EPA Region 5 Records Ctr.
255576

RESULTS OF CHEMICAL ANALYSIS OF
FIT-COLLECTED Soil SAMPLES

1/28/91

Sample Collection Information and Parameters	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10 (BACKGROUND)	S11	12
Date	10/23/90	10/23/90	10/23/90	10/23/90	10/23/90	10/23/90	10/23/90	10/23/90	10/23/90	10/23/90	10/23/90	
Time	1130	1140	1140	1150	1230	1245	1225	1235	1330	1345	1335	
~~Well Depth (feet)~~	—	—	—	—	—	—	—	—	—	—	—	
~~Chl. Log Number~~	—	—	—	—	—	—	—	—	—	—	—	
CLP Organic Traffic Report Number	EKS 19	EKS 20	EKS 21	EKS 22	EKS 23	EKS 24	EKS 25	EKS 26	EKS 27	EKS 28	EKS 29	
CLP Inorganic Traffic Report Number	MEHN82	MEHN83	MEHN84	MEHN85	MEHN86	MEHN87	MEHN88	MEHN89	MEHN90	MEHN91	MEHN92	
~~Temperature (°C)~~	—	—	—	—	—	—	—	—	—	—		
~~Specific Conductivity (µmhos/cm)~~	—	—	—	—	—	—	—	—	—	—		
~~pH~~	—	—	—	—	—	—	—	—	—	—		

Physical State*	Waste Characteristics*	Category***	SI Name	Compound Detected (Values in µg/L or µg/kg)	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	12
				Volatile Organics												
Gas	A,D,G,I	OCC	HH	chloroethane												
Gas	A,D,G,I	OCC	HH	bromoethane												
Gas	A,D,G,I	OCC	HH	vinyl chloride												
Gas	A,D,G,I	OCC	HH	chloroethane												
Liquid	A,D,H,I	SOL	HH, CLA	methylene chloride												
Liquid	E,H,I,A	SOL	E, CLA	acetone	--	--	--	--	--	25 J	--	--	--	--	--	
Liquid	A,H,I	SOL	SH	carbon disulfide												
Liquid	A,D,G,I	SOL	HH	1,1-dichloroethene												
Liquid	A,D,H,G	SOL	HH	1,1-dichloroethane												
Liquid	A,D,G	SOL	HH	1,2-dichloroethene (total)	--	--	--	--	--	--	--	200	--	--	--	
Liquid	A,D	SOL	HH	chloroform												
Liquid	A,D,G	SOL	HH	1,2-dichloroethane												
Liquid	A,E,G	SOL	E, CLA	2-butanone (MEK)	2J	--	--	--	1J	--	--	--	--	--	--	
Liquid	A,D	SOL	HH	1,1,1-trichloroethane												
Liquid	A,D	SOL	HH	carbon tetrachloride												
Liquid	A,D,G	SOL	HTD	vinyl acetate												
Liquid	A,D	OCC	HH	bromodichloromethane												
Liquid	A,D,G	SOL	HH	1,2-dichloropropane												
Liquid	A,D,G	SOL	HH	cis-1,3-dichloropropene												
Liquid	A,D,G,B	SOL	HH	trichloroethene	--	--	--	--	--	--	--	4J	--	--	--	
Liquid	A,D	OCC	HH	dibromochloromethane												
Liquid	A,D	SOL	HH	1,1,2-trichloroethane												
Liquid	A,G	SOL	A	benzene												
Liquid	A,D,G	SOL	HH	trans-1,3-dichloropropene												
Liquid	A,D	SOL	HH, CLA	bromoform												
Liquid	A,E,G	SOL	E, CLA	4-methyl-2-pentanone												
Liquid	A,E,G	SOL	E	2-hexanone						36 J						
Liquid	A,D	SOL	HH	tetrachloroethene												
Liquid	A,G,E	SOL	A, CLA	toluene	3J	--	--	--	7	1J	4J	11 2J				
Liquid	A,D,E	SOL	HH	1,1,2,2-tetrachloroethane												
Liquid	A,D,G	SOL	HA	chlorobenzene												
Liquid	A,G	SOL	A	ethylbenzene												
Liquid	A,D,G	OCC	A	styrene												
Liquid	A,G	SOL	A	xylenes (total)	--	--	--	--	--	3J	--	--	--	--	--	

Table 4 (Cont.)

