State of Illinois
ENVIRONMENTAL PROTECTION AGENCY

0000017

Mary A. Gade, Director

2200 Churchill Road, Springfield, IL 62794-9276

DATE: September 6, 1994

TO: Donald Bruce, USEPA

FROM: Judy J. Triller, IEPA

SUBJECT: VACANT LOT, ILD 984 775 437

The Vacant Lot site is located in the city of North Chicago in an area consisting of industrial, commercial and residential properties. The lot itself is approximately 1.8 acres, and a small stream known as Pettibone Creek runs through the site draining into Lake Michigan approximately 1 mile downstream from the lot. The majority of the site is covered with fill material.

Sources indicate that various materials have been deposited at the site since the early 1900s, some as waste material and some for fill. These materials include smelting/foundry wastes. The lot was utilized as a parking lot around the 1950s. More recently, as the name implies, the property has been vacant. In 1988 a fire was reported a the site. The local fire department determined that fill material at the site had become heated, igniting nearby brush.

Access to the site is not restricted in any way, and during IEPA visits, people have been seen walking through the lot and visiting the creek area. A portion of the site is also known to be inhabited by homeless people during warm weather.

Enclosed you will find a summary of the analytical data obtained from site samples as well as a site map. Samples were collected from surficial site soil (X102 - X107), residential surficial soil (X108 - X111), site groundwater (G101 - G104), and from the bed of Pettibone Creek (X202 - X205). The residential soil samples were collected from an area northeast of the site to determine whether an associated smelting operation (former operators may have deposited materials at the vacant lot) is impacting the area. Groundwater is not utilized as a source of drinking water in the vicinity of the site. Compounds found in excess of removal action levels or within removal range include: arsenic (X102-X105, X107, X108, X111, X112), beryllium (X102, X104, X105), cadmium (X102), chromium (X102), copper (X102, X104, X105, X107), and lead (X102-X105, X107-X111).

Thank you for taking the time to review this information. If you have any questions concerning this site please contact me at 217-524-1653.

