SDMS Document
67976

UNION CARBIDE

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January 24, 1989

Ms. Janet Feldstein
U.S. EPA Region II
Site Compliance Branch
26 Federal Plaza, Room 747
New York, N.Y. 20178

SUBJECT: SCP/CARLSTADT SITE SAMPLING PLAN

Confirming the agreement reached in our meeting on January 23, 1989, the Sampling Plan issued by ERM on January 4, 1989, for treatability tests will be revised and reissued in accordance with the following:

1. The agreements reached with respect to your comments to Marion Carlin transmitted on January 13, 1989 and discussed on January 18, 1989, and

2. the revised Table 1 Rev. 2, Table 4, and Table 5, dated January 18, 1989, as further discussed on January 23, 1989 (see attached notes).

I understand that official approval for sampling to proceed at the site cannot be granted until these revisions have been documented and reissued in a sampling plan acceptable to the EPA. I look forward to the completion of this part of our program.

Very truly yours,

H. G. Weil

HGW/smd/202+

CC: Ms. Susan Hoffman - Cohen, Shapiro, etc.
Mr. Ron Fender - ERM

JT 1/23/09 comments

SUPPLEMENTARY TABLE FOR TREATED SAMPLES- SOILS AND SLUDGES: FOR TREATABILITY STUDY WORK PLANS
SCP/CARLSTADT SITE
TABLE 2

ANALYSIS OF TREATED SAMPLES:

Treatment Technology	Sampling Point	Sample Type	Analysis Required	Analytical Methods
I. Solidification/ Stabilization	End of Round 2 design mix development	1. Each design mix plug:		
		a. After 3-day curing	a. Unconfined compressive strength (UCS)	a. Cohesive soil-like materials: ASTM-2166 Monolithic materials: ASTM-1633
		b. After 7-day curing: -Original	b. UCS	b. (Same as for the 3-day cured plug)
		-Duplicate	b. UCS	b. (Same as for the 3-day cured plug)
		c. After 14-day curing	c. UCS	c. (Same as for the 3-day cured plug)
	End of Round 3 design mix development	1. Each design mix plug:		
		a. After 3-day curing:	a. UCS b. TCLP - highest UCS on soil Hot Spot Composite	a. Cohesive soil-like materials: ASTM-2166 Monolithic materials: ASTM-1633
		b. After 7-day curing: -Original	b. UCS	b. (Same as for the 3-day cured plug)
		-Duplicate	b. UCS	b. (Same as for the 3-day cured plug)
		c. After 14-day curing:	c. (a.) UCS (b.) Triaxial permeability (c.) Extraction leachate development (d.) Extraction leachate quality organics analysis: All TCL constituents included in the VOC, B/N, PCB, acid extractable and petroleum hydrocarbon categories (e.) Extraction leachate total cyanide analysis	(a.) (Same as for the 3-day cured plug) (b.) EPA Standard Method 9100 (from SW-846) (c.) ~~EPA's EP Toxicity~~ TCLP (d.) Contract Laboratory Program (CLP) protocol (e.)Contract Laboratory Program (CLP) protocol
		2. Each Hot Spot- Lead design mix plug, after 14-day curing:	a. Extraction leachate lead analysis	a. Contract Laboratory Program (CLP) protocol
		3. Each design mix for the Hot Spot Composite and for the Overall Composite	a. Extraction leachate analysis for these indicator metals: lead, chromium, and copper	a. Contract Laboratory Program (CLP) protocol
		4. Each design mix for the Tank and Pit Composite	a. Extraction leachate analysis for these indicator metals: lead, chromium, and copper	a. Contract Laboratory Program (CLP) protocol

o samples
x 2 vendors
x 1 or 2 mixes
12-24

If site moisture content is greater than vendor's maximum will run additional 2 plugs x each vendor
~~Sample as best practicable~~
Hot-spot Composite with higher moisture content (SAME TESTS)

remove

Best Hot spot composite

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TABLE 2 (CONT.)

