ug/l	5.0 U	5.0 U					5.0 U	5.0 U	5.1	5.0 U		5.0 U	13
Ethene	SW-846 8000B	ug/l	5.0 U	5.0 U					5.0 U	5.0 U	39	5.0 U		5.0 U	5.0 U
Carbon Dioxide	SW-846 8000B	mg/l	38	37					51	120	90	43		160	140
Nickel	EPA 249.1	ug/l			1330	50 U	50 U	50 U					50 U		

The attached figures and tables are reprints from the following document:

JMC Environmental Consultants, Inc. 2002. "Remedial Investigation Report Addendum – Arsynco, Inc. ISRA Case #93024" (Brick, NJ)

AREA X - TRACT 2 SAMPLING RESULTS

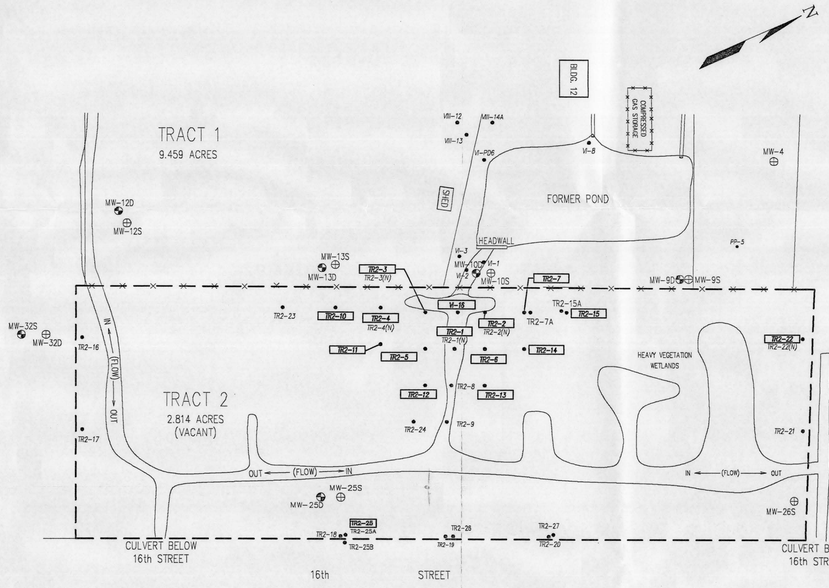
Sample Number	RDCSCC	NRDCSCC	IGWSCC	TR2-1	TR2-1(N)	TR2-2	TR2-2(N)	TR2-3	TR2-3(N)	TR2-4	TR2-4(N)	TR2-5	TR2-6	TR2-7	TR2-7A	TR2-10	TR2-11	TR2-12	TR2-13
Sample Depth (ft.)				0.0-0.5	4.0-4.5	0.0-0.5	4.0-4.5	0.0-0.5	4.5-5.0	0-.5/.5-1	4.5-5.0	0-.5/.5-1	0-.5/.5-1	0-.5/.5-1	4.5-5.0	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5
Units				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
VOLATILE ORGANICS																			
Chlorobenzene	37	680	1	0.14	NA	0.089	NA	1.1	ND	209	ND	ND	NA	NA	NA	NA	NA	NA	NA
PP METALS																			
Antimony	14	340	NS	< 7.5	NA	8.5	NA	< 6.6	NA	< 38	NA	< 35	< 32	< 43	NA	NA	NA	NA	NA
Arsenic	20	20	NS	95	1.4	31	<1.3	62	2.4	36	2.3	99	31	41	NA	22	23	23	34
Cadmium	39	100	NS	23	NA	40	NA	20	NA	11	NA	15	4.8	13	NA	NA	NA	NA	NA
Chromium	120,000	NR	NS	4100	10.1	3400	10	4200	9.7	2900	10.3	2600	540	690	NA	560	630	520	2100
Copper	600	600	NS	1200	3.3	2100	4.7	2100	6.3	2200	7.3	800	290	510	NA	550	270	250	NA
Lead	400	600	NS	970	<13	2100	<13	830	<13	710	<13	530	720	1300	17.3	310	270	NA	360
Mercury	14	270	NS	150	NA	36	NA	240	NA	47	NA	210	30	31	NA	NA	NA	NA	NA
Nickel	250	2400	NS	1100	8.1	1300	8.6	1700	7.8	3600	8.4	460	475	900	NA	210	230	NA	NA
Thallium	2	2	NS	4	<1.3	5	<1.3	3.4	<1.3	1.2	<1.3	< 1.1	< 1	< 1	NA	NA	NA	NA	NA
Zinc	1500	1500	NS	4100	20	3300	20.1	3900	18.9	1500	18.9	2400	1600	2700	NA	840	1000	2000	1600
PCBs																			
Arochlor 1248	0.49	2	50	29	ND	31	ND	22	0.0983	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Sample Number	RDCSCC	NRDCSCC	IGWSCC	TR2-14	TR2-15	TR2-15A	TR2-16	TR2-17	TR2-18	TR2-19	TR2-20	TR2-21	TR2-22	TR2-22(N)	TR2-23	TR2-24	TR2-25	TR2-25A	TR2-25B
Sample Depth (ft.)				0.0-0.5	0.0-0.5	4.5-5.0	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.5-1.0	1.0-1.5	0.0-0.5	1.5-2.0	0.0-0.5
Units				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
VOLATILE ORGANICS																			
Chlorobenzene	37	680	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA
PP METALS																			
Antimony	14	340	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	20	20	NS	64	27	NA	6.9	6.9	3.7	8.7	3.8	4.6	43.3	1.5	NA	NA	NA	NA	NA
Cadmium	39	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	120,000	NR	NS	620	4900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	600	600	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	400	600	NS	290	880	8.6	NA	NA	NA	NA	NA	NA	288	NA	NA	NA	443	350	267
Mercury	14	270	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	250	2400	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2	2	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	1500	1500	NS	1900	1900	NA	NA	344	NA	387	306	225	1130	NA	NA	NA	NA	NA	NA
PCBs																			
Arochlor 1248	0.49	2	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Sample Number	RDCSCC	NRDCSCC	IGWSCC	TR2-26	TR2-27	PP-5	VI-1	VI-2	VI-3	VI-PD6	VI-8	VI-16	VIII-12	VIII-13	VIII-14A
Sample Depth (ft.)				0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	5.5-6.0	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5
Units				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
VOLATILE ORGANICS															
Chlorobenzene	37	680	1	NA	NA	22.5	NA	NA	NA	ND	ND	250	ND	ND	NA
PP METALS															
Antimony	14	340	NS	NA	NA	1.8	ND	ND	ND	5.9 B	ND	<11	197	ND	NA
Arsenic	20	20	NS	NA	NA	2.3	68.6	7.7	4.6	2.9	3.7	29	13.9	5.5	NA
Cadmium	39	100	NS	NA	NA	1.9	1.2	0.71	0.78	5.3	ND	54	46.7	18.6	NA
Chromium	120,000	NR	NS	NA	NA	82	103	56.6	157	116	41.2	3600	871	189	NA
Copper	600	600	NS	NA	NA	160	457	1010	357	181	72.9	24000	688	215	NA
Lead	400	600	NS	262	297	140	433	297	284	503	156	2600	19600	1160	154
Mercury	14	270	NS	NA	NA	2	3.4	6.9	2.6	ND	2.7	59	14.4	2.9	NA
Nickel	250	2400	NS	NA	NA	230	378	698	543	54.9	59.7	3300	150	309	NA
Thallium	2	2	NS	NA	NA	ND	1.1 B	ND	ND	ND	0.53	4.4	0.59	ND	NA
Zinc	1500	1500	NS	NA	NA	150	732	160	228	474	210	1800	1380	392	NA
PCBs															
Arochlor 1248	0.49	2	50	NA	NA	110	NA	NA	NA	NA	NA	140	NA	NA	NA

Notes:

ND - Compound not detected
NA - Not analyzed
NS - No standard
J - Estimated value below laboratory MDL
RDCSCC - Residential Direct Contact Soil Cleanup Criteria
NRDCSCC - Non-Residential Direct Contact Soil Cleanup Criteria
IGWSCC - Impact to Ground Water Soil Cleanup Criteria
BOLD & SHADED - Indicates analytical result exceeds soil cleanup criteria
Samples containing no exceedances represent delineation samples for listed parameters
- Results not reported since compounds not applicable to delineation of other listed samples
A - Where two depths are reported, deeper increment represents VOC fraction collection depth



LEGEND:

TR2-6 – SOIL SAMPLE LOCATIONS EXCEEDING RDCSCC
⊕ – SHALLOW MONITORING WELLS
– DEEP MONITORING WELLS
• – SOIL SAMPLE LOCATIONS
ALL RESULTS IN PARTS PER MILLION

