JUL 29 1988

Spokane Junkyard
SF

HW-113

(b)(6)

Spokane, Washington 99203

Dear (b)(6):

The U.S. Environmental Protection Agency (EPA), through its contractor Ecology and Environment, Incorporated, collected soil samples from your property on February 8-12, 1988. Some samples were analyzed for about 150 compounds on EPA's Target Compounds List, while other samples were analyzed only for inorganic compounds and asbestos fibers.

Enclosed are the results from all the samples analyzed on your property, along with a sampling diagram.

If you have any questions, please telephone me (206-442-2722) or Jeff Webb (206-442-1196).

Sincerely,

Deborah Flood
Environmental Protection Specialist
Superfund Response & Investigations Section

Enclosures

cc: Emily Ray, Ecology, Olympia
Sherman Spencer, Central Regional Office
Mike LaScoula, Spokane County Health District
Bob Kievit, EPA - WOO
Phil Williams, City of Spokane

FLOOD:jf:4702:7/21/88

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USEPA SF
1025267

30911

SURFACE SOIL ORGANIC SAMPLE RESULTS
Concentration ug/kg

Sample Location: (b)(6) Property
(b)(6)
Spokane, Washington 99207

Sample Dates: February 8-12, 1988

Substance	Avg. BKG	A-1	A-2	A-3	A-4	A-5	B-1	B-2	B-3	B-4
PCB (1260)	380.0 U	8,163 U	381.0 U	390.0	390.0 U	281.0 U	1,053 U	320.0	308.0 U	195.0 U
PCB (1254)	380.0 U	68,000	381.0 U	302.0 U	390.0 U	281.0 U	7,900	267.0 U	308.0 U	195.0 U
Acetone	14.5 J	NA	NA	NA	NA	NA	13.0 U	17.0 U	NA	NA
Chlordane	1,988	4,082 U	190.0 U	151.0 U	195.0 U	140.0 U	526.0 U	133.0 U	154.0 U	98.0 U
Methylene Chloride	6.0 U	NA	NA	NA	NA	NA	7.0 U	8.0 U	NA	NA
Fluoranthene	12,890	NA	NA	NA	NA	NA	910.0	550.0 U	NA	NA
Pyrene	1,990 U	NA	NA	NA	NA	NA	1,000	550.0 U	NA	NA
Benzo(A) Anthracene	5,290	NA	NA	NA	NA	NA	700.0	550.0 U	NA	NA
Chrysene	5,390	NA	NA	NA	NA	NA	1,500	550.0 U	NA	NA
Benzo(B) Fluoranthene	1,040	NA	NA	NA	NA	NA	910.0	550.0 U	NA	NA
Benzo(K) Fluoranthene	1,990 U	NA	NA	NA	NA	NA	800.0	550.0 U	NA	NA
Benzo(A)Pyrene	2,590	NA	NA	NA	NA	NA	620.0	550.0 U	NA	NA
Indeno(1,2,3 -cd)Pyrene	1,590 J	NA	NA	NA	NA	NA	340.0 J	550.0 U	NA	NA
Benzo(GHI) Perylene	1,490 J	NA	NA	NA	NA	NA	370.0 J	550.0 U	NA	NA
4,4'-DDT	38.0 U	816.0 U	38.0 U	30.0 U	39.0 U	28.0 U	105.0 U	27.0 U	31.0 U	20.0 U
Naphthalene	2,190	NA	NA	NA	NA	NA	430.0 U	550.0 U	NA	NA
Acenaphthene	1,390 J	NA	NA	NA	NA	NA	430.0 U	550.0 U	NA	NA
Dibenzofuran	2,090	NA	NA	NA	NA	NA	430.0 U	550.0 U	NA	NA
Fluorene	2,140	NA	NA	NA	NA	NA	430.0 U	550.0 U	NA	NA
Phenanthrene	17,890	NA	NA	NA	NA	NA	220.0 J	550.0 U	NA	NA
Anthracene	3,940	NA	NA	NA	NA	NA	430.0 U	550.0 U	NA	NA
Bis(2-ethyl) hexyl) phthalate	1,990 U	NA	NA	NA	NA	NA	430.0 U	550.0 U	NA	NA