Physical State*	Waste Characteristics**	Category***	SI Memo	Sample Collection Information and Parameters	Sample Number S1	S2	S3	S4	S5	S6	S7	S8	S9	S10 (Background)	S11	12
				Semivolatile Organics												
S, thick L	A,B,E	OCC	P	phenol												
Liquid	A,D,B	OCC	HH	bis(2-chloroethyl)ether												
Liquid	A,D,B	OCC	P	2-chlorophenol												
Liquid	A,D,E	SOL	HA	1,3-dichlorobenzene												
Solid	A,D,E	OCC	HA	1,4-dichlorobenzene												
Liquid	A,D,E	SOL	A	benzyl alcohol												
Liquid	A,D,E	OCC	HA	1,2-dichlorobenzene												
Liquid	A,B	OCC	P	2-methylphenol												
	A,D	OCC	HH	bis(2-chloroisopropyl)ether												
Liquid	A,B	OCC	P	4-methylphenol												
	A	OCC	N-Amine	n-nitroso-di-n-dipropylamine												
Solid	A,D	OCC	HH	hexachloroethane												
Liquid	A,D	OCC	HA	nitrobenzene												
Liquid	A,D	OCC	H	isophorone												
Solid	A,D	OCC	P	2-nitrophenol												
Solid	A,B	OCC	P	2,4-dimethylphenol												
Solid	A	OCC	A	benzoic acid												
	A,D	OCC	HH	bis(2-chloroethoxy)methane												
Liquid	A,D	OCC	P	2,4-dichlorophenol												
Liquid	A,D	OCC	HA	1,2,4-trichlorobenzene												
Solid	A	OCC	PAH	naphthalene	1,100	150	290J	--	500J	260J	450J	--	--	--	150J	
Solid	A,D	OCC	HH	4-chloroaniline												
Liquid	A,D,B	OCC	HH	hexachlorobutadiene												
Solid	A,D	OCC	P	4-chloro-3-methylphenol												
Liquid	A,D	OCC	PAH	2-methylnaphthalene	1,800	250J	500J	--	950	130J	750J	190J	--	--	240J	
Liquid	A,D,B	OCC	HH	hexachlorocyclopentadiene												
Solid	A,D	OCC	P	2,4,6-trichlorophenol												
Solid	A,D	OCC	P	2,4,5-trichlorophenol												
Liquid	A,D	OCC	PAH	2-chloronaphthalene												
Solid	A,D	OCC	HH	2-nitroaniline												
Liquid	A,D	OCC	PH,CLA	dimethylphthalate												
Solid	A,D	OCC	PAH	acenaphthylene												
Solid	A,D	OCC	HA	2,6-dinitrotoluene												
Solid	A,D	OCC	HH	3-nitroaniline												
Solid	A,D	OCC	PAH	acenaphthene	--	--	680J	--	--	1,200	95J	--	--	110J	--	
Solid	A,D,E	OCC	P	2,4-dinitrophenol												
Solid	A,D	OCC	P	4-nitrophenol												
Solid	A,D	OCC	A	dibenzofuran	370J	--	830J	--	290J	780J	200J	--	--	--	--	
Solid	A,D	OCC	HA	2,4-dinitrotoluene												
Liquid	A,D	OCC	PH	diethylphthalate												
	A,B	OCC	HH	4-chlorophenyl-phenylether												
Solid	A,D	OCC	PAH	fluorene	--	--	4,500	--		1,200	82J	--		120J	--	
Solid	A,D,E	OCC	HH	4-nitroaniline												
Solid	A,D	OCC	P	4,6-dinitro-2-methylphenol												
Solid	A,D	OCC	HH	n-nitrosodiphenylamine			450J									
Liquid	A,D	OCC	HH	4-bromophenyl-phenylether												
Solid	A,D	OCC	HA	hexachlorobenzene												
Solid	A,D	OCC	P	pentachlorophenol												
Solid	A,D	OCC	PAH	phenanthrene	850J	200J	16,000D	--	980	14,000	1,500	170J	210J	1,800	540J	

Table 4-1 (Cont.)