50 0 50 100
scale feet

ARSYNCO, INC.
AREA X
TRACT 2
SOIL SAMPLE LOCATION MAP
ISRA CASE # 93024

FIGURE: 11 | SCALE: 1" = 50'

JMC ENVIRONMENTAL CONSULTANTS, INC.
571 W. LAKE AVENUE, SUITE 6
BAY HEAD, NEW JERSEY 08742

AREA VIII SOIL SAMPLING RESULTS

Sample Number	RDCSCC	NRDCSCC	IGWSCC	ADS-1	ADS-2	ADS-3	ADS-4	ADS-5	ADS-6	ADS-BGB	PP-1	PP-2	PP-3	PP-15	VIII-1
Sample Depth (ft.)				0-0.5/.5-1.0	0-0.5/.5-1.0	0-0.5/.5-1.0	0-0.5/.5-1.0	0-0.5/.5-1.0	0-0.5/.5-1.0	0-0.5/.5-1.0	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5
Units				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
VOLATILE ORGANICS															
Benzene	3	13	1	ND	ND	ND	ND	ND	ND	ND	ND	0.47	ND	ND	ND
Ethylbenzene	1000	1000	100	ND	ND	ND	ND	ND	ND	ND	ND	2.3	190	ND	ND
Toluene	1000	1000	500	0.002 J	ND	ND	ND	ND	ND	ND	.037	21	800	ND	ND
Xylene(Total)	410	1000	67	0.003 J	ND	ND	ND	ND	ND	ND	.2	38	3,600	ND	ND
Tetrachloroethylene	4	6	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	14	ND	ND
4-Methyl-2-Pentanone (MIBK)	1000	1000	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SEMI-VOLATILE ORGANICS															
Benzo(a)anthracene	0.9	4	500	0.21 J	ND	ND	0.07 J	ND	0.021 J	0.18 J	0.41	0.24	0.21	ND	NA
bis(2-ethylhexyl)phthalate	49	210	100	0.59 JB	0.71 B	1.6 B	1.3 B	1.1 B	0.47 B	0.48 J	0.13	9.9	12	0.043	NA
Di-n-butylphthalate	5800	10000	100	ND	ND	0.1 J	0.21 J	0.12 J	0.13 J	0.13 J	ND	2.7	0.58	ND	NA
2,4-Dimethyl phenol	1100	10000	10	ND	ND	ND	0.086 J	ND	ND	ND	ND	.58	ND	ND	NA
Diethylphthalate	10000	10000	50	ND	ND	ND	0.012 J	ND	0.043 J	ND	ND	4.4	0.85	ND	NA
Dimethylphthalate	10000	10000	50	ND	ND	ND	ND	ND	ND	ND	ND	0.085	0.55	ND	NA
Naphthalene	230	4200	100	ND	0.016 J	ND	ND	ND	ND	0.038 J	ND	4.4	2.4	ND	NA
PP METALS															
Antimony	14	340	NS	ND	ND	ND	ND	ND	ND	ND	<0.75	40	14	<0.59	NA
Cadmium	39	100	NS	ND	ND	ND	ND	ND	ND	ND	<0.75	42	33	<0.59	NA
Chromium	120,000	NR	NS	23.4	33.9	27.7	31.9	5.3	18.8	59.6	28	280	430	33	NA
Copper	600	600	NS	8.7 B	71.1	22.6	92.8	5.4	18	53.3	43	150	360	82	NA
Lead	400	600	NS	67.4	59.6	26.1	89.3	6.3	27	195	31	1,800	3,700	80	NA
Nickel	250	2400	NS	43.5	44	23.9	24.9	14	20	68.8	21	300	580	190	NA
Zinc	1500	1500	NS	95.1	86.1	34	98.6	22.2	55.6	108	51	690	1,100	80	NA
PETROLEUM HYDROCARBONS	10000	10000	NS	NA	NA	NA	NA	NA	NA	NA	80	69	110	<25	NA
PHENOL	10000	10000	50	ND	ND	ND	ND	ND	ND	ND	ND	0.43	0.14	ND	NA

Sample Number	RDCSCC	NRDCSCC	IGWSCC	VIII-2	VIII-3	VIII-3A	VIII-3B	VIII-3C	VIII-3D	VIII-4	VIII-5	VIII-6	VIII-7	VIII-8	VIII-8A
Sample Depth (ft.)				0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	3.75-4.25	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5
Units				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
VOLATILE ORGANICS															
Benzene	3	13	1	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	NA
Ethylbenzene	1000	1000	100	ND	ND	NA	NA	NA	NA	ND	ND	0.22	ND	ND	NA
Toluene	1000	1000	500	ND	0.0026	NA	NA	NA	NA	ND	ND	ND	0.001	0.0022	NA
Xylene(Total)	410	1000	67	ND	ND	NA	NA	NA	NA	ND	ND	0.49	ND	0.0033	NA
Tetrachloroethylene	4	6	1	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	NA
4-Methyl-2-Pentanone (MIBK)	1000	1000	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SEMI-VOLATILE ORGANICS															
Benzo(a)anthracene	0.9	4	500	ND	0.367	NA	NA	NA	NA	0.19	ND	ND	0.11	NA	NA
bis(2-ethylhexyl)phthalate	49	210	100	ND	1.6	NA	NA	NA	NA	0.36	ND	ND	0.5	NA	NA
Di-n-butylphthalate	5800	10000	100	ND	0.21	NA	NA	NA	NA	0.11	ND	ND	0.17	NA	NA
2,4-Dimethyl phenol	1100	10000	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	10000	10000	50	NA	ND	NA	NA	NA	NA	ND	ND	ND	ND	NA	NA
Dimethylphthalate	10000	10000	50	NA	ND	NA	NA	NA	NA	ND	ND	ND	ND	NA	NA
Naphthalene	230	4200	100	ND	ND	NA	NA	NA	NA	ND	ND	ND	0.077	NA	NA
PP METALS															
Antimony	14	340	NS	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	86.9	NA
Cadmium	39	100	NS	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	109	36.5
Chromium	120,000	NR	NS	12	560	99.9	245	21.7	9.2	47.4	32.7	63.9	218	512	264
Copper	600	600	NS	15.9	72.4	NA	NA	NA	NA	51	124	98.2	37.8	207	NA
Lead	400	600	NS	25.3	110	NA	NA	NA	NA	174	12	578	407	2660	1400
Nickel	250	2400	NS	16.9	203	NA	NA	NA	NA	149	298	448	36.8	270	NA
Zinc	1500	1500	NS	64.8	217	NA	NA	NA	NA	2	44.1	163	75	894	NA
PETROLEUM HYDROCARBONS	10000	10000	NS	ND	104	NA	NA	NA	NA	ND	25.6	91.5	39.3	NA	NA
PHENOL	10000	10000	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Sample Number	RDCSCC	NRDCSCC	IGWSCC	VIII-8A (b)	VIII-9	VIII-9A	VIII-9A (b)	VIII-9B	VIII-9C	VIII-9D	VIII-9E	VIII-9F	VIII-9G	VIII-9H	VIII-10
Sample Depth (ft.)				1.5-2.0	0.0-0.5	0.0-0.5	1.5-2.0	0.0-0.5	0.0-0.5	5.5-6.0	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5
Units				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
VOLATILE ORGANICS															
Benzene	3	13	1	NA	0.00611	NA	ND	NA	0.0061	4	NA	NA	NA	NA	1.1
Ethylbenzene	1000	1000	100	NA	0.0068	NA	NA	NA	0.0068	NA	NA	NA	NA	NA	15
Toluene	1000	1000	500	NA	0.015	NA	NA	NA	0.015	NA	NA	NA	NA	NA	100
Xylene(Total)	410	1000	67	NA	0.052	NA	0.022	NA	0.052	180	NA	NA	NA	NA	190
Tetrachloroethylene	4	6	1	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	NA	ND
4-Methyl-2-Pentanone (MIBK)	1000	1000	50	NA	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND
SEMI-VOLATILE ORGANICS															
Benzo(a)anthracene	0.9	4	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-ethylhexyl)phthalate	49	210	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	5800	10000	100	NA	NA	NA	NA	NA	NA	[illegible]	NA	NA	NA	NA	NA
2,4-Dimethyl phenol	1100	10000	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	10000	10000	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethylphthalate	10000	10000	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	230	4200	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PP METALS															
Antimony	14	340	NS	NA	89.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	136
Cadmium	39	100	NS	124	64.2	9.3	NA	NA	52.4	11.7	NA	NA	NA	NA	136
Chromium	120,000	NR	NS	234	604	234	NA	2550	473	146	98	210	350	110	951
Copper	600	600	NS	NA	210	NA	NA	NA	NA	NA	NA	NA	NA	NA	296
Lead	400	600	NS	12000	2790	814	NA	3510	2260	514	180	1100	1800	770	5490
Nickel	250	2400	NS	NA	159	NA	NA	NA	NA	NA	NA	NA	NA	NA	370
Zinc	1500	1500	NS	NA	1420	396	NA	NA	NA	485	NA	NA	NA	NA	2030
PETROLEUM HYDROCARBONS	10000	10000	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PHENOL	10000	10000	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Sample Number	RDCSCC	NRDCSCC	IGWSCC	VIII-10A	VIII-11	VIII-11A	VIII-11B	VIII-11C	VIII-11C (b)	VIII-12	VIII-12A	VIII-12B	VIII-13	VIII-13A	VIII-13B
Sample Depth (ft.)				0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	1.5-2.0	0.0-0.5	0.0-0.5	1.5-2.0	0.0-0.5	0.0-0.5	0.0-0.5
Units				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
VOLATILE ORGANICS															
Benzene	3	13	1	NA	0.64	NA	NA	NA	NA	ND	NA	2	ND	NA	NA
Ethylbenzene	1000	1000	100	NA	4.5	NA	NA	NA	NA	ND	NA	NA	32	NA	NA
Toluene	1000	1000	500	NA	0.41	NA	NA	NA	NA	0.0012	NA	NA	270	NA	NA
Xylene(Total)	410	1000	67	NA	45	NA	NA	NA	NA	ND	NA	250	620	1000	NA
Tetrachloroethylene	4	6	1	NA	ND	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA
4-Methyl-2-Pentanone (MIBK)	1000	1000	50	ND	ND	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA
SEMI-VOLATILE ORGANICS															
Benzo(a)anthracene	0.9	4	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-ethylhexyl)phthalate	49	210	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	5800	10000	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethyl phenol	1100	10000	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	10000	10000	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethylphthalate	10000	10000	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	230	4200	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PP METALS															
Antimony	14	340	NS	NA	55	NA	NA	NA	NA	197	NA	NA	ND	NA	NA
Cadmium	39	100	NS	5.4	37	1.9	83.8	NA	NA	46.7	NA	NA	18.6	NA	NA
Chromium	120,000	NR	NS	66.8	846	44.8	901	190	3090	871	63.3	NA	189	NA	NA
Copper	600	600	NS	NA	232	NA	NA	NA	NA	688	122	NA	215	NA	NA
Lead	400	600	NS	439	3890	298	11000	1070	17300	19600	653	NA	1160	7220	1010
Nickel	250	2400	NS	NA	284	NA	NA	NA	NA	150	NA	NA	309	NA	NA
Zinc	1500	1500	NS	185	941	103	NA	NA	NA	1380	NA	NA	392	NA	NA
PETROLEUM HYDROCARBONS	10000	10000	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PHENOL	10000	10000	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