ANALYSIS OF TREATED SAMPLES:

Treatment Technology	Sampling Point	Sample Type	Analysis Required	Analytical Methods
II. Contaminant Extraction	1. After each process trial ("shakeout") consisting of at least four separate extractions	Treated Hot Spot- Lead sample	Lead	Contract Laboratory Program (CLP) protocol
		Treated Hot Spot- PCBs sample	PCBs	Contract Laboratory Program (CLP) protocol
		Treated Hot Spot Composite sample:	Extraction leachate quality organics analysis: All TCL constituents included in the VOC, B/N, PCB, acid extractable and petroleum hydrocarbon categories; plus indicator metals: lead, chromium, and copper	Contract Laboratory Program (CLP) protocol
		Treated Overall Composite sample:	Extraction leachate quality organics analysis: All TCL constituents included in the VOC, B/N, PCB, acid extractable and petroleum hydrocarbon categories; plus indicator metals: lead, chromium, and copper	Contract Laboratory Program (CLP) protocol
		Treated Hot Spot- B/N sample:	Full set of B/N constituents	Contract Laboratory Program (CLP) protocol
		Treated Tank and Pit Composite sample	Extraction leachate quality organics analysis: All TCL constituents included in the VOC, B/N, PCB, acid extractable and petroleum hydrocarbon categories; plus indicator metals: lead, chromium, and copper	Contract Laboratory Program (CLP) protocol
	2. After completion of each shakeout test	Used extraction fluids after the 1st and and last extraction in each shakeout test; for each extraction fluid used; for each of the following sample types:		
		a. Hot Spot- Lead	a. Lead	Contract Laboratory Program (CLP) protocol
		b. Hot Spot- VOCs	b. VOCs	Contract Laboratory Program (CLP) protocol
		c. Hot Spot Composite:	c. All TCL constituents included in the VOC, B/N, PCB, acid extractable and petroleum hydrocarbon categories; plus indicator metals: lead, chromium, and copper	Contract Laboratory Program (CLP) protocol

Figure 1

Solids & Fluids Analyses

ample HCL?

Lead Lead

t Spot Comp. lead, chromium, copper

verall lead, chromium,
omp. copper

ludge pit " "

surfactant

Spot PCBs PCBs

Spot Comp. VOCs, B/N, PCBs
ACID EX., P.HC.

verall " "
comp

" "

ludge Pit
Comp

Powerkleen

PCBs Hspot PCBs

Overall Composite PCBs, VOCs
B/N, ACID EX, PHC*

ludge pit of Spot B/N

Sludge Pit Comp. VOCs, ~~lead~~ PCBs, B/N,
ACID EX, PHC.*

* Dan will check on Powerkleen's effectiveness for removing

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TABLE 2 (CONT.)

ANALYSIS OF TREATED SAMPLES:

Treatment Technology	Sampling Point	Sample Type	Analysis Required	Analytical Methods
		d. Overall Composite:	d. All TCL constituents included in the VOC, B/N, PCB, acid extractable and petroleum hydrocarbon categories; plus indicator metals: lead, chromium, and copper	Contract Laboratory Program (CLP) protocol
		e. Hot Spot- B/N:	e. Full set of B/N constituents	Contract Laboratory Program (CLP) protocol
		f. Tank and Pit Composite:	f. All TCL constituents included in the VOC, B/N, PCB, acid extractable	Contract Laboratory Program (CLP) protocol
III. Thermal Treatment	Prior to treatment	Each raw sample type raw sample	Melting point of sample (to guide selection of rotary kiln temperature)	ASTM Method CLP methods
	During treatment	Afterburner off-gas:	(1) CO, CO2, SO2, and NOX leave in-lab will	Continuous emission monitoring, using chemical luminescence for NOX, nondispersive infrared for CO and CO2, and nondispersive UV for SO2
			2. Total hydrocarbons check with EER	Gas chromatography with flame ionization detector, calibrated per EPA protocol
		Particulate	(3) Total concentration of ~~each~~ particulate of the following metals: As, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, and Zn	~~Contract Laboratory Program (CLP) protocol~~ OK
			* (4) leachate concentration...	EP Toxic
	After treatment	Ash resulting from thermal treatment	Total concentration of each of the following metals: As, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, and Zn	Contract Laboratory Program (CLP) protocol
			Leachable concentration of the following metals: As, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, and Zn; leachate	Leachate developed per ~~EP Toxicity~~; leachable metals per Contract Laboratory Program (CLP) protocol OK