NA - Not Analyzed.
U - The material was analyzed for, but was not detected. The associated numerical value is an estimated sample detection limit.
J - The associated numerical value is an estimated quantity because quality control criteria were not met or concentrations reported were less than the CRDL.

ug/kg = micrograms per kilogram (parts per billion)

SURFACE SOIL ORGANIC SAMPLE RESULTS
Concentration ug/kg

Sample Location: (b)(6) Property
(b)(6)
Spokane, Washington 99207

Sample Dates: February 8-12, 1988

Substance	B-5	B-5D	C-1	C-1D	C-2	C-3	C-3D	C-4	C-5
PCB (1260)	296.0 U	314.0 U	25,000,000	10,000,000	1,026 U	262.0 U	280.0	291.0 U	254.0 U
PCB(1254)	296.0 U	314.0 U	2,253,521 U	2,191,781 U	1,026 U	262.0 U	271.0 U	291.0 U	254.0 U
Acetone	NA	NA	14.0 UJ	14 U	NA	NA	NA	NA	NA
Chlordane	148.0 U	157.0 U	1,126,761 U	1,095,890 U	513.0 U	131.0 U	136.0 U	145.0 U	127.0 U
Methylene Chloride	NA	NA	2.0 J	7 U	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	9,300 U	9,000 U	NA	NA	NA	NA	NA
Pyrene	NA	NA	9,300 U	9,000 U	NA	NA	NA	NA	NA
Benzo(A) Anthracene	NA	NA	9,300 U	9,000 U	NA	NA	NA	NA	NA
Chrysene	NA	NA	9,308 U	9,000 U	NA	NA	NA	NA	NA
Benzo(B) Fluoranthene	NA	NA	9,300 U	9,000 U	NA	NA	NA	NA	NA
Benzo(K) Fluoranthene	NA	NA	9,300 U	9,000 U	NA	NA	NA	NA	NA
Benzo(A)Pyrene	NA	NA	9,300 U	9,000 U	NA	NA	NA	NA	NA
Indeno(1,2,3 -cd)Pyrene	NA	NA	9,300 U	9,000 U	NA	NA	NA	NA	NA
Benzo(GHI) Perylene	NA	NA	9,300 U	9,000 U	NA	NA	NA	NA	NA
4,4'-DDT	30.0 U	31.0 U	225,352 U	219,178 U	103.0 U	26.0 U	27.0 U	29.0 U	25.0 U
Naphthalene	NA	NA	9,300 U	9,000 U	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	9,300 U	9,000 U	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	9,300 U	9,000 U	NA	NA	NA	NA	NA
Fluorene	NA	NA	9,300 U	9,000 U	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	9,300 U	9,000 U	NA	NA	NA	NA	NA
Anthracene	NA	NA	9,300 U	9,000 U	NA	NA	NA	NA	NA
Bis(2-ethyl) hexyl) phthalate	NA	NA	9,300 U	9,000 U	NA	NA	NA	NA	NA

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SURFACE SOIL ORGANIC SAMPLE RESULTS
Concentration ug/kg