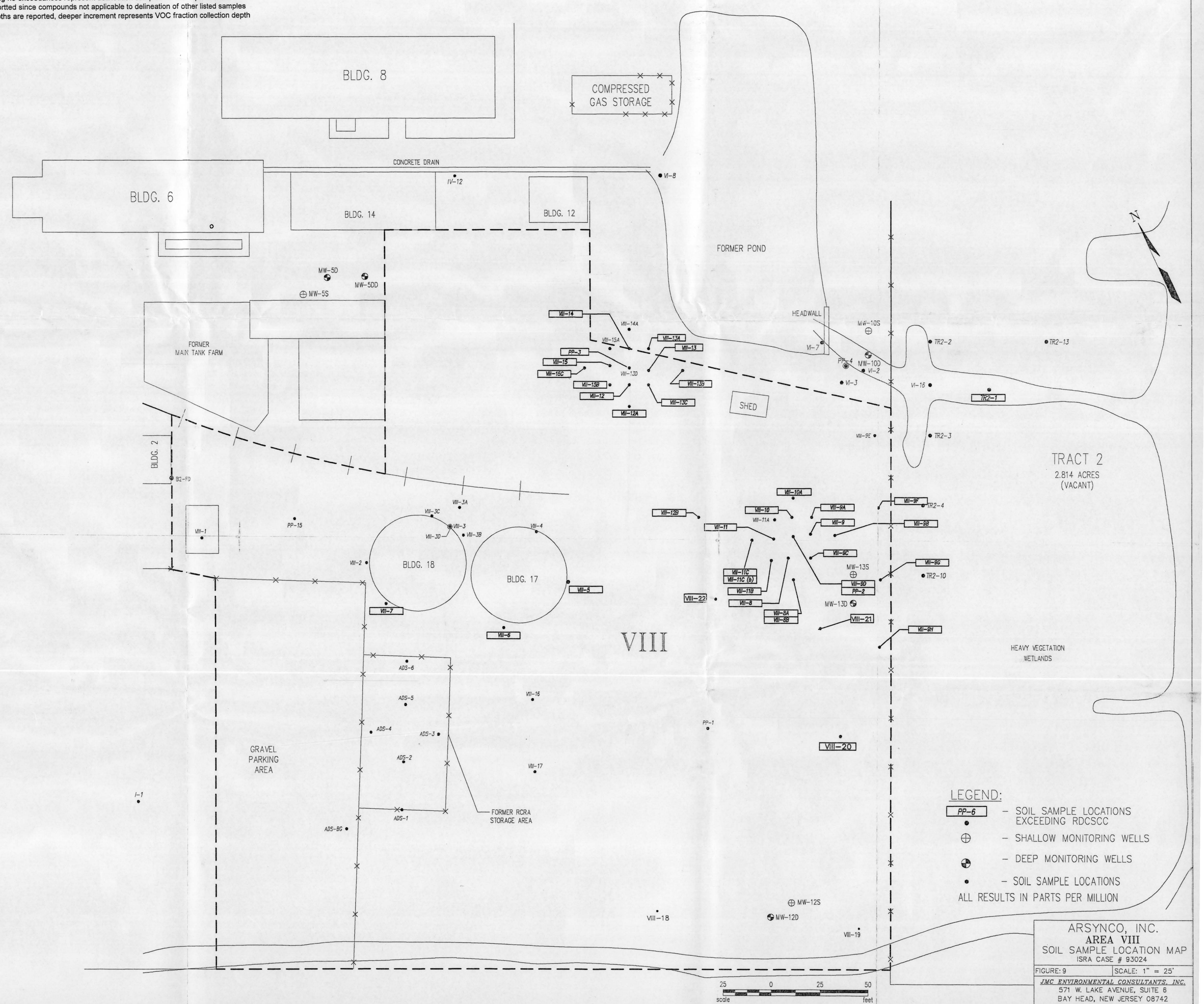
Sample Number	RDCSCC	NRDCSCC	IGWSCC	VIII-13C	VIII-13D	VIII-14	VIII-14A	VIII-15	VIII-15A	VIII-15B	VIII-15C	VIII-16	VIII-17	VIII-18	VIII-19
Sample Depth (ft.)				0.0-0.5	4.0-4.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	2.75-3.25	.5-1/2.5-3
Units				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
VOLATILE ORGANICS															
Benzene	3	13	1	NA	0.11	ND	NA	ND	NA	NA	NA	ND	ND	ND	ND
Ethylbenzene	1000	1000	100	NA	ND	ND	NA	ND	NA	NA	NA	ND	ND	0.58	ND
Toluene	1000	1000	500	NA	0.064	0.0085	NA	ND	NA	NA	NA	ND	ND	1.6	0.36
Xylene(Total)	410	1000	67	0.044	0.045	ND	NA	ND	NA	NA	NA	ND	ND	1.53	ND
Tetrachloroethylene	4	6	1	NA	ND	ND	NA	ND	NA	NA	NA	ND	ND	ND	ND
4-Methyl-2-Pentanone (MIBK)	1000	1000	50	NA	NA	ND	NA	ND	NA	NA	NA	ND	ND	ND	ND
SEMI-VOLATILE ORGANICS															
Benzo(a)anthracene	0.9	4	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
bis(2-ethylhexyl)phthalate	49	210	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	12D	0.13
Di-n-butylphthalate	5800	10000	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.64	0.08
2,4-Dimethyl phenol	1100	10000	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.18	ND
Diethylphthalate	10000	10000	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Dimethylphthalate	10000	10000	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Naphthalene	230	4200	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.91	ND
PP METALS															
Antimony	14	340	NS	NA	NA	ND	NA	ND	NA	NA	NA	ND	ND	2.1	1
Cadmium	39	100	NS	NA	NA	11.1	NA	8.3	NA	NA	NA	ND	ND	2.5	0.33
Chromium	120,000	NR	NS	112	33	145	NA	225	763	160	NA	7.9	4.8	17.1	14.9
Copper	600	600	NS	141	11.8	177	NA	293	NA	177	NA	11.8	4.5	51.3	12.7
Lead	400	600	NS	911	ND	1640	154	1470	NA	992	1180	4.7	2.8	58.6	11.3
Nickel	250	2400	NS	NA	3.1	241	NA	495	NA	NA	NA	90.6	3.3	56.8	11.1
Zinc	1500	1500	NS	NA	9.9	521	NA	1270	NA	NA	NA	28.2	11.1	92.4	29.9
PETROLEUM HYDROCARBONS	10000	10000	NS	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	6800	470
PHENOL	10000	10000	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.5	<1.4