* If possible, based on volume available

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REVISION 2 of TABLE 1 for Sampling Plan, dated 10/89

SUMMARY OF SOILS AND SLUDGE SAMPLING FOR SCHCARLSTADT SITE (CARLSTADT, NJ)

Will ReDO

Recommend Silicate based

SOIL SAMPLES :

Treatment Technology	Treatability Contractor	Sample Type	Purpose	SAMPLING LOCATIONS : B-1	B-2			B-5	P-2	P-3	P-4					Depth (feet) :
Thermal Treatment	EER	Hot Spot Soil Composite- Metals	Treatability													please
		Overall Soil Composite	Treatability													
Containment Extraction	ERM Inc	Soil Hot Spot - Lead	Treatability	P-3												
		Soil Hot Spot - PCBs (Aroclor 1242)	Treatability	B-1												
		Hot Spot Soil Composite- All Parameters	Treatability	B-1	B-2			B-5								
		Overall Soil Composite	Treatability				B-4		P-2	P-3	P-4					
Solidification	Hanson	Soil Hot Spot - Lead	Treatability	P-3												
		Soil Hot Spot - VOCs	Treatability													
	THIS OPTION MAY BE DELETED	Hot Spot Soil Composite- All Parameters	Treatability	B-1	B-2			B-5								
		Overall Soil Composite	Treatability				B-4		P-2	P-3	P-4					
Solidification	Envirco	Soil Hot Spot - Lead	Treatability	P-3												
		Soil Hot Spot - VOCs	Treatability													
		Hot Spot Soil Composite- All Parameters	Treatability	B-1	B-2			B-5								
		Overall Soil Composite	Treatability				B-4		P-2	P-3	P-4					

Call Gel -

Bury

SLUDGE SAMPLES :

Treatment Technology	Treatability Contractor	Sample Type	Purpose	SAMPLING POINTS	Depth (feet) :
Thermal Treatment	EER	Sludge Pit Composite	Treatability	Random points: 4 from the Former Pit area	also unsaturated
		Sludge Tank Composite	Treatability	Random points: 4 from the sludge tank	
Containment Extraction	ERM Inc.	Sludge Hot Spot - BNI	Treatability		B-1
		Sludge Tank and Pit Composite	Treatability	Random points: 4 from the tank and 4 from the former pit	
Solidification	Hanson	Sludge Hot Spot - BNI	Treatability		B-1
	POSSIBLE OPTION TO DELETE	Sludge Tank and Pit Composite	Treatability	Random points: 4 from the tank and 4 from the former pit	
	Envirco	Sludge Hot Spot - BNI	Treatability		B-1
		Sludge Tank and Pit Composite	Treatability	Random points: 4 from the tank and 4 from the former pit	

Note: * Revised depth directions for sampling are provided on later Table 4 (see attached)