Physical State*	Waste Characteristics**	Category***	SI Name	Sample Collection Information and Parameters	S 1	S 2	S 3	S 4	S 5	S 6	S 7	S 8	S 9	S 10 (background)	S 11	12
				Semivolatile Organics, Cont.												
Solid	A,D	OCC	PAH	anthracene	120J	--	2900	--	--	3000	300J	--	--	340J	--	--
Liquid	A,D	OCC	PH,CLA	di-n-butylphthalate	--	--	--	--	--	--	110J	--	--	--	--	--
Solid	A,D	OCC	PAH	fluoranthene	680J	140J	12000	--	370J	21000D	2800	360J	210J	2500	980J	--
Solid	A,D	OCC	PAH	pyrene	580J	150J	8100	--	300J	13000	1900	290J	180J	3400	710J	--
Liquid	A,D	OCC	PH,CLA	butylbenzylphthalate	--	--	--	--	--	--	950	--	--	96J	--	--
	A,D	OCC	HA	3,3'-dichlorobenzidine												
Solid	A,D	OCC	PAH	benzo(a)anthracene	310J	74J	8500	--	170J	6900	1100	--	--	1800	430J	--
Solid	A,D	OCC	PAH	chrysene	380J	150J	5700	--	300J	16000J	1100J	180J	--	--	610J	--
Liquid	A,D	OCC	PH,CLA	bis(2-ethylhexyl)phthalate	--	--	360J	--	--	--	--	--	--	--	--	--
Liquid	A,D	OCC	PH,CLA	di-n-octylphthalate												
Solid	A,D	OCC	PAH	benzo(b)fluoranthene	230J	280J	9500	--	320J	7800	2900	230J	150J	2500	630J	--
Solid	A,D	OCC	PAH	benzo(k)fluoranthene	430J	--	16000	--	--	5500	--	300J	--	400J	--	--
Solid	A,D,E,L	OCC	PAH	benzo(a)pyrene	230J	140J	5700	--	150J	4800	1100	150J	--	1200	220J	--
Solid	A,D	OCC	PAH	indeno(1,2,3-cd)pyrene	96J	--	5000	--	150J	4100	910	160J	--	970	270J	--
Solid	A,D	OCC	PAH	dibenzo(a,h)anthracene	--	--	1300	--	--	1600	230J	--	--	110J	--	--
Solid	A,D	OCC	PAH	benzo(g,h,i)perylene	150J	--	4700	--	250J	3600	910	170J	--	990	310J	--
				Pesticides/PCBs												
Solid	A,D	PSD	PEST	alpha BHC												
Solid	A,D	PSD	PEST	beta BHC												
Solid	A,D	PSD	PEST	delta BHC												
Solid	A,D	PSD	PEST	gamma BHC (Lindane)												
Solid	A,D	PSD	PEST	Heptachlor												
Solid	A,D	PSD	PEST	Aldrin												
Solid	A,D	PSD	PEST	Heptachlor epoxide												
Solid	A,D	PSD	PEST	Endosulfan I												
Solid	A,D,E	PSD	PEST	Dieldrin												
Solid	A,D	PSD	PEST	4,4'-DDE												
Solid	A,D	PSD	PEST	Endrin												
Solid	A,D	PSD	PEST	Endosulfan II												
Solid	A,D	PSD	PEST	4,4'-DDD												
Solid	A,D	PSD	PEST	Endosulfan sulfate												
Solid	A,D	PSD	PEST	4,4'-DDT												
Solid	A,D	PSD	PEST	Methoxychlor (Marlate)												
Solid	A,D	PSD	PEST	Endrin ketone												
Solid	A,D	PSD	PEST	alpha Chlordane												
Solid	A,D	PSD	PEST	gamma Chlordane												
Solid	A,D	PSD	PEST	Toxaphene												
Liquid	A,D	OCC	PCB	Aroclor 1016												
Liquid	A,D	OCC	PCB	Aroclor 1221												
Liquid	A,D	OCC	PCB	Aroclor 1232												
Liquid	A,D	OCC	PCB	Aroclor 1242	--	--										
Liquid	A,D	OCC	PCB	Aroclor 1248	360X	4200X		--	540X					1600X		
Liquid	A,D	OCC	PCB	Aroclor 1254												
Liquid	A,D	OCC	PCB	Aroclor 1260	300JX	2800X	580JX	--	110JX		1400X	--		410X	460JX	

Table 4-1 (Cont.)