Sample Number	RDCSCC	NRDCSCC	IGWSCC	VIII-20	VIII-21	VIII-22	PP-4	I-1	IV-12	VI-2	VI-3	VI-7	VI-8	VI-16	TR2-1
Sample Depth (ft.)				3.5-4.0	3.5-4.0	.5-1./3-3.5	0.0-0.5	0.0-0.5	1.0-1.5	0.0-0.5	0.0-0.5	0.0-0.5	0.25-0.75	0.0-0.5	0.0-0.5
Units				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
VOLATILE ORGANICS															
Benzene	3	13	1	18	67	17	0.2	-	ND	-	-	ND	-	-	-
Ethylbenzene	1000	1000	100	680	580	230	-	-	0.0122	-	-	-	-	-	-
Toluene	1000	1000	500	4400	3200	73	-	-	ND	-	-	-	-	-	-
Xylene(Total)	410	1000	67	8000	5500	2150	3.5	-	0.0713	-	-	-	-	41	-
Tetrachloroethylene	4	6	1	ND	ND	ND	-	-	ND	-	-	-	-	-	-
4-Methyl-2-Pentanone (MIBK)	1000	1000	50	250	69	ND	-	-	ND	-	-	-	-	-	-
SEMI-VOLATILE ORGANICS															
Benzo(a)anthracene	0.9	4	500	4.6	ND	ND	-	-	NA	-	-	-	-	-	-
bis(2-ethylhexyl)phthalate	49	210	100	1800	12000	1900	-	-	NA	-	-	-	-	-	-
Di-n-butylphthalate	5800	10000	100	660	370	ND	-	-	NA	-	-	-	-	-	-
2,4-Dimethyl phenol	1100	10000	10	7.6	3800	11	-	-	NA	-	-	-	-	-	-
Diethylphthalate	10000	10000	50	1.5	260	ND	-	-	NA	-	-	-	-	-	-
Dimethylphthalate	10000	10000	50	ND	ND	ND	-	-	NA	-	-	-	-	-	-
Naphthalene	230	4200	100	36	1300	250	-	-	NA	-	-	-	-	-	-
PP METALS															
Antimony	14	340	NS	5.8	65.6	364	-	-	NA	-	-	-	-	-	<7.5
Cadmium	39	100	NS	24.3	141	237	1.2	-	NA	-	0.78	-	-	-	-
Chromium	120,000	NR	NS	159	505	1180	-	-	NA	-	-	-	-	-	-
Copper	600	600	NS	109	266	53.7	-	-	NA	-	307	-	-	-	-
Lead	400	600	NS	1140	2660	6530	-	159	NA	297	284	-	-	-	-
Nickel	250	2400	NS	43.5	4.1	12.3	-	-	NA	-	-	-	58.7	-	-
Zinc	1500	1500	NS	1500	2610	4420	380	-	NA	-	-	-	-	-	-
PETROLEUM HYDROCARBONS	10000	10000	NS	20000	99000	21000	-	-	NA	-	-	-	-	-	-
PHENOL	10000	10000	50	280	1900	81	-	-	NA	-	-	-	-	-	-

Sample Number	RDCSCC	NRDCSCC	IGWSCC	TR2-3	TR2-4	TR2-10	TR2-13
Sample Depth (ft.)				0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5
Units				mg/kg	mg/kg	mg/kg	mg/kg
VOLATILE ORGANICS							
Benzene	3	13	1	-	-	-	-
Ethylbenzene	1000	1000	100	-	-	-	-
Toluene	1000	1000	500	-	-	-	-
Xylene(Total)	410	1000	67	-	-	-	-
Tetrachloroethylene	4	6	1	-	-	-	-
4-Methyl-2-Pentanone (MIBK)	1000	1000	50	-	-	-	-
SEMI-VOLATILE ORGANICS							
Benzo(a)anthracene	0.9	4	500	-	-	-	-
bis(2-ethylhexyl)phthalate	49	210	100	-	-	-	-
Di-n-butylphthalate	5800	10000	100	-	-	-	-
2,4-Dimethyl phenol	1100	10000	10	-	-	-	-
Diethylphthalate	10000	10000	50	-	-	-	-
Dimethylphthalate	10000	10000	50	-	-	-	-
Naphthalene	230	4200	100	-	-	-	-
PP METALS							
Antimony	14	340	NS	<6.6	-	-	-
Cadmium	39	100	NS	-	11	-	-
Chromium	120,000	NR	NS	-	-	-	-
Copper	600	600	NS	-	-	-	-
Lead	400	600	NS	-	-	310	360
Nickel	250	2400	NS	-	-	210	-
Zinc	1500	1500	NS	-	-	-	-
PETROLEUM HYDROCARBONS	10000	10000	NS	-	-	-	-
PHENOL	10000	10000	50	-	-	-	-

Notes:

ND - Compound not detected
NA - Not analyzed
NS - No standard
J - Estimated value below laboratory MDL
RDCSCC - Residential Direct Contact Soil Cleanup Criteria
NRDCSCC - Non-Residential Direct Contact Soil Cleanup Criteria
IGWSCC - Impact to Ground Water Soil Cleanup Criteria
BOLD & SHADED - Indicates analytical result exceeds soil cleanup criteria
Samples containing no exceedances represent delineation samples for listed parameters
- Results not reported since compounds not applicable to delineation of other listed samples
^ - Where two depths are reported, deeper increment represents VOC fraction collection depth



Sample Number / Sample Depth (ft.) / units	RDCSCC	NRDCSCC	I-1 0.0-0.5 mg/kg	I-1A 0-0.5 mg/kg	I-1B 0-0.5 mg/kg	I-1C 0-0.5 mg/kg	I-1D 0-0.5 mg/kg	I-1E 4.0-4.5 mg/kg	I-1E-1 5.0-5.5 mg/kg	I-2 0.0-0.5 mg/kg	ARS-PS1 0.0-2.0 mg/kg	PP-16 0.0-0.5 mg/kg	B2-FD 1.5-2.0' mg/kg	II-3 0.0-0.5 mg/kg	II-4 0.5-1.0 mg/kg	II-5 0.0-0.5 mg/kg
Antimony	14	340	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	5.4	ND	ND	ND
Arsenic	20	20	**113**	**155**	**25.5**	2	5.6	**39.8**	10.4	2.8	1.3	1.6	13	6.5	0.91	1.7
Beryllium	2	2	0.24	ND	ND	ND	ND	ND	NA	0.29	ND	ND	1.1	0.14	0.12	0.15
Cadmium	39	100	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	1.8	ND	ND	ND
Chromium	120000	NR	43.3	ND	ND	ND	ND	ND	NA	31.6	18	22	111	50.5	44.9	17.1
Copper	600	600	52.5	ND	ND	ND	ND	ND	NA	77.6	22	32	328	56.8	154	61.8
Lead	400	600	159	ND	ND	ND	ND	ND	NA	58.5	22	120	**661**	44.9	5.4	28.8
Mercury	14	270	**15.2**	ND	ND	ND	ND	ND	NA	0.63	ND	ND	1.4	0.39	0.12	0.36
Nickel	250	2400	37.4	ND	ND	ND	ND	ND	NA	25	17	15	37.1	29.5	33	27
Selenium	63	3100	0.98	ND	ND	ND	ND	ND	NA	ND	ND	ND	2.4	0.51	ND	ND
Silver	110	4100	1.1	ND	ND	ND	ND	ND	NA	ND	ND	ND	1.1	ND	0.62	1.3
Thallium	2	2	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	0.76	ND	ND	ND
Zinc	1500	1500	214	ND	ND	ND	ND	ND	NA	98.1	53	46	85.3	105	44.9	49.4