EPA Region 5 Records Ctr.
229823

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VACANT LOT
ILD984775437

TABLE 3-2

GROUNDWATER AND SEDIMENT SAMPLE SUMMARY
N.A. = Not Analyzed

SAMPLING POINT	G101 Grd. Wtr. Bkgrd. 5-5-93	G102 Grd. Wtr. 5-5-93	G103 Grd. Wtr. 5-5-93	G104 Dup. of G103 5-5-93	X201 Sed. Bkgrd. 5-5-93	X202 Sediment 5-4-93	X203 Sediment 5-4-93	X204 Sediment 5-4-93	X205 Sediment 5-4-93
PARAMETER									
VOLATILES	ug/l	ug/l	ug/l	ug/l	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Bromomethane	--	--	--	--	--	--	--	--	--
Vinyl Chloride	10.000 U	2600.000 D	--	--	13.000 U	--	58.000	2200.000	140.000
Chloroethane	--	--	--	--	--	--	--	--	--
Acetone	10.000 U	5.000 J	--	--	7.000 J	21.000	1200.000	--	15.000 J
Carbon Disulfide	--	--	--	--	13.000 U	3.000 J	--	--	--
1,1-Dichloroethene	10.000 U	59.000	--	--	--	--	--	--	--
1,1-Dichloroethane	10.000 U	7.000 J	--	--	13.000 U	--	47.000	--	--
1,2-Dichloroethene (total)	10.000 U	410.000 DJ	--	--	13.000 U	61.000	1900.000	6600.000	220.000
Chloroform	--	--	--	--	13.000 U	--	4.000 J	--	--
2-Butanone	--	--	--	--	13.000 U	4.000 J	7.000 J	--	4.000 J
1,1,1-Trichloroethane	--	--	--	--	13.000 U	--	230.000	--	--
Trichloroethene	10.000 U	97.000	--	--	13.000 U	89.000	82.000	560.000 J	--
4-Methyl-2-Pentanone	--	--	--	--	13.000 U	--	3.000 J	--	--
Tetrachloroethene	--	--	--	--	13.000 U	--	11.000 J	--	--
Toluene	--	--	--	--	13.000 U	--	10.000 J	--	--
Ethylbenzene	--	--	--	--	13.000 U	--	5.000 J	--	--
Xylene (total)	--	--	--	--	13.000 U	--	31.000 J	--	--
2-Heptanone	--				--		110.000 JN		
Methane, Thiobis	--	--	--	--	--	22.000 JN	--	--	--
SEMIVOLATILES	ug/l	ug/l	ug/l	ug/l	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Carbazole	--	--	--	--	430.000 U	--	--	1100.000 J	1500.000 J
Naphthalene	--	--	--	--	430.000 U	--	--	250.000 J	--
Acenaphthene	--	--	--	--	430.000 U	--	--	380.000 J	560.000 J
4-Nitrophenol	--	--	--	--	1000.000 R	21000.000 R	--	--	--
4-Nitroaniline	--	--	--	--	1000.000 R	21000.000 R	--	2900.000 R	5100.000 R
Phenanthrene	--	--	--	--	290.000 J	--	2100.000 J	5600.000	9500.000
Anthracene	--	--	--	--	430.000 U	--	--	500.000 J	1100.000 J
Fluoranthene	--	--	--	--	820.000	3900.000 J	3400.000 J	7400.000	14000.000
Pyrene	--	--	--	--	470.000	4200.000 J	3500.000 J	5400.000	13000.000
Benzo(a)anthracene	--	--	--	--	380.000 J	2800.000 J	--	2700.000	7300.000
Chrysene	--	--	--	--	430.000 U	--	--	2800.000	7500.000
bis(2-Ethylhexyl)phthalate	--	--	--	--	270.000 J	13000.000	34000.000	--	--
Benzo(b)fluoranthene	--	--	--	--	780.000	--	--	3100.000	7100.000
Benzo(k)fluoranthene	--	--	--	--	430.000 U	--	--	2800.000	7800.000
Benzo(a)pyrene	--	--	--	--	410.000 J	2000.000 J	--	2800.000	8200.000
Indeno(1,2,3-cd)pyrene	--	--	--	--	210.000 J	--	--	--	2800.000
Benzo(g,h,i)perylene	--	--	--	--	480.000 U	--	--	--	3000.000
Dioctadecanoic(2ET,HXL) EST	--	--	--	--	--	170000.000 JN	--	--	--