CK 1/28/91

Physical State*	Waste Characteristics**	Category***	SI Memo	Sample Collection Information and Parameters	Sample Number S 1 MEHN 82	S 2 MEHN 83	S 3 MEHN 84	S 4 MEHN 85	S 5 MEHN 86	S 6 MEHN 87	S 7 MEHN 88	S 8 MEHN 89	S 9 MEHN 90	S 10 MEHN 91 (BACKGROUND)	S 11 MEHN 92	S 12
				Analyte Detected (values in mg/kg or µg/L)												
Solid	A,D	MES	CSC/CWC	aluminum	5730	3800	4740	3360	1990	4620	2970	5350	1400	10600	8460	
Solid	A,D	MES	RM	antimony	--	--	31.6	--	--	--	13.2B	--	12.1B	--	18.2B	
Solid	A,D	MES	RM	arsenic	23.9	6.8	8.3	12.6	10.3	11.1	8.9	11.6	69.3	8.1	20.1	
Solid	A,D	MES	CSC/CWC	barium	991	23.2B	157	117	81	167	130	150	190	120	265	
Solid	A,D	MES	M	beryllium	0.72B	--	0.7B	1.7	0.47B	2	0.72B	1.4B	5.5	0.35B	2.5	
Solid	A,D	MES	RM	cadmium	1.3	--	14	--	1B	--	5.9	8.6	--	--	8.4	
Solid	D	MES	CSC/CWC	calcium	33800	13300	4790	1260	1710	2650	4460	4810	10000	83700	34900	
Solid	A,D	MES	RM	chromium	18.5	16.9	91.7	6.3	11	8.6	20.6	43	23.2	27.6	30.4	
Solid	A,D	MES	RM	cobalt	3.7B	--	5.6B	8.8B	5B	8.2B	5.2B	6.2B	22.1	4.7B	10.9B	
Solid	A,D	MES	RM	copper	66.8EJ	48.9EJ	5220EJ	56.7EJ	74.1EJ	47.4EJ	316EJ	2200EJ	76.6EJ	37.6EJ	796EJ	
Solid	A,D	MES	RM,CSC;CWC	iron	15900	18000	77000	2840	4230	5630	14800	48300	11100	16300	25500	
Solid	A,D	MES	RM	lead	64.1	43	3300	10.4	59.3	15.9	474	1590	49.7	94.8	811	
Solid	A,D	MES	CSC/CWC	magnesium	6270	7790	2660	294B	439B	537B	2580	2230	3720	28000	15500	
Solid	A,D	MES	RM	manganese	309	344	437	7.2	55.2	27	130	272	162	446	294	
Liquid	A,D	MES	RM	mercury	--	--	0.31	--	--	--	--	--	0.3	--	--	
Solid	A,D	MES	RM	nickel	28.9	13.9	26.2	13.6	17.2	17.2	94.7	402	56.6	23.1	65.5	
Solid	D	MES	CSC,CWC	potassium	729B	308B	569B	36.4B	329B	429B	232B	1030B	1630B	1190B	915B	
Solid	A,D	MES	M	selenium	2.2	1.2BWJ	0.91B	1.6	2.2	1.7	2.4	1.1BWJ	4.6	2.6	3.7	
Solid	A,D	MES	RM	silver	--	--	--	--	--	--	--	--	--	1.1B	--	
Solid	D	MES	CSC,CWC	sodium	157B	123B	114B	118B	43.7B	81B	64.4B	338B	272B	136B	239B	
Solid	A,D	MES	RM	thallium	--	--	--	--	--	--	--	--	2B	--	0.73B	
Solid	A,D	MES	RM	vanadium	18.2	7.3B	33.9	27.9	11.5B	28.1	16	27.4	69.6	24.3	35.5	
Solid	A,D	MES	CWL,CSC,RM	zinc	112	550	2350	9.2	57.6	14.4	2210	1490	75.1	126	480	
Solid	A	IOC	IOC	cyanide												

— Not detected.

cu – interference ∴ estimate
Se
CN estimated due to possible
↑ d.l.
K, Fe – acceptable
Hg

Table 4-1 (Cont.)