Sample Number / Sample Depth (ft.) / units	RDCSCC	NRDCSCC	II-6 0.75-1.25 mg/kg	II-7 0.75-1.25 mg/kg	PP-12 0.0-0.5 mg/kg	PP-13 0.0-0.5 mg/kg	PP-14 0.0-0.5 mg/kg	B11S-S NA mg/kg	B11S-W NA mg/kg	B11S-D 1.0-1.5 mg/kg	III-10 0.5-1.0 mg/kg	III-11 0.0-0.5 mg/kg	III-12 0-.5/2.5-3 mg/kg	III-13 0-.5/2.5-3 mg/kg	PP-6 0.0-0.5 mg/kg	PP-7 0.0-0.5 mg/kg
Antimony	14	340	ND	ND	<0.83J	1.3	<0.62J	ND	ND	ND	ND	ND	4.7	2.2	1.5	7.4
Arsenic	20	20	10.3	7.9	1.6	9.0	4.8	5.2	0.019	7.7	3.2	2.4	**25.7**	10.9	1.0	1.1
Beryllium	2	2	0.35	0.12	ND	ND	ND	0.19	0.0082	ND	0.22	0.3	0.22	0.18	ND	ND
Cadmium	39	100	ND	ND	<0.83J	0.98	<0.62J	9.9	0.0152	ND	ND	ND	1.6	0.38	<0.59 J	<0.60 J
Chromium	120000	NR	21.8	147	33	22	16	17.3	0.144	12.3	80.9	175	24.1	33.4	29	58
Copper	600	600	41.5	223	100	60	30	298	0.177	50	34.9	113	52.7	68.6	61	53
Lead	400	600	78.7	415	72	180	120	216	2.1	132	45.3	118	61.2	154	89	40
Mercury	14	270	0.67	**31.9**	0.68	7.1	0.70	5.5	0.0013	1.3	1.1	3.5	0.95	0.61	0.44	1.0
Nickel	250	2400	24.5	**305**	81	21	14	32.3	0.515	11	115	147	19	13.6	34	47
Selenium	63	3100	0.83	0.36	<0.83J	0.84	<0.62J	0.77	ND	ND	ND	ND	3.5	2.5	ND	ND
Silver	110	4100	1.1	2.5	ND	ND	ND	1	ND	ND	0.91	1.1	1.4	0.62	ND	ND
Thallium	2	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2	0.9	ND	ND
Zinc	1500	1500	73.2	713	94	200	69	1310	42.5	76	115	204 B	228	35.4	93	75

Sample Number / Sample Depth (ft.) / units	RDCSCC	NRDCSCC	PP-8 0.0-0.5 mg/kg	PP-9 0.0-0.5 mg/kg	PP-10 0.0-0.5 mg/kg	PP-11 0.0-0.5 mg/kg	IV-1 0.5-1.0 mg/kg	IV-2 0.5-1.0 mg/kg	IV-3 0.5-1.0 mg/kg	IV-4 1.0-1.5 mg/kg	IV-5 0.5-1.0 mg/kg	IV-6 1.0-1.5 mg/kg	IV-7 .5-1.0 mg/kg	IV-8 .5-1.0 mg/kg	IV-9 .75-1.25 mg/kg	IV-10 .5-1.0 mg/kg
Antimony	14	340	1.5	2.4	1.4	<0.57 J	ND	ND	ND	ND	ND	8.6	ND	ND	ND	ND
Arsenic	20	20	2.0	1.9	2.1	1.1	9.5	1.4	1.9	2.4	4.3	4.3	8.2	10.8	0.69	9
Beryllium	2	2	ND	ND	ND	ND	0.29	0.33	0.09	0.14	0.36	0.23	0.35	0.14	ND	0.08
Cadmium	39	100	<0.57 J	<0.56 J	1.3	0.80	ND	ND	ND	ND	3.1	1	ND	1.5	ND	ND
Chromium	120000	NR	12	42	98	130	8.4	3.8	12.8	10.1	25.7	31.2	11.8	18.1	14.9	11.8
Copper	600	600	39	96	100	110	75.4	13.8	54.5	28.4	118	56.2	88.2	68.8	75.4	60.1
Lead	400	600	170	62	160	52	**1240**	9.5	11.6	23.2	100	222	94.1	189	3.9	**27000**
Mercury	14	270	0.56	<0.22 J	5.3	<0.23 J	1.2	ND	0.06	0.29	0.62	0.63	1.4	2.7	ND	6.4
Nickel	250	2400	17	**570**	100	150	4.5	8.9	20.5	11.4	31.8	24.3	22.4	4.7	30.2	ND
Selenium	63	3100	ND	ND	ND	ND	1	ND	ND	0.24	0.41	ND	1.4	0.86	ND	1.6
Silver	110	4100	ND	ND	ND	ND	ND	ND	0.78	ND	0.74	ND	ND	ND	ND	ND
Thallium	2	2	ND	ND	ND	ND	ND	0.35	0.29	ND	0.4	ND	ND	ND	ND	ND
Zinc	1500	1500	110	250	290	130	240	22.3	18.7	37.2	122	282	131	40.7	37.7	77.6

Sample Number / Sample Depth (ft.) / units	RDCSCC	NRDCSCC	IV-11 1-1.5 mg/kg	IV-15 0-0.5 mg/kg	IV-16 0-0.5 mg/kg	IV-17 0-0.5 mg/kg	17K-PE1 6.0-6.5 mg/kg	17K-PE2 6.0-6.5 mg/kg	17K-PE3 6.0-6.5 mg/kg	17K-PE4 6.0-6.5 mg/kg	ETBPE-1 2.0-2.5 mg/kg	ETBPE-2 6.0-6.5 mg/kg	ETBPE-3 6.0-6.5 mg/kg	ETBPE-4 6.0-6.5 mg/kg	ETBPE-5 6.5-7.0 mg/kg	PP-5 0.0-0.5 mg/kg
Antimony	14	340	ND	<6.8	<7	<7	NA	NA	NA	NA	ND	ND	ND	ND	ND	1.8
Arsenic	20	20	8.8	4.8	2	5.2	NA	NA	NA	NA	6.5	2.8	2.7	0.95	7.3	2.3
Beryllium	2	1	0.2	<.57	<.58	<.58	NA	NA	NA	NA	0.39	0.28	0.37	0.44	0.23	NA
Cadmium	39	100	ND	1.3	0.61	7.5	NA	NA	NA	NA	ND	ND	ND	0.9	1.4	1.9
Chromium	120000	NR	47.3	84.2	47.9	674	NA	NA	NA	NA	24.6	12.9	19.1	31.7	83.7	82
Copper	600	600	93.4	208	504	241	NA	NA	NA	NA	30.2	13.6	30.2	22.1	262	160
Lead	400	600	206	127	65.1	316	178	ND	ND	ND	ND	8	49.8	20.3	240	140
Mercury	14	270	1.2	1.2	0.55	2.8	NA	NA	NA	NA	0.26	ND	0.19	0.08	0.6	2.0
Nickel	250	2400	112	248	207	704	NA	NA	NA	NA	ND	13.8	26.7	24.2	41.8	230
Selenium	63	3100	3.8	<11	<12	<12	NA	NA	NA	NA	4.2	ND	0.3	ND	1.9	NA
Silver	110	4100	ND	<1.1	<1.2	<1.2	NA	NA	NA	NA	ND	ND	ND	4	ND	NA
Thallium	2	2	ND	**8.2**	1.2	**2.7**	NA	NA	NA	NA	ND	ND	ND	ND	ND	NA
Zinc	1500	1500	132	174	90.2	816	NA	NA	NA	NA	9.5	36.2	49.2	57.2	97.2	150