of 5 6

NOTE: 2nd PAGE STAYS THE SAME

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TABLE 4

SUMMARY OF DAMES AND MOORE RI DATA- Soil and Sludge Sampling Locations, mg/kg

Sampling Point	Depth (ft)	VOCs	PHCs	B/N	Aroclor 1242	Aroclor 1254
B-1	0 to 2	12168	91600	447	15000	.
	5 to 6	6601	27500	277.1	210	.
	Top of clay	7.288	440	7.202	4.8	.
B-2	0 to 2	4947	13700	130.723	.	.
	5 to 6	0894	10400	130.4	8.9	.
	Top of clay	91.56	1010	4.373	1.9	.
B-3	0 to 2	109.99	4950	374.85	2.2	.
	5 to 6	0418	13900	160.8	1.6	2.4
	Top of clay	16.747	5760	4.258	0.082	.
B-4	0 to 2	988.8	430	119.253	2.2	.
	5 to 6	12.7	1270	2.7	.	.
	Top of clay	.	51	1.73	.	.
B-5	0 to 2	448.8	7410	40.87	20	.
	5 to 6	2651	10000	81	.	.
	Top of clay	15.264	130	42.47	.	.
B-6	0 to 2	1.02	880	38.43	.	.
	5 to 6	63.5	29000	162.5	.	.
	Top of clay	0.270	61	12.14	.	.
P-1	0 to 2	0.016	4150	121.49	1.2	.
	5 to 6	28.7	380	1.2	0.065	.
	Top of clay	<34		4.638	.	.
P-2	0 to 2	231.7	2600	177.25	96	.
	5 to 6	311.7	276	10	5.2	3.5
	Top of clay	103.45	<28	0.93	0.04	.
P-3	0 to 2	0.079	2880	47.676	.	.
	5 to 6	85.1	1080	41.5	.	.
	Top of clay	2.172	3780	38.511	2.8	2.2
P-4	0 to 2	0.024	670	23.165	0.33	.
	5 to 6	0.6	950	28.1	0.56	.
	Top of clay	1822	823	174.848	2.1	.
MW-1S	0 to 2	0.027	805	42.683	.	4.1
	5 to 6	.	38	4.2	.	0.18
	Top of clay	0.0421	191	2.30	.	.
MW-3S	0 to 2	7.354	11900	170.048	160	.
	5 to 6	2101	16500	3912.8	290	.
	Top of clay	65.81	126	6.868	5.4	.
MW-4S	0 to 2	1.350	290	304.357	5.4	.
	5 to 6	237.3	14000	227.6	1.4	.
	Top of clay	0.0814	4650	4.867	0.017	.
MW-6S	0 to 2	7993	5010	55.2	4.4	.
	5 to 6	0.8	390	7.1	1.5	.
	Top of clay	28.53	120	6.19	0.039	.
MW-2D	0 to 2	88513	7690	48.121	38	7.4
	5 to 6	0.6	6290	430.3	350	.
	Top of clay	2.145	61	0.999	.	.
MW-5D	0 to 2	2.808	18000	145.582	.	7.5
	5 to 6	11	1110	.	0.08	.
	Top of clay	0.386	80	1.18	0.18	0.084
MW-7D	0 to 2	0.478	1870	38.59	.	12
	5 to 6	.	6860	.	53	.
	Top of clay	34.642	164	5.35	0.78	.

TABLE 4 (Cont.d)
(All values in mg/kg)