background

Sample Collection Information and Parameters	Sample Number											
	S 1	S 2	S 3	S 4	S 5	S 6	S 7	S 8	S 9	S 10	S 11	~~S 12~~
TICs: ug/Kg	MEHN 82	MEHN 83	MEHN 84	MEHN 85	MEHN 86	MEHN 87	MEHN 88	MEHN 89	MEHN 90	MEHN 91	MEHN 92	
(~~[illegible]~~)												
1-Methyl naphthalene	1000 J				1000 J		700 J					
(90-12-0)												
Benzo[j] Fluoranthene			3000 J				1000 J			800 J		
(205-82-3)												
7H-Benz[de] Anthracene-7-one						3000 J						
(82-05-3)												
5H-Indeno[1,2-B] Pyridine						700 J						
(244-99-5)												
( )												
( )												
( )												
( )												
( )												
( )												
( )												
( )												
( )												
( )												
( )												

‡ TIC Chemical Abstracts Service (CAS) numbers, if available, are provided in parentheses.

X - Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the Sample Data Summary Package and the Case Narrative. If more than one is required, use "Y" and "Z" as needed. If more than five qualifiers are required for a sample result, use the "X" flag to combine several flags, as needed. For instance, the "X" flag might combine the "A", "B", and "D" flags for some sample.

ADD TO TCL's

COMPOUND QUALIFIERS	DEFINITION	INTERPRETATION
U	Indicates compound was analyzed for but not detected.	Compound was not detected at or above the CRQL.
J	Indicates an estimated value.	Compound value may be semiquantitative.
UJ	Quantitation limit is estimated due to a quality control (QC) protocol.	Compound was not detected if value is at CRQL, e.g., 10U UJ. If a value is reported with a UJ above CRQL and it is <5x blank concentration (10x for common laboratory artifacts), the compound is detected but may be a laboratory artifact and not attributable to the sample.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS. Single component pesticides >10 ng/µL in the final extract shall be confirmed by GC/MS.	Compound was confirmed by GC/MS and is quantitative. Use pesticide/PCB listed value.
B	This flag is used when the compound is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.	Compound value may be semiquantitative if it is <5x the blank concentration (<10x the blank concentrations for common laboratory artifacts: phthalates, methylene chloride, acetone, toluene, 2-butanone).
E	This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis. This flag will not apply to pesticides/PCBs analyzed by GC/EC methods.	Compound value may be semiquantitative. There should be another analysis with a D qualifier, which is to be used.
D	This flag identifies all compounds identified in an analysis at a secondary dilution factor.	Alerts data user to a possible change in the CRQL. Data is quantitative.
A	This flag indicates that a TIC is a suspected aldol-condensation product.	Alerts data user of a laboratory artifact in the TICs only.
R	Results are unusable due to a major violation of QC protocol.	Compound value is not usable.

ANALYTE QUALIFIERS	DEFINITION	INTERPRETATION
E	Estimated or not reported due to interference. See laboratory narrative.	Analyte or element was not detected, or value may be semiquantitative.
S	Analysis by Method of Standard Additions.	Value is quantitative.
N	Spike recoveries outside QC protocols, which indicates a possible matrix problem. Data may be biased high or low. See spike results and laboratory narrative.	Value may be quantitative or semi-quantitative.
A	Duplicate value outside QC protocols which indicates a possible matrix problem.	Value may be quantitative or semiquantitative.
+	Correlation coefficient for standard additions is less than 0.995. See review and laboratory narrative.	Data value may be biased.
[ ]	Value is real, but is above instrument DL and below CRDL.	Value may be quantitative or semi-quantitative.
UJ	DL is estimated because of a QC protocol. DL is possibly above or below CRDL.	Compound or element was not detected.
J	Value is above CRDL and is an estimated value because of a QC protocol.	Value may be semiquantitative.
U	Compound was analyzed for but not detected.	Compound was not detected at or above the CRDL.
M	Duplicate injection precision not met.	Value may be semiquantitative.
W	Post-digestion spike for furnace AA analysis is out of control limits (35-115%), while sample absorbance is <50% of spike absorbance.	Value may be semiquantitative.
R	Results are unusable due to a major violation of QC protocols.	Analyte value is not usable.

Source: Ecology and Environment, Inc. 1989.