PESTICIDES	ug/l	ug/l	ug/l	ug/l	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
alpha-BHC	0.007 JP	0.006 JP	0.006 JP	--	2.200 UJ	--	--	1.300 JP	1.400 J
beta-BHC	0.080 U	--	--	0.035 JP	2.200 U	--	--	--	--
gamma-BHC (Lindane)	--	--	--	--	2.200 UJ	2.000 J	--	--	--
Heptachlor	--	--	--	--	2.800 U	--	2.000 JP	--	--
Aldrin	0.004 JP	0.004 JP	0.006 JP	--	1.800 JP	10.000 P	11.000 P	27.000	8.000 P
Heptachlor epoxide	--	--	--	--	1.300 J	6.000 P	2.200 JP	28.000	8.800 P
4,4'-DDE	--	--	--	--	46.000 PJ	--	--	--	--
Dieldrin	0.100 U	0.008 JP	--	--	3.300 JP	--	100.000 P	--	--
Endosulfan II	--	--	--	--	4.800 U	28.000	--	--	13.000
4,4'-DDD	--	--	--	--	98.000 PJ	--	--	--	--
Endosulfan sulfate	--	--	--	--	13.000	47.000	--	44.000	--
4,4'-DDT	0.008 JP	--	0.008 JP	0.008 JP	80.000 PJ	4.300 JP	42.000 PJ	21.000 P	200.000 D
Endrin Ketone	--	--	--	--	4.300 U	23.000 P	--	28.000 P	--
alpha-Chlordane	0.008 JP	0.008 J	0.004 JP	--	2.200 J	12.000	3.100 P	18.000 P	30.000
gamma-Chlordane	--	--	--	--	1.700 J	7.100 P	22.000	20.000 P	28.000
Aroclor-1248	--	--	--	--	480.000 U	--	--	--	--
Aroclor-1254	1.000 U	--	0.190 JP	--	84.000 JPD	900.000 D	1500.000 PD	2900.000 PD	--
Aroclor-1260	--	--	--	--	480.000 U	880.000 PD	2300.000 PD	4700.000 DC	3100.000 PD
INORGANICS	ug/l	ug/l	ug/l	ug/l	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum	28.400 B	--	--	--	5800.000	6270.000	2020.000	6830.000	4420.000
Arsenic	--	--	--	--	3.880	9.370	4.670	5.840	21.900
Barium	107.000 BJ	61.700 BJ	61.700 BJ	63.200 BJ	31.000	81.200	38.600	60.700	58.500
Beryllium	--	--	--	--	0.510 B	5.100	--	1.400 B	0.860 B
Cadmium	18.400	--	--	--	1.300 U	3.300	--	--	--
Calcium	133000.000	108000.000	118000.000	121000.000	54600.000	52200.000	14600.000	37800.000	38000.000
Chromium	--	--	--	--	12.200	29.000	7.600	17.600	21.000
Cobalt	--	--	--	--	6.000 B	7.200 B	3.200 B	8.200 B	4.800 B
Copper	156.000	--	--	--	17.200	3120.000	74.500	758.000	157.000
Iron	108.000	--	--	--	13000.000	19000.000	5380.000	17600.000	11900.000
Lead	6.100 J	--	--	1.550 BJ	18.600	1410.000	86.700	778.000	258.000
Magnesium	24900.000	46400.000	48700.000	44600.000	28800.000	28800.000	7770.000	18800.000	19000.000
Manganese	38.600	591.000	902.000	1060.000	905.000	476.000	136.000	319.000	274.000
Mercury	--	--	--	--	0.180	0.470	0.086 B	0.880	0.300
Nickel	42.600	15.000 B	--	--	14.800	60.100	6.700 B	27.700	18.400
Potassium	18400.000	4230.000	4860.000 B	4860.000 B	1380.000	637.000 B	486.000 B	1150.000 B	740.000 B
Silver	--	--	--	--	0.840 U	0.800 B	--	1.900 B	--
Sodium	10900.000	75800.000	28800.000	28800.000	193.000 B	808.000 B	128.000 B	589.000 B	512.000 B
Vanadium	--	--	--	--	15.600	14.100	5.400 B	18.800	13.900
Zinc	7170.000	--	--	--	70.700	8480.000	300.000	3270.000	886.000
Sulfate	40200.000	77700.000	88000.000	87100.000	N.A.	N.A.	N.A.	N.A.	N.A.
Boron	510.000	3880.000	857.000	825.000	2.400 U	109.000	--	28.400	--