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Sampling Point	Depth (ft)	Aroclor 1248	Aroclor 1260	Arsenic	Beryllium	Cadmium
B-1	0 to 2	-	-	18	0.35	95.1
	5 to 6	-	-	8.8	0.22	26
	Top of clay	-	-	14	0.43	132
B-2	0 to 2	23	9.9	2.7	0.82	28.9
	5 to 6	-	10	-	0.49	26
	Top of clay	-	1	4.3	0.74	3.3
B-3	0 to 2	-	-	6.4	0.66	56.2
	5 to 6	-	-	5.8	0.4	22
	Top of clay	-	-	2.8	0.41	0.97
B-4	0 to 2	-	-	6.5	0.78	1.9
	5 to 6	-	-	2	0.75	0.52
	Top of clay	-	-	1.9	0.41	-
B-5	0 to 2	-	-	60	0.41	5.4
	5 to 6	9.7	-	20	0.59	21
	Top of clay	2.6	-	-	0.45	2.2
B-6	0 to 2	-	-	26	0.66	69
	5 to 6	7.6	-	9.3	0.32	17
	Top of clay	0.28	-	-	0.39	1.4
P-1	0 to 2	-	-	22	0.4	1.6
	5 to 6	-	-	1.2	1.3	-
	Top of clay	-	-	1.1	0.8	-
P-2	0 to 2	-	-	10	0.23	6.5
	5 to 6	-	-	7.6	0.3	6.5
	Top of clay	-	-	4.2	0.49	-
P-3	0 to 2	-	-	8.7	0.4	9.6
	5 to 6	-	-	29	0.9	4.5
	Top of clay	-	-	18	0.6	26
P-4	0 to 2	-	-	3.6	0.42	1
	5 to 6	-	-	3.5	0.37	1.8
	Top of clay	-	-	3.5	0.67	0.52
MW-1S	0 to 2	4.1	-	11	0.36	1.3
	5 to 6	-	-	1.2	0.4	0.46
	Top of clay	-	-	-	0.50	-
MW-1S	0 to 2	-	-	-	0.31	12
	5 to 6	-	-	-	0.42	11
	Top of clay	-	-	4	0.66	-
MW-4S	0 to 2	-	-	3.6	0.42	1.7
	5 to 6	-	-	82	0.44	6.6
	Top of clay	-	-	3.4	0.55	-
MW-6S	0 to 2	-	-	13	0.44	16
	5 to 6	-	-	16	0.77	0.74
	Top of clay	-	-	-	0.81	-
MW-2D	0 to 2	-	-	7.7	0.35	2.9
	5 to 6	-	-	6.9	0.37	6
	Top of clay	-	-	-	0.41	-
MW-5D	0 to 2	16	48	-	57.6	2.5
	5 to 6	-	2.1	9.6	0.76	0.46
	Top of clay	-	0.049	-	0.68	0.55
MW-7D	0 to 2	12	-	-	0.87	5.5
	5 to 6	-	-	81	0.58	6.9
	Top of clay	-	-	-	0.46	1.1

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TABLE 4 (Cont.d)
(All values in mg/kg)

		Silver	Selenium	Zinc	Mercury
B-1	0 to 2	1.8	1	4170	4.7
	5 to 6	40		1110	9.5
	Top of clay	1.2	1.3	140	0.96
B-2	0 to 2	1.2	4.9	295	11.5
	5 to 6	.	2.1	761	13.9
	Top of clay	.		140	0.44
B-3	0 to 2	.	3.5	292	1
	5 to 6	.		517	1.8
	Top of clay	.		48	.
B-4	0 to 2	.		150	0.41
	5 to 6	.		87	0.78
	Top of clay	.		29	.
B-5	0 to 2	0.4		440	0.64
	5 to 6	.		1050	2.7
	Top of clay	.		100	0.62
B-6	0 to 2	2.9		687	21.3
	5 to 6	.		1870	1.4
	Top of clay	.		231	0.41
P-1	0 to 2	1.6		327	1.1
	5 to 6	.		49	0.25
	Top of clay	.		22	.
P-2	0 to 2	.		180	1
	5 to 6	.		860	0.42
	Top of clay	.		64	.
P-3	0 to 2	.		442	1.7
	5 to 6	.	1	1400	0.14
	Top of clay	.		44400	13.8
P-4	0 to 2	.		349	0.83
	5 to 6	.		411	0.62
	Top of clay	.		120	.
MW-1S	0 to 2	1.3		837	0.49
	5 to 6	.		63	1.8
	Top of clay	.		20	0.094
MW-3S	0 to 2	.		542	1.7
	5 to 6	.		465	0.77
	Top of clay	.		68	.
MW-4S	0 to 2	.		829	1.1
	5 to 6	.	1.8	150	.
	Top of clay	.		53	.
MW-6S	0 to 2	.	1.2	716	0.3
	5 to 6	.		170	0.4
	Top of clay	.		45	0.25
MW-2D	0 to 2	.		130	0.4
	5 to 6	.		378	0.52
	Top of clay	.		47	.
MW-5D	0 to 2	.		418	0.72
	5 to 6	.		79	0.14
	Top of clay	.		78	0.2
MW-7D	0 to 2	.	0.88	719	0.55
	5 to 6	.		693	0.88
	Top of clay	.		45	0.38