Sample Location: (b)(6) Property
(b)(6)
Spokane, Washington 99207

Sample Dates: February 8-12, 1988

Substance	D-1	D-2	D-3	D-4	D-5	E-1	E-2	E-3	E-4	E-5
PCB (1260)	2,900	899.0 U	1,250 U	1,300	1,300	2,927 U	211.0 U	208.0 U	286.0 U	1,300
PCB (1254)	1,270 U	899.0 U	1,250 U	976.0 U	246.0 U	2,927 U	211.0 U	208.0 U	286.0 U	239.0 U
Acetone	36.0 J	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlordane	635.0 U	449.0 U	625.0 U	488.0 U	123.0 U	1,463 U	105.0 U	104.0 U	143.0 U	119.0 U
Methylene Chloride	2.0 J	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	520.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	520.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(A) Anthracene	520.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	520.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(B) Fluoranthene	520.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(K) Fluoranthene	520.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(A)Pyrene	520.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3 -cd)Pyrene	520.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(GHI) Perylene	520.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	127.0 U	90.0 U	125.0 U	98.0 U	25.0 U	293.0 U	21.0 U	21.0 U	29.0 U	24.0 U
Naphthalene	520.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	520.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	520.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	520.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	520.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	520.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bis(2-ethyl) hexyl) phthalate	520.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA

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SURFACE SOIL INORGANIC SAMPLE RESULTS
Concentration mg/kg

Sample Location: (b)(6) Property
(b)(6)
Spokane, Washington 99207

Sample Dates: February 8-12, 1988

Substance	Avg. BKG	A-1	A-2	A-3	A-4	A-5	B-1	B-2	B-3	B-4
Aluminum	15,475	78,700	24,800	14,600	21,100	9,220	33,500	14,700	15,800	10,300
Antimony	4.1 U	4.9 UJ	7.6 UJ	7.0 UJ	6.6 UJ	8.1 UJ	4.7 UJ	7.4 UJ	6.9 UJ	10.2 J
Arsenic	6.0 J	16.1 J	8.7	8.0	10.9	6.4	1.4 J	7.9	7.4	14.4
Barium	127.0	248.0 J	433.0 J	547.0 J	424.0 J	312.0 J	920.0 J	324.0 J	341.0 J	667.0 J
Beryllium	0.77J	0.29J	0.31U	0.32J	0.6 J	0.33U	0.21J	0.3 U	0.32J	0.25J
Cadmium	0.55U	4.2	3.4	7.0	4.2	2.1	8.8	3.8	8.4	7.5
Calcium	5,432	5,450	7,380	7,720	7,840	9,590	12,400	7,380	6,470	4,230
Chromium	17.9	188.0	51.6	34.2	34.2	17.8	81.2	33.5	24.4	22.2
Cobalt	7.7 J	8.2 J	8.2 J	9.7 J	11.0 J	5.3 J	10.4	7.4 J	10.6 J	7.6 J
Copper	19.0 J	1,760	546.0	689.0	199.0	105.0	5,780	324.0	181.0	620.0
Iron	18,400	35,500	40,800	36,000	26,500	14,400	54,600	26,300	51,700	44,900
Lead	46.7 J	522.0	665.0	1,740	869.0	236.0	2,210	441.0	545.0	4,400
Magnesium	6,825	3,810	4,010	4,320	5,400	2,240	6,310	4,090	4,070	3,860
Manganese	454.0	642.0	634.0	956.0	623.0	540.0	708.0	659.0	803.0	561.0
Mercury	0.12U	1.3	0.2	0.52	0.21U	0.21U	0.77	0.16U	0.72	0.2
Nickel	11.7	37.1	32.7	36.3	25.3	16.1	48.5	23.4	32.0	33.4
Potassium	2,577	1,480	1,940	2,290	3,280	1,400 J	1,480	2,130	2,420	1,780
Selenium	0.75J	R	R	R	R	R	R	R	R	R
Silver	1.7 UJ	2.0 UJ	3.1 UJ	2.9 UJ	2.7 UJ	3.3 UJ	1.0 UJ	3.0 UJ	2.8 U	1.7 UJ
Sodium	372.0 J	272.0 J	374.0 J	271.0 J	302.0 J	210.0 J	345.0 J	240.0 J	311.0 J	143.0 J
Thallium	0.35U	R	R	R	R	R	R	R	R	R
Vanadium	26.2	18.1	25.8	26.0	33.6	15.5	22.2	22.0	24.2	15.1
Zinc	124.0 J	1,290 J	1,580 J	1,900 J	995.0 J	607.0 J	5,460 J	1,310 J	926.0 J	2,620 J