Sample Number / Sample Depth (ft.) / units	RDCSCC	NRDCSCC	PP-4 0.0-0.5 mg/kg	VI-1 0-0.5 mg/kg	VI-2 0-0.5 mg/kg	VI-3 0-0.5 mg/kg	VI-4 0-0.5 mg/kg	VI-5 4.0-4.5 mg/kg	VI-6 0.5-1.0 mg/kg	VI-7 3.5-4.0 mg/kg	VI-7N 5.5-6.0 mg/kg	VI-8 0.25-0.75 mg/kg	VI-9 3.5-4.0 mg/kg	VI-9N 5.5-6.0 mg/kg	VI-10 0.5-1.0 mg/kg	VI-11 4.5-5.0 mg/kg
Antimony	14	340	2.6	ND	ND	ND	ND	26	8.2	ND	ND N	ND	8.1	ND	3.9	4.6
Arsenic	20	20	17	**68.6**	7.7	4.6	7.5 S	**80.3**	4.6	15	1	3.7	2.1	1.7	5.9	2.2
Beryllium	2	1	**2.4**	**4.4**	0.52 B	0.41 B	0.26 B	0.69	20.2	0.22	0.17 B	0.34	0.16	0.18	0.17	0.12
Cadmium	39	100	2.8	1.2	0.71	0.78	9.2	**47.6**	2.5	3.9	ND	ND	ND	ND	ND	ND
Chromium	120000	NR	260	103	56.6	157	444	5960	214	982	11.7 N*	41.2	265	33.8	34.1	208
Copper	600	600	**1,300**	457	**1010**	307	267	**4860**	**1130**	**828**	5.4 *	72.9	90.9	35.7	51.7	105
Lead	400	600	**490**	**433**	297	284	**766**	**1000**	**1600**	329	4.6 B	156	63.6	24.2	57.9	64.3
Mercury	14	270	7.6	3.4	6.9	2.6	3.4	**987**	1.6	9	ND	2.6	0.83	0.05	0.55	2.1
Nickel	250	2400	**3,500**	**376**	**998**	**543**	**395**	**432**	705	1540	8.1	58.7	56	55.6	74.9	820
Selenium	63	3100	4.0	23.8 S	2	2.2 S	3.6 S	6.3	5.2	1.2	ND	0.65	0.51	0.51	1	0.4
Silver	110	4100	<10 J	0.77 B	0.58 B	0.93 B	1.3	10.7	3.2	0.57	ND	ND	ND	ND	ND	ND
Thallium	2	2	NA	1.1 B	ND	ND	ND	ND	ND	ND	ND	0.53	0.4	0.32	ND	0.42
Zinc	1500	1500	380	732	160	228	784	**3200**	**3680**	315	19.4 N	210	120	46.7	76.2	74

Sample Number / Sample Depth (ft.) / units	RDCSCC	NRDCSCC	VI-11N 5.5-6.0 mg/kg	VI-12 1.5-2.0 mg/kg	VI-12-SED 5.5-6.0 mg/kg	VI-12N 7.5-8.0 mg/kg	VI-13 2.5-3.0 mg/kg	VI-13-SED 5.0-5.5 mg/kg	VI-13N 7.5-8.0 mg/kg	VI-16 0.0-0.5 mg/kg	VI-PD1 4.5-5.0 mg/kg	VI-PD2 7.0-7.5 mg/kg	VI-PD3 5.5-6.0 mg/kg	VI-PD4 5.0-5.5 mg/kg	VI-PD5 5.5-6.0 mg/kg	VI-PD6 5.5-6.0 mg/kg
Antimony	14	340	5	ND	ND	ND	ND	ND	ND	<11	ND N	ND N	ND N	6.7 BN	ND N	5.9 BN
Arsenic	20	20	1.1	1.7	8.4	1	3.2	2.6	7.3	**29**	0.93	1.9	6	1.2	1	2.9
Beryllium	2	1	0.19	0.25	0.22	0.27 B	0.34	0.38	0.57 B	<0.91	0.16 B	0.25 B	0.35 B	0.19 B	0.19 B	0.22 B
Cadmium	39	100	ND	ND	1.1	ND	ND	ND	ND	64	ND	ND	ND	ND	ND	5.3
Chromium	120000	NR	37.3	28.8	313	14.1	41.4	753	24.9	3600	11.9	35.9	27.8	12.7	12.3	116
Copper	600	600	24.1	73	2940	14	79.7	467	24.6	**24000**	8.1	**865**	16.7	19.1	20.9	181
Lead	400	600	9.9	38.1	3160	ND	143	150	6.8	**2600**	ND	337	ND	16	3.9 B	503
Mercury	14	270	0.16	0.47	5.6	ND	0.85	2.7	ND	59	ND	3.4	ND	0.08 B	ND	ND
Nickel	250	2400	113	27.8	3080	17.8	202	1680	25	**3100**	5.1 B	53.9	8.3	14.7	6.8	54.9
Selenium	63	3100	0.29	0.24	0.76	ND	0.31	ND	ND	<18	ND	0.31 B	3.1	ND	ND	0.79
Silver	110	4100	ND	ND	2.3	ND	ND	1.4	ND	17	ND	ND	ND	ND	ND	ND
Thallium	2	2	0.38	ND	ND	ND	ND	ND	ND	**4.4**	0.34 B	ND	ND	ND	ND	ND
Zinc	1500	1500	39.5	80.5	458	31	85.9	168	66.5	**1800**	27.8	102	10.1	38	30.7	474

Sample Number / Sample Depth (ft.) / units	RDCSCC	NRDCSCC	VII-8 1.0-1.5 mg/kg	VII-9 0.0-0.5 mg/kg	VII-16 0.5-1.0 mg/kg	PP-1 0.0-0.5' mg/kg	PP-2 0.0-0.5' mg/kg	PP-3 0.0-0.5' mg/kg	PP-15 0.0-0.5' mg/kg	VIII-2 0.0-0.5 mg/kg	VIII-3 0.0-0.5 mg/kg	VIII-4 0.0-0.5 mg/kg	VIII-5 0.0-0.5 mg/kg	VIII-6 0.0-0.5 mg/kg	VIII-7 0.0-0.5 mg/kg	VIII-8 0.0-0.5 mg/kg
Antimony	14	340	**16.9**	ND	ND	<0.75 J	40	14	<0.59 J	ND	ND	ND	ND	ND	ND	86.9
Arsenic	20	20	**26.4**	3.3	3.6	1.8	4.3	15	2.5	1.9	3.1	5.3	1.2 S	5.4 S	6.9	10.4 S
Beryllium	2	1	0.08	0.24	0.35	NA	NA	NA	NA	0.68	0.25 B	0.5 B	0.18 B	0.23 B	0.2 B	0.33 B
Cadmium	39	100	21.2	ND	ND	<0.75 J	42	33	<0.59 J	ND	ND	ND	ND	ND	ND	**109**
Chromium	120000	NR	142	9.8	43.9	28	280	430	33	12	560	47.4	32.7	63.9	218	512
Copper	600	600	536	40.7	37.4	43	150	360	82	15.9	72.4	51	124	98.2	37.8	207
Lead	400	600	**2140**	89.8	226	31	**1,800**	**3,700**	80	25.3	110	174	12	**578**	**407**	**2660**
Mercury	14	270	0.86	1.9	0.1	0.29	2.8	3.2	1.3	ND	2.1	1.5	0.21	1.6	1.9	5.4
Nickel	250	2400	122	11.6	19.8	21	**300**	**580**	190	16.9	203	149	**298**	**448**	36.8	**270**
Selenium	63	3100	15.7	ND	0.71	<0.75 J	14	7.1	<0.59 J	0.48 BS	0.25 B	0.82	ND	2.1 S	0.44 B	42.4 S
Silver	110	4100	NA	NA	NA	<4.5 J	14	<7.3 J	<3.5 J	ND	ND	ND	ND	0.72 B	ND	15.2
Thallium	2	2	0.38	ND	0.36	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	0.59 BS
Zinc	1500	1500	207	106	1090	51	690	1,100	80	64.8	217	2	44.1	163	75	894

Sample Number / Sample Depth (ft.) / units	RDCSCC	NRDCSCC	VIII-8A 0.0-0.5 mg/kg	VIII-8A (b) 0.0-0.5 mg/kg	VIII-9 0.0-0.5 mg/kg	VIII-9A 0.0-0.5 mg/kg	VIII-9B 0.0-0.5 mg/kg	VIII-9C 0.0-0.5 mg/kg	VIII-9D 5.5-6.0 mg/kg	VIII-9E 0-0.5 mg/kg	VIII-9F 0-0.5 mg/kg	VIII-9G 0-0.5 mg/kg	VIII-9H 0-0.5 mg/kg	VIII-10 0.0-0.5 mg/kg	VIII-10A 0.0-0.5 mg/kg	VIII-11 0.0-0.5 mg/kg
Antimony	14	340	NA	NA	89.2	NA	NA	NA	NA	NA	NA	NA	NA	136	NA	55
Arsenic	20	20	NA	NA	12.1 S	NA	NA	NA	9.1	NA	NA	NA	NA	9.3 S	NA	6.1 S
Beryllium	2	1	NA	NA	0.47 B	NA	NA	NA	0.57	NA	NA	NA	NA	0.31 B	NA	**1.6**
Cadmium	39	100	36.5	**124**	64.2	9.3	NA	52.4	11.7	NA	NA	NA	NA	**136**	5.4	37
Chromium	120000	NR	264	2140	604	234	2550	473	146	98	210	350	110	951	66.8	846
Copper	600	600	NA	NA	210	NA	NA	NA	NA	NA	NA	NA	NA	296	NA	232
Lead	400	600	**1400**	**12000**	**2790**	**814**	**3510**	**2260**	**514**	180	**1100**	**1800**	**770**	**5490**	**439**	**3890**
Mercury	14	270	NA	NA	11.6	NA	NA	NA	NA	NA	NA	NA	NA	6.2	NA	3.4
Nickel	250	2400	NA	NA	159	NA	NA	NA	NA	NA	NA	NA	NA	**370**	NA	**284**
Selenium	63	3100	NA	NA	21.7	NA	NA	NA	NA	NA	NA	NA	NA	32.9	NA	5.7
Silver	110	4100	NA	NA	31.8	NA	NA	NA	NA	NA	NA	NA	NA	13.2	NA	1.1 B
Thallium	2	2	NA	NA	0.26 BS	NA	NA	NA	NA	NA	NA	NA	NA	ND S	NA	ND
Zinc	1500	1500	NA	NA	1420	396	NA	NA	485	NA	NA	NA	NA	**2030**	185	941