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TABLE 4 (Cont.d)
(All values in mg/kg)

		Chromium	Copper	Nickel	Lead	Antimony
B-1	0 to 2	721	16000	39	2750	18
	5 to 6	542	8000	48	2110	-
	Top of clay	38	11000	13	170	-
B-2	0 to 2	211	840	37	1080	11
	5 to 6	120	428	27	881	-
	Top of clay	27	48	28	83	-
B-3	0 to 2	73	484	23	410	-
	5 to 6	80	168	18	820	6.9
	Top of clay	21	13	11	43	1
B-4	0 to 2	47	3240	18	180	-
	5 to 6	21	218	21	94	-
	Top of clay	14	11	11	-	-
B-5	0 to 2	57	71500	-	470	-
	5 to 6	168	284	27	1340	36
	Top of clay	28	225	12	180	-
B-6	0 to 2	140	18300	-	880	-
	5 to 6	66	4880	11	1880	8
	Top of clay	18	280	10	120	-
P-1	0 to 2	18	10800	12	420	-
	5 to 6	22	88	17	18	-
	Top of clay	12	28	5.8	-	-
P-2	0 to 2	79	480	13	300	-
	5 to 6	81	188	40	280	-
	Top of clay	18	27	20	10	
P-3	0 to 2	870	645	19	872	-
	5 to 6	48	884	80	2810	-
	Top of clay	58	448	44	816	28
P-4	0 to 2	59	315	10	820	-
	5 to 6	18	822	11	810	7.6
	Top of clay	19	37	21	28	-
MW-1S	0 to 2	27	16500	18	290	-
	5 to 6	12	808	8.5	45	-
	Top of clay	13	58	8.4	9	-
MW-3S	0 to 2	100	978	33	400	-
	5 to 6	255	581	16	1490	-
	Top of clay	24	28	23	31	-
MW-4S	0 to 2	79	1870	14	140	-
	5 to 6	81	747	116	87	-
	Top of clay	18	59	18	8.8	-
MW-6S	0 to 2	244	2980	28	782	-
	5 to 6	88	85	24	110	-
	Top of clay	21	17	8.8	12	-
MW-2D	0 to 2	38	1970	14	140	-
	5 to 6	28	5870	28	230	-
	Top of clay	13	47	17	9.5	-
MW-5D	0 to 2	84	399	12	959	5.9
	5 to 6	28	82	27	20	-
	Top of clay	19	31	22	32	-
MW-7D	0 to 2	39	1420	24	848	-
	5 to 6	72	100	46	100	-
	Top of clay	17	128	7.9	40	-