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R - Quality Control indicates that data are unusable (compound may or may not be present). Resampling and reanalysis are necessary for verification.

mg/kg = milligrams per kilogram (parts per million)

SURFACE SOIL INORGANIC SAMPLE RESULTS
Concentration mg/kg

Sample Location: (b)(6) Property
(b)(6)
Spokane, Washington 99207

Sample Dates: February 8-12, 1988

Substance	B-5	B-5D	C-1	C-1D	C-2	C-3	C-3D	C-4	C-5
Aluminum	14,700	15,600	9,830	14,700	12,000	14,200	17,600	19,300	19,800
Antimony	6.4 UJ	6.4 J	25.7 J	51.7	4.5 J	6.4 UJ	6.7 J	9.6 J	6.0 U
Arsenic	93.9	7.2	18.2	21.8	12.6	8.0	10.7	7.9	7.8
Barium	269.0 J	264.0	1,860 J	2,390	246.0 J	252.0 J	268.0	375.0	353.0
Beryllium	0.49J	0.81J	0.22U	0.77J	0.75J	0.38J	0.83J	1.1 J	1.1 J
Cadmium	2.6	2.2	35.7	29.2	6.2	2.0	1.8	5.0	2.0
Calcium	10,200	9,990	9,880	9,720	4,730	5,720	6,360	8,610	10,500
Chromium	23.4	20.8	102.0	116.0	37.3	20.0	31.6	54.2	31.1
Cobalt	7.6 J	7.8 J	13.3	17.4	8.1 J	7.2	10.3 J	10.3 J	10.2 J
Copper	74.4	62.9 J	2,270	3,160 J	815.0	162.0	2,180 J	120.0 J	52.4 J
Iron	19,700	23,800	189,000	207,000	46,900	25,800	38,800	34,700	35,100
Lead	276.0	256.0 J	20,200	15,400 J	568.0	383.0	392.0 J	979.0 J	272.0 J
Magnesium	4,430	4,800	2,550	4,060	5,750	4,240	5,040	4,520	4,690
Manganese	713.0	698.0	1,210	1,120	528.0	604.0	678.0	922.0	810.0
Mercury	0.17U	0.16U	9.3	24.0	0.19	0.15U	0.19U	0.21U	0.15U
Nickel	21.3	16.2	175.0	137.0	31.8	25.4	27.7	34.6	27.0
Potassium	2,880	2,960	835.0 J	1,260	2,230	2,220	2,600	3,370	4,210
Selenium	R	0.55UJ	R	0.38UJ	R	R	0.63UJ	0.77UJ	0.51UJ
Silver	2.6 UJ	2.4 UJ	2.2 UJ	1.8 UJ	1.7 UJ	2.6 UJ	2.1 UJ	3.4 UJ	2.4 UJ
Sodium	228 J	327.0 J	456.0 J	1,180	343.0 J	199.0 J	496.0 J	583.0 J	468.0 J
Thallium	R	R	R	2.1 J	R	R	R	R	R
Vanadium	22.3	29.2	13.9	47.1	17.1	20.0	31.8	42.2	37.5
Zinc	416.0 J	423.0 J	95,300 J	65,800 J	2,960 J	1,100 J	1,090 J	612.0 J	564.0 J

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SURFACE SOIL INORGANIC SAMPLE RESULTS
Concentration mg/kg