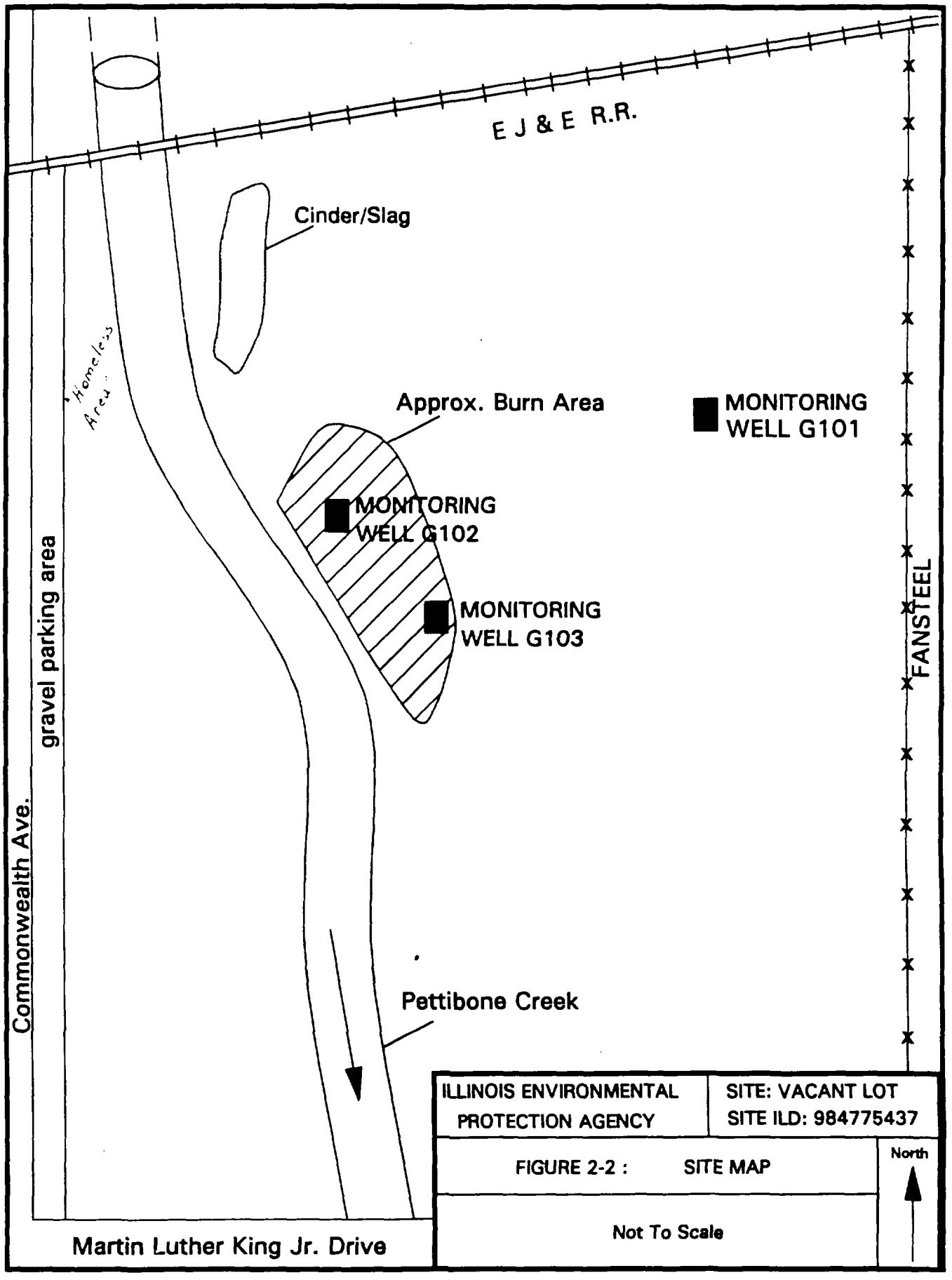
VACANT LOT
ILD984775437

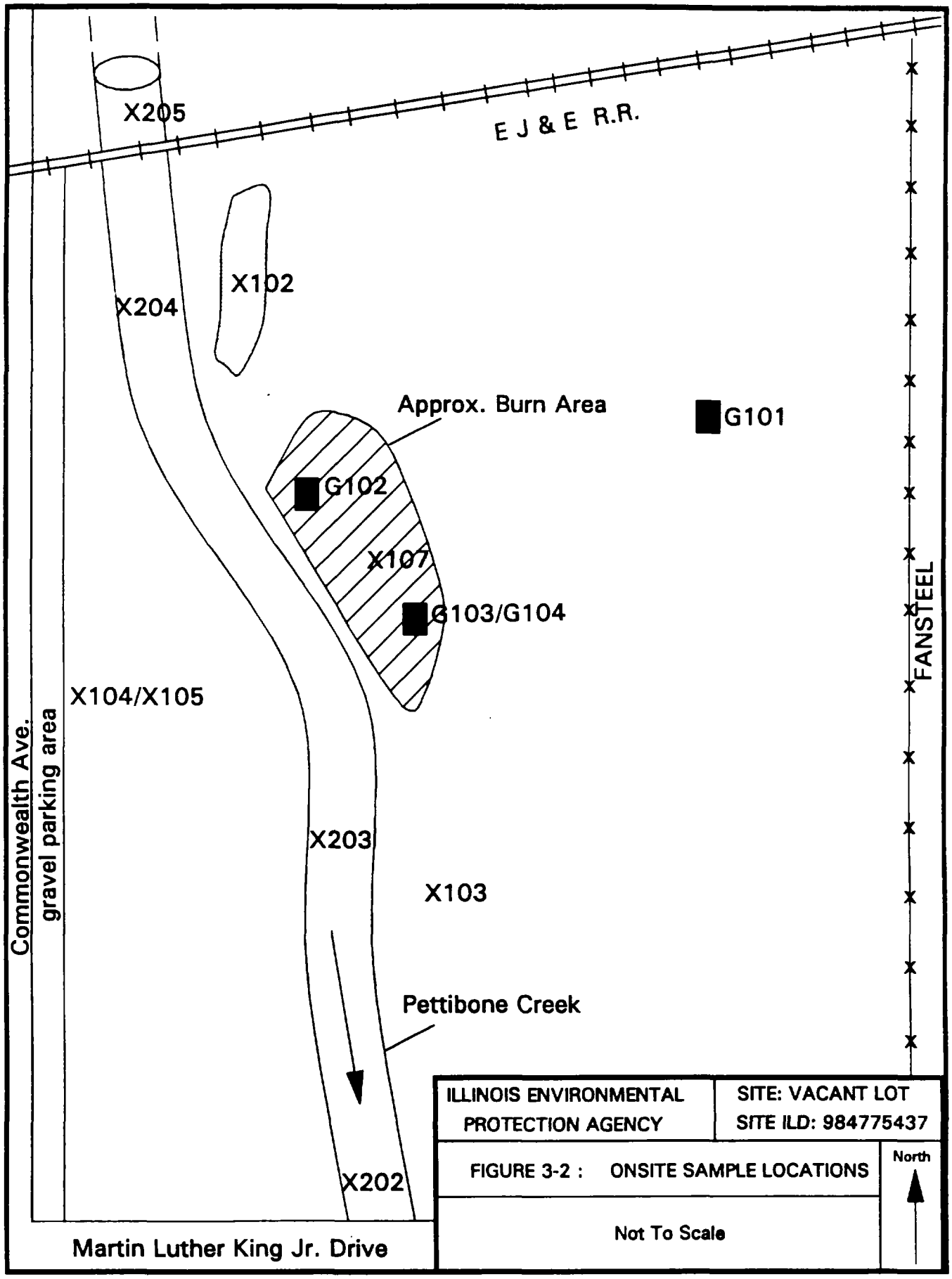
TABLE 3-3

SOIL SAMPLE SUMMARY
N.A. = Not Analyzed

SAMPLING POINT	X101	X102	X103	X104	X105	X107	X108	X109	X110	X111	X112
	Bkgnd. Soil	Soil	Soil	Soil	Dup. X104	Soil	Res. Soil	Res. Soil	Res. Soil	Res. Soil	Res. Soil
PARAMETER	5-4-93	5-4-93	5-4-93	5-4-93	5-4-93	5-4-93	5-5-93	5-5-93	5-5-93	5-5-93	5-5-93
VOLATILES	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Acetone	14.00 U	19.00	--	--	4.00 J	7.00 J	N.A.	N.A.	N.A.	N.A.	N.A.
1,2-Dichloroethene (total)	14.00 U	29.00	--	--	--	56.00	N.A.	N.A.	N.A.	N.A.	N.A.
Chloroform	14.00 U	3.00 J	--	--	--	--	N.A.	N.A.	N.A.	N.A.	N.A.
2-Butanone	14.00 U	18.00	--	--	--	--	N.A.	N.A.	N.A.	N.A.	N.A.
1,1,1-Trichloroethane	14.00 U	--	--	--	--	--	N.A.	N.A.	N.A.	N.A.	N.A.
Trichloroethene	14.00 U	440.00	--	--	--	130.00 J	N.A.	N.A.	N.A.	N.A.	N.A.
Tetrachloroethene	14.00 UJ	3.00 J	--	--	--	24.00 J	N.A.	N.A.	N.A.	N.A.	N.A.
Toluene	14.00 UJ	7.00 J	--	--	--	--	N.A.	N.A.	N.A.	N.A.	N.A.
SEMIVOLATILES	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Naphthalene	440.00 U	--	250.00 J	--	--	350.00 J	1800.00 J	--	--	--	--
2-Methylnaphthalene	440.00 U	--	460.00 J	--	--	270.00 J	--	--	--	--	--
Acenaphthylene	440.00 U	--	330.00 J	--	--	--	--	--	--	--	--
Acenaphthene	440.00 U	--	--	--	--	--	1600.00 J		--	--	--
Dibenzofuran	440.00 U	--	--	--	--	--	1300.00 J		--	--	--
Phenanthrene	280.00 J	250.00 J	3800.00	180.00 J	230.00 J	700.00 J	13000.00	530.00 J	1200.00	1400.00	94.00 J
Anthracene	440.00 U	--	320.00 J	--	--	--	2600.00 J	--	--	--	--
Carbazole	440.00 U						3800.00		210.00 J	280.00 J	
[illegible]ranthene	490.00	270.00 J	4000.00	190.00 J	340.00 J	1100.00 J	16000.00	1000.00 J	1800.00	2000.00	200.00 J