Sample Number / Sample Depth (ft.) / units	RDCSCC	NRDCSCC	VIII-11A 0.0-0.5 mg/kg	VIII-11B 0.0-0.5 mg/kg	VIII-11C 0.0-0.5 mg/kg	VIII-11C (b 0.0-0.5 mg/kg	VIII-12 0.0-0.5 mg/kg	VIII-12A 0.0-0.5 mg/kg	VIII-13 0.0-0.5 mg/kg	VIII-13A 0.0-0.5 mg/kg	VIII-13B 0.0-0.5 mg/kg	VIII-13C 0.0-0.5 mg/kg	VIII-13D 4.0-4.5 mg/kg	VIII-14 0.0-0.5 mg/kg	VIII-14A 0.0-0.5 mg/kg	VIII-15 0.0-0.5 mg/kg
Antimony	14	340	NA	NA	NA	NA	197	NA	ND	NA	NA	NA	NA	ND	NA	ND
Arsenic	20	20	NA	NA	NA	NA	13.9 S	NA	5.5	NA	NA	NA	2.1	9.6 S	NA	**25.3 S**
Beryllium	2	1	0.23	0.29	0.81	0.1	0.4 B	NA	0.52 B	NA	NA	NA	0.35	0.21 B	NA	0.47 B
Cadmium	39	100	1.9	**83.8**	NA	NA	**46.7**	NA	18.6	NA	NA	NA	NA	11.1	NA	8.3
Chromium	120000	NR	44.8	901	190	3090	871	63.3	189	NA	NA	112	33	145	NA	225
Copper	600	600	NA	NA	NA	NA	**688**	122	215	NA	NA	141	11.8	177	NA	293
Lead	400	600	298	**11000**	**1070**	**17300**	**19600**	**653**	**1160**	**7220**	**1010**	**911**	ND	**1640**	154	**1470**
Mercury	14	270	NA	NA	NA	NA	14.4	NA	2.9	NA	NA	NA	ND	8.4	NA	5.5
Nickel	250	2400	NA	NA	NA	NA	150	NA	**309**	NA	NA	NA	3.1	241	NA	**495**
Selenium	63	3100	NA	NA	NA	NA	24.3	NA	4.5	NA	NA	NA	9.9	3.9	NA	3.8
Silver	110	4100	NA	NA	NA	NA	7	NA	0.73 B	NA	NA	NA	9.9	ND	NA	1.1 B
Thallium	2	2	NA	NA	NA	NA	0.59 BS	NA	ND	NA	NA	NA	NA	0.44 BS	NA	0.7 BS
Zinc	1500	1500	103	NA	NA	NA	1380	NA	392	NA	NA	NA	9.9	521	NA	1270

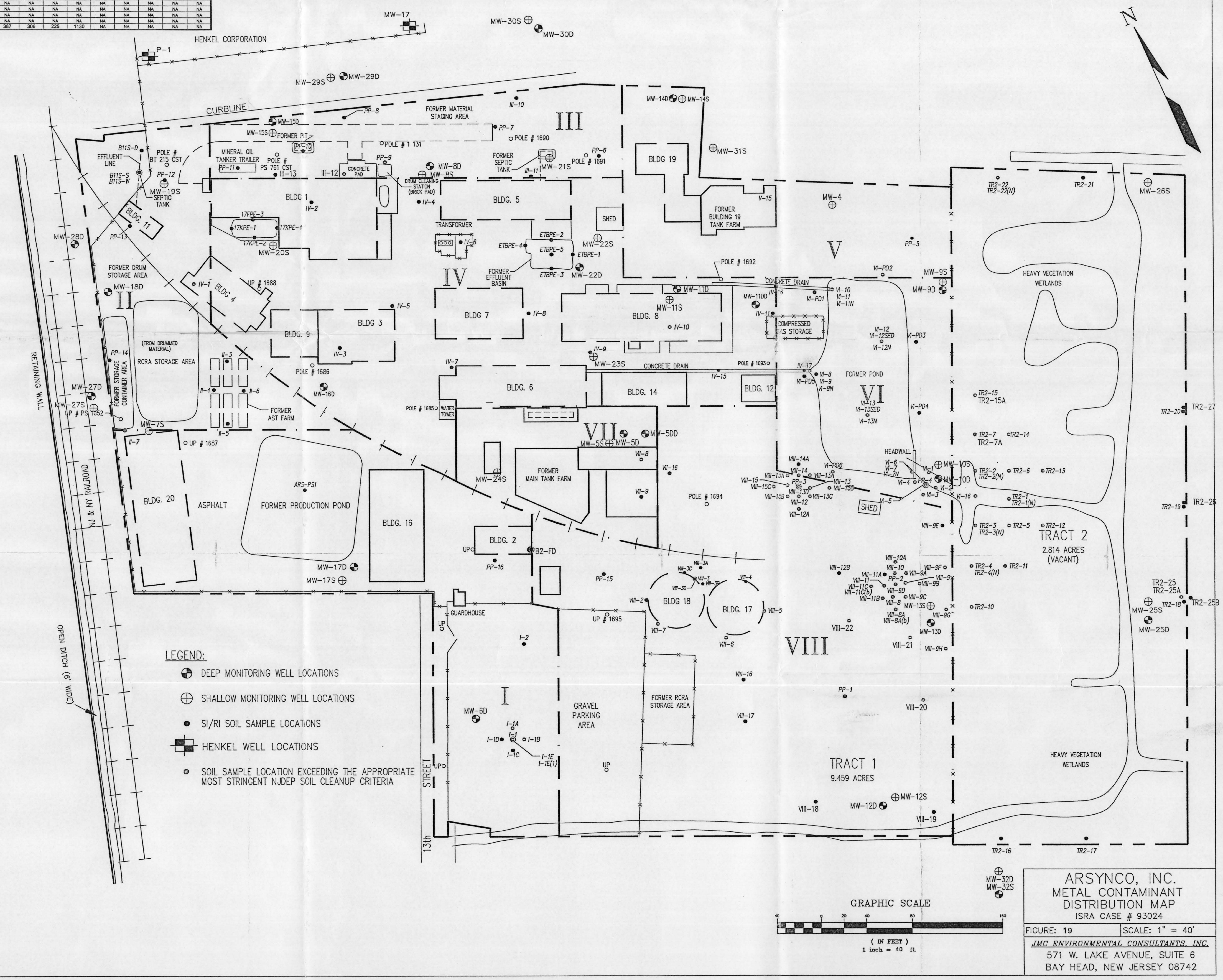
Notes:

ND - Compound not detected
NA - Not analyzed
NS - No standard
J - Estimated value below laboratory MDL
RDCSCC - Residential Direct Contact Soil Cleanup Criteria
NRDCSCC - Non-Residential Direct Contact Soil Cleanup Criteria
IGWSCC - Impact to Ground Water Soil Cleanup Criteria
BOLD & SHADED - Indicates analytical result exceeds soil cleanup criteria
Samples containing no exceedances represent delineation samples for listed parameters
- Results not reported since compounds not applicable to delineation of other listed samples
^ - Where two depths are reported, deeper increment represents VOC fraction collection depth