Sample Location: (b)(6) Property
(b)(6)
Spokane, Washington 99207

Sample Dates: February 8-12, 1988

Substance	D-1	D-2	D-3	D-4	D-5	E-1	E-2	E-3	E-4	E-5
Aluminum	24,200	11,500	19,700	13,000	13,100	4,310	11,400	14,800	16,800	14,100
Antimony	7.7 J	54.9	6.9 J	11.4 J	6.0 U	4.6 U	5.1 U	4.5 U	5.8 U	20.1 J
Arsenic	8.4	25.3	10.8	11.3 J	7.7 J	3.5 J	12.9 J	8.5 J	7.8 J	35.5 J
Barium	233.0	829.0	305.0	384.0	238.0 J	99.7 J	119.0 J	112.0 J	311.0 J	337.0 J
Beryllium	1.4 J	0.61J	1.2	0.79J	0.6 J	0.19U	0.57J	0.69J	0.82J	0.46J
Cadmium	1.0 U	24.9	3.5	3.3	28.7 J	0.63UJ	0.69UJ	0.61UJ	3.1 J	0.72UJ
Calcium	6,860	5,700	7,670	4,690	4,970	3,960	9,480	6,360	5,750	3,830
Chromium	49.2	103.0	45.6	32.0	25.3	16.7	34.4	17.1	29.0	41.9
Cobalt	12.6 J	39.0	15.0	10.6	8.4 J	3.9 J	9.6 J	9.7 J	10.7 J	13.4
Copper	126.0 J	1,180 J	219.0 J	110.0 J	48.9 J	150.0 J	28.5 J	16.4 J	71.6 J	169.0 J
Iron	31,500	1,723	61,300	66,600	23,800	10,800	22,000	22,500	48,100	168,000
Lead	202.0 J	3,730 J	516.0 J	4,200 J	923.0	836.0	224.0	26.7	435.0	12,600
Magnesium	6,060	3,790	5,780	4,950	4,690	1,890	5,380	6,550	4,720	1,560
Manganese	712.0	1,310	687.0	507.0	498.0	171.0	629.0	450.0	699.0	699.0
Mercury	0.18U	0.8	0.23	0.22	0.16J	0.11U	0.12U	0.12U	0.18J	0.17U
Nickel	21.6	121.0	33.5	55.0	18.3	20.0	13.4	13.3	23.8	99.1
Potassium	3,670	1,840	3,130	1,870	2,480	668.0 J	1,980	3,220	2,800	1,480
Selenium	0.53UJ	0.36UJ	0.78J	0.41UJ	0.51UJ	0.3 UJ	1.9 UJ	0.35UJ	4.1 J	2.6 UJ
Silver	3.1 UJ	1.2 UJ	1.8 UJ	1.8 UJ	2.4 UJ	5.1 J	2.1 UJ	1.8 UJ	2.4 UJ	2.9 J
Sodium	395.0 J	1,530	605.0 J	392.0 J	179.0 J	328.0 J	226.0 J	140.0 J	228.0 J	611.0 J
Thallium	3.5 J	R	R	R	2.8 U	1.7 U	2.2 U	1.9 U	2.6 U	3.0 U
Vanadium	42.2	18.3	33.6	72.3	29.7	47.5	39.1	32.4	29.6	98.3
Zinc	228.0 J	8,240 J	2,020 J	1,340 J	506.0	246.0	167.0	83.1	944.0	3,290