[illegible]ne	420.00 J	290.00 J	3700.00	280.00 J	360.00 J	1600.00	13000.00	960.00 J	1500.00	1700.00	170.00 J
[illegible]nzo(a)anthracene	180.00 J	190.00 J	2300.00	--	280.00 J	1000.00 J	7700.00	540.00 J	840.00	1100.00	110.00 J
Chrysene	440.00 U	--	2800.00	--	--	--	8600.00	--	1100.00	--	--
bis(2-Ethylhexyl)phthalate	150.00 J	200.00 J	--	--	--	1500.00	--	940.00 J	--	--	99.00 J
Benzo(b)fluoranthene	340.00 J	440.00	3400.00	480.00	1100.00	980.00 J	8600.00	590.00 J	1100.00	1200.00	270.00 J
Benzo(k)fluoranthene	440.00 U	--	2400.00	--	--	--	7100.00	470.00 J	--	740.00 J	--
Benzo(a)pyrene	440.00 U	--	2400.00	230.00 J	570.00	520.00 J	7800.00	580.00 J	740.00	1000.00	--
Indeno(1,2,3-cd)pyrene	440.00 U	--	--	--	--	--	4000.00	--	420.00 J	570.00 J	--
Benzo(g,h,i)perylene	440.00 U	--	--	--	--	--	3600.00	--	--	520.00 J	--
PESTICIDES	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
gamma-BHC (Lindane)	2.30 UJ	--	--	--	--	--	--	--	--	--	0.20 J
Heptachlor	2.30 U	--	--	--	--	--	--	--	1.80 J	--	0.63 J
Aldrin	1.00 JP	68.00	67.00	24.00	28.00	49.00	17.00 P	6.70 P	4.80 P	--	3.20 P
Heptachlor epoxide	0.62 J	27.00 P	--	--	--		--	7.80	3.80 J	3.30	--
Endosulfan I	2.30 U	--	--	--	0.68 JP	--	--	--	--	--	--
Dieldrin	4.40 U	--	18.00 P	3.70 J	4.90	--	38.00	18.00	8.10 P	4.70 P	43.00
4,4'-DDE	4.60 PJ	--	--	--	--	1800.00 PCDJ	220.00 P	70.00 P	84.00 P	71.00 PJ	4.80 J
Endrin	8.60	--	170.00	--	--	--	--	26.00 P	--	28.00	--
Endosulfan II	1.20 JP	--	58.00	5.70	7.40	--	--	--	--	--	--
4,4'-DDD	4.40 UJ	--	--	--	--	1100.00 PCDJ	--	--	58.00	81.00 J	2.30 J
Endosulfan sulfate	4.40 UJ	5.50	--	--	--	12.00	94.00 P	11.00	56.00	28.00	1.20 J
4,4'-DDT	8.40 PJ	--	180.00 D	8.60 PJ	12.00 PJ	1400.00 PCDJ	880.00 P	88.00 P	77.00 P	97.00 PJ	18.00 J