Sample Number / Sample Depth (ft.) / units	RDCSCC	NRDCSCC	VIII-15A 0.0-0.5 mg/kg	VIII-15B 0.0-0.5 mg/kg	VIII-15C 0.0-0.5 mg/kg	VIII-16 0.0-0.5 mg/kg	VIII-17 0.0-0.5 mg/kg	VIII-18 2.75-3.25 mg/kg	VIII-19 .5-1/2.5-3 mg/kg	VIII-20 3.5-4.0 mg/kg	VIII-21 3.5-4.0 mg/kg	VIII-22 .5-1/3.-3.5 mg/kg	TR2-1 0.0-0.5 mg/kg	TR2-2 0.0-0.5 mg/kg	TR2-3 0.0-0.5 mg/kg	TR2-4 0-.5/ .5-1 mg/kg
Antimony	14	340	NA	NA	NA	ND	ND	2.1	1	5.8	**65.6**	**364**	< 7.5	8.5	< 6.6	**< 38**
Arsenic	20	20	6.2	15.1	19.4	0.46 B	0.39 B	11.8	2.8	4.5	1.4	0.75	**95**	**31**	**82**	**36**
Beryllium	2	1	NA	NA	NA	0.2 B	0.16 B	0.25	0.47	0.1	0.25	0.11	NA	NA	NA	NA
Cadmium	39	100	NA	NA	NA	ND	ND	2.5	0.33	24.3	**141**	**237**	23	**40**	20	11
Chromium	120000	NR	NA	160	NA	7.9	4.8	17.1	14.9	159	505	1180	4100	3400	4200	2900
Copper	600	600	NA	177	NA	11.8	4.5	51.3	12.7	109	266	53.7	**1200**	**2100**	**2100**	**2200**
Lead	400	600	**763**	**992**	**1180**	4.7 B	2.8 B	58.6	11.3	**1140**	**2660**	**6530**	**970**	**2100**	**830**	**710**
Mercury	14	270	NA	NA	NA	ND	ND	0.06	0.04	0.58	0.42	0.14	**190**	**36**	**240**	**47**
Nickel	250	2400	NA	NA	NA	90.6	3.3 B	56.8	11.1	43.5	4.1	12.3	**1100**	**3300**	**1700**	**3800**
Selenium	63	3100	NA	NA	NA	ND	ND	2.4	0.65	5.2	20	24.2	NA	NA	NA	NA
Silver	110	4100	NA	NA	NA	ND	ND	0.59	0.56	0.97	0.83	0.75	NA	NA	NA	NA
Thallium	2	2	NA	NA	NA	ND	ND	0.85	0.8	1.4	1.2	1.1	**4**	**5**	**3.4**	1.2
Zinc	1500	1500	NA	NA	NA	28.2 S	11.1	92.4	29.9	**1500**	**2610**	**4420**	**4100**	**3300**	**3000**	**1500**

Sample Number / Sample Depth (ft.) / units	RDCSCC	NRDCSCC	TR2-5 0-.5/ .5-1 mg/kg	TR2-6 0-.5/ .5-1 mg/kg	TR2-7 0-.5/ .5-1 mg/kg	TR2-7A 4.5 - 5.0 mg/kg	TR2-10 0.0-0.5 mg/kg	TR2-11 0.0-0.5 mg/kg	TR2-12 0.0-0.5 mg/kg	TR2-13 0.0-0.5 mg/kg	TR2-14 0.0-0.5 mg/kg	TR2-15 0.0-0.5 mg/kg	TR2-15A 4.5 - 5.0 mg/kg	TR2-16 0.0-0.5 mg/kg	TR2-17 0.0-0.5 mg/kg	TR2-18 0.0-0.5 mg/kg
Antimony	14	340	**< 35**	**< 30**	**43**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	20	20	**99**	**31**	**41**	NA	**22**	**23**	**33**	**34**	**64**	**27**	NA	6.9	6.9	3.7
Beryllium	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	39	100	15	4.8	13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	120000	NR	2600	540	690	NA	560	630	520	2100	620	4900	NA	NA	NA	NA
Copper	600	600	**800**	290	510	NA	550	270	250	NA	NA	NA	NA	NA	NA	NA
Lead	400	600	**530**	**720**	**1300**	17.3	310	270	NA	360	290	**880**	8.6	NA	NA	NA
Mercury	14	270	**210**	**30**	**31**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	250	2400	**550**	**470**	**950**	NA	210	230	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	63	3100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	110	4100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2	2	< 1.1	< 1	< 1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	1500	1500	**2400**	**1600**	**2700**	NA	840	1000	**2000**	**1600**	**1900**	**1900**	NA	NA	344	NA

Sample Number / Sample Depth (ft.) / units	RDCSCC	NRDCSCC	TR2-19 0.0-0.5 mg/kg	TR2-20 0.0-0.5 mg/kg	TR2-21 0.0-0.5 mg/kg	TR2-22 0.0-0.5 mg/kg	TR2-25 0.0-0.5 mg/kg	TR2-25A 1.5-2.0 mg/kg	TR2-25B 0.0-0.5 mg/kg	TR2-26 0.0-0.5 mg/kg	TR2-27 0.0-0.5 mg/kg
Antimony	14	340	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	20	20	8.7	3.8	4.6	**43.3**	NA	NA	NA	NA	NA
Beryllium	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	39	100	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	120000	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	600	600	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	400	600	NA	NA	NA	288	**443**	350	267	262	297
Mercury	14	270	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	250	2400	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	63	3100	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	110	4100	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	1500	1500	387	306	225	1130	NA	NA	NA	NA	NA



ARSYNCO, INC.
METAL CONTAMINANT DISTRIBUTION MAP
ISRA CASE # 93024

FIGURE: 19 | SCALE: 1" = 40'

JMC ENVIRONMENTAL CONSULTANTS, INC.
571 W. LAKE AVENUE, SUITE 6
BAY HEAD, NEW JERSEY 08742

Compound Date	1,2-DCB	1,3-DCB	1,4-DCB	1,2,4-TCB
Solubility [a]	92,300	123,000	80,000	34,600
October 1989	**26,000	*2,600	*3,700	**6,700
July 1990	**10,000	*1,800	*2,600	*3,300
November 1996	**12,000	*1,400	*1,800	*2,000
February 1997 [b]	**92,000	<1,900	<1,900	**90,000
August 1997 [c]	**26,000	*2,900	*3,900	**11,000
April 1998	*6,700	940	750	*1,400
September 1998 [b]	**2,400,000	**280,000	**360,000	**2,100,000
March 1999	**12,000	1,200	*1,000	83,000
September 1999	**18,000	*1,600	*2,200	*3,400
June 2000 [d,e]	NA	NA	NA	NA
December 2000 [d,f]	NA	NA	NA	NA

Notes: ND – not detected.
NA - not analyzed.
** - concentration exceeded 10% of solubility
* - concentration exceeded 1% of solubility.
a. Solubility in deionized water. Field solubility will be lower (Yaws, et al. 2002).
b. Results exceed solubility for at least one compound. DNAPL mixed with aqueous sample.
c. A separate NAPL phase was observed during sampling.
d. DNAPL issue not addressed by excluding MW-17 results from reported overall site averages.
e. Begin reporting with specific category for DNAPL in monitoring well MW-17.
f. DNAPL measured in the well.

Table D-1 Dichlorobenzenes (DCB) and 1,2,4-trichlorobenzene (TCB) analytical results in Henkel monitoring well MW-17. All concentrations are in μg/L.

Compound Date	1,2-DCB (μg/L)	1,3-DCB (μg/L)	1,2,4-TCB (μg/L)	1,4-DCB (μg/L)	Chloride (mg/L)
2/1/1995	<1	<1	<1	<1	N.A.
4/10/1996	<1	<1	<1	<1	N.A.
1/14/1997	N.A.	N.A.	N.A.	N.A.	N.A.
4/28/1998	N.A.	N.A.	N.A.	N.A.	N.A.
7/7/1999	<1	N.A.	N.A.	6.4	N.A.
3/16/2001	16.1	N.A.	N.A.	14.8	N.A.
3/4/2002	19.0	2.1	<1	22.0	3600
5/19/2003	7.4	1.3	0.77	5.4	2660

Table D-2 Analytical results for Arsynco well MW-8D that are related to the DNAPL in Henkel well MW-17.

Note: All three DCB isomers and TCB have been identified as components in the DNAPL present in Henkel well MW-17. 1,2-DCB and 1,2,4-TCB are the primary components of the Henkel DNAPL. 1,4-DCB and chloride are degradation products of the sequential degradation of 1,2,4-TCB.

Sample Date	Compound	Reported Concentration (μg/L)	Fraction or Multiple of Solubility
February 1997	1,2-DCB	92,000	0.997
	1,2,4-TCB	90,000	2.6
September 1998	1,2-DCB	2,400,000	26
	1,3-DCB	280,000	2.3
	1,4-DCB	360,000	4.5
	1,2,4-TCB	2,100,000	61

Table D-3 Samples results from Henkel monitoring well MW-17 in which reported dichlorobenzene or trichlorobenzene isomers exceeded solubility.