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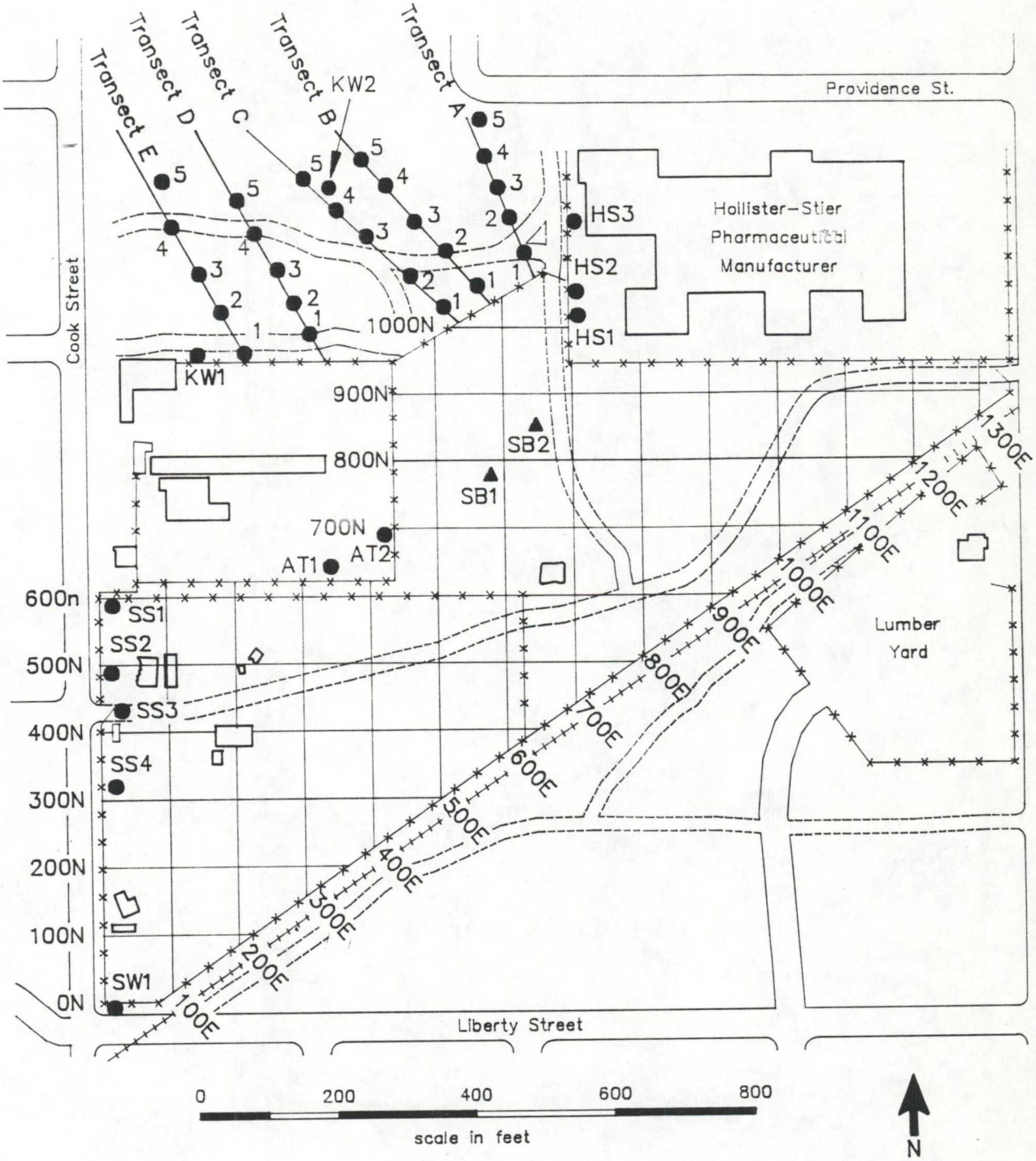
SAMPLE RESULTS

Sample Location: (b)(6) Property
(b)(6)
Spokane, Washington 99207

Sample Date: February 8-12, 1988

Sample Matrix: Soil

Substance	B-3	C-1	C-1D	KW #2
Asbestos (Chrysotile)	< 1%	~ 2%	~ 2%	~ 5%



ecology & environment, inc.	
Job: F10-8803-01	Waste Site: WA 0526
Drawn by: D. P.	Date: May 20, 1988

LEGEND

● Surface soil sample

▲ Soil boring sample

FIGURE 6
ON-SITE AND TRANSECT SOIL SAMPLE LOCATIONS
SPOKANE JUNKYARD
Spokane, WA