Methoxychlor (Marlate)	23.00 UJ	18.00 JP	250.00 JD	--	--	38.00 PJ	--	110.00 PJ	--	--	--
alpha-Chlordane	2.30 U	--	--	--	--	--	28.00 P	18.00 P	7.80	28.00	7.00
[illegible]ma-Chlordane	1.20 J	22.00 P	41.00	3.30 P	4.60 P	18.00 P	25.00	10.00 P	5.80	13.00	3.30
[illegible]or-1222	44.00 U	--	--	120.00 P	180.00 P	--	--	110.00 P	--	--	--
[illegible]roclor-1242	44.00 U	--	--	230.00 P	--	--	--	--	--	--	--
Aroclor-1248	44.00 U	--	--	--	--	--	280.00 P	--	--	--	--
Aroclor-1254	43.00 JP	1800.00 PD	2100.00 PD	400.00 P	520.00 P	4400.00 PD	1700.00	480.00 P	370.00 P	--	--
Aroclor-1260	180.00	770.00 PD	5400.00 PD	810.00	880.00	1400.00 PD	1600.00 P	780.00 P	680.00 P	380.00 P	180.00 P
INORGANICS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum	14600.00	17000.00	6880.00	13100.00	14300.00	12100.00	7310.00	8670.00	7810.00	12100.00	13700.00
Antimony	15.10 U	--	--	--	--	--	--	--	--	--	12.80 B
Arsenic	7.70	23.20	485.00	22.80	29.80	16.40	9.68	8.08	5.01	9.47	9.47
Barium	77.80	384.00	120.00	284.00	310.00	227.00	178.00	108.00	112.00	128.00	88.80
Beryllium	1.00 B	54.80	2.10	58.10	57.70	15.80	2.00 B	1.40	1.00 B	1.30	0.87
Cadmium	0.88 U	35.80	8.60	18.50	19.10	21.70	17.60	8.80	--	9.86	--
Calcium	8710.00	17500.00	42400.00	19800.00	18400.00	24300.00	28300.00	15700.00	18700.00	17800.00	23300.00
Chromium	22.80	228.00	82.80	133.00	138.00	107.00	80.00	30.00	16.80	24.20	21.40
Cobalt	14.00 B	44.00	22.80	48.20	38.00	41.40	8.20	12.00 B	5.30 B	11.80 B	13.40
Copper	38.20	38600.00	810.00	27800.00	28800.00	14300.00	3080.00	1880.00	1380.00	1180.00	388.00
Iron	23800.00	60000.00	39100.00	58800.00	60100.00	27800.00	13600.00	16800.00	10700.00	23600.00	24800.00
Lead	16.70	12800.00	588.00	8880.00	8610.00	6880.00	1780.00	1110.00	542.00	810.00	198.00
Magnesium	6740.00	6130.00	20800.00	8210.00	8800.00	9300.00	8700.00	7750.00	4380.00	8320.00	14800.00
Manganese	756.00	2840.00	588.00	3180.00	3440.00	1200.00	388.00	808.00	247.00	788.00	814.00
Mercury	0.07 B	1.13	0.88	0.33	0.28	3.23	1.77	0.61	0.41	0.38	0.11
Nickel	28.80	780.00	48.80	581.00	572.00	273.00	186.00	87.30	72.80	58.00	37.20
Potassium	2790.00	468.00 B	1110.00 B	803.00 B	880.00 B	1580.00 B	1680.00 B	1800.00 B	1580.00 B	2380.00	2440.00
Selenium	0.26 UJ	4.06	--	8.57 J	8.68 J	8.41 J	2.78 J	--	--	--	--
Silver	0.82 U	9.80	3.30	8.40	8.80	48.20	3.30 B	1.70 B	--	0.70 B	--
Sodium	67.80 B	2880.00	400.00 B	5810.00	7180.00	816.00 B	187.00 B	88.40 B	202.00 B	112.00 B	67.80 B
Thallium	0.44 B	--	--	--	--	--	--	--	--	--	--
Vanadium	28.10	24.40	28.10	28.80	22.80	34.80	18.70	21.80	16.10	28.80	27.80
Zinc	124.00	88000.00	1870.00	82500.00	88300.00	37200.00	8470.00	4830.00	5810.00	10700.00	1840.00
Boron	5.00 U	1040.00	88.20	2080.00	2380.00	186.00	--	--	--	--	--

[illegible]mple X108 was not collected.


E J & E R.R.
Cinder/Slag
Homeless Area
Approx. Burn Area
MONITORING WELL G101
MONITORING WELL G102
MONITORING WELL G103
gravel parking area
Commonwealth Ave.
FANSTEEL
Pettibone Creek
Martin Luther King Jr. Drive
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
SITE: VACANT LOT
SITE ILD: 984775437
FIGURE 2-2 : SITE MAP
North
Not To Scale


X205
E J & E R.R.
X102
X204
Approx. Burn Area
G101
G102
X107
G103/G104
FANSTEEL
X104/X105
Commonwealth Ave.
gravel parking area
X203
X103
Pettibone Creek
X202
Martin Luther King Jr. Drive
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
SITE: VACANT LOT
SITE ILD: 984775437
FIGURE 3-2 : ONSITE SAMPLE LOCATIONS
North
Not To Scale