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TABLE 5

RATIONALE FOR THE SELECTION OF SOIL AND SLUDGE SAMPLE LOCATIONS AND DEPTHS

Sample Type	Sampling Point	Sampling Depth (feet)	Number of Portions	Target Contaminants	Rationale for Selection
Hot Spot Soil Composite- Metals					
	B-1	0 to 2	5	Ag, Cr, Ni, Pb, Zn, Cd	Selected to provide material containing the highest detected concentration of these metals
	B-2	0 to 6	2	Sb, Hg	Selected to provide material containing the highest detected concentration of these metals
	B-5	0 to 6	3	Sb, Cu, As	Selected to provide material containing the highest detected concentration of these metals
	MW-5D	0 to 2	1	Se	Selected to provide material containing the highest detected concentration of these metals
Overall Soil Composite					
	B-3	0 to ~~top of clay~~ 0-6'	1	VOCs, PHCs, PCBs, BNs, and metals	Contains non-hot-spot concentrations of VOCs, PHCs, PCBs, base neutrals, and 9 metals; contains hot spot locations for 2 metals
	B-4	0 to ~~top of clay~~ 0-6'	1	VOCs, PHCs, PCBs, BNs and metals	Contains non-hot-spot concentrations of VOCs, PHCs, PCBs, base neutrals, and 9 metals
	P-2	0 to ~~top of clay~~ 0-6'	1	VOCs, PHCs, PCBs, BNs and metals	Contains non-hot-spot concentrations of VOCs, PHCs, PCBs, base neutrals, and 9 metals
	P-3	0 to 6	1	VOCs, PHCs, PCBs, BNs, and metals	Contains non-hot-spot concentrations of VOCs, PHCs, PCBs, base neutrals, and 8 metals; contains hot spot locations for 3 metals
	P-4	0 to 6	1	PHCs, PCBs, BNs, and metals	Contains non-hot-spot concentrations of PHCs, PCBs, base neutrals, and 10 metals
	MW-5S	0 to ~~top of clay~~ 6	1	VOCs, PHCs, BNs, PCBs, and metals	Contains non-hot-spot concentrations of VOCs, PHCs, base neutrals, and 10 metals; contains one hot spot depth for one PCB and one hot spot depth for VOCs.
Soil Hot Spot- Lead					
	P-3	5 to 6	1	Lead	The highest lead concentration (2,810 mg/kg) was detected here.
Soil Hot Spot- Aroclor 1242					
	B-1	0 to 2	1	Aroclor 1242	The highest PCB concentration (15,000 mg/kg) was detected here.

NOTE: Determination of hot spot locations was based on Dames and Moore RI data.

will composite vertically

does not correspond to what was actually done. Must redo.

borings only down to top of clay

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TABLE 5 (Cont.d)

Sample Type	Sampling Point	Sampling Depth (feet)	Number of Portions	Target Contaminants	Rationale for Selection
Hot Spot Soil Composite-All Parameters	B-1	0 to top of clay	1	Ag, Cr, Ni, Pb, Zn, Cd VOCs, PHCs, B/N, Arochlor 1242 (a PCB).	Contains hot spots for 6 metals, VOCs, PHCs, B/Ns, and Arochlor 1242; concentrations of these were higher than at any other location and depth
	B-2	0-5 2	1	Arochlor 1248 and 1260, B/N, VOCs, and PHCs	Contains hot spots for 2 PCB compounds; contains relatively high concentrations of B/N, VOCs, and PHCs; concentrations of these were higher than at any other location and depth
	B-5	0 to 5	1	Sb, Cu, As	Contains hot spots for these 3 metals
	MW-3S	0 to 6	1	VOCs, PHCs, B/N, Arochlor 1242, 9 metals	Contains hot spots for PHCs, Arochlor 1242, B/N, Cr; contains relatively high concentrations of Pb, Cu, and Zn; concentrations of these were higher than at any other location and depth
	B-3 ~~MW-3D~~	5-6 ~~0 to 2~~	1	Total VOCs	The highest total VOCs concentration was detected here. NO of 5-6
	MW-3S	5 to 6	1	Base neutrals	The highest total base neutrals concentration (3,912 mg/kg) was detected here.
Soil Hot Spot VOCs	~~MW-3D~~ B-3	~~0 to 2~~ 5-6	1	VOCs	The highest total VOCs concentration (99,513 mg/kg) was detected here. wrong 7 5-1
Sludge Pit Composite	Random locations	5 to top of clay	1	All contaminants present	Random selection of 4 sample locations from the entire sludge depth and area would produce a ~~representative~~ sample.
Sludge Tank Composite	Random locations	From as much of entire sludge volume ~~as practicable~~	1	All contaminants present	Random selection of 4 sample locations from the entire sludge depth and area would produce a ~~representative~~ sample; random sampling may be restricted due to ease of tank sampling.

NOTE: Determination of hot spot locations/depths was based on Demes and Bloom RI data.

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CONTAMINANT EXTRACTION TREATABILITY

SCP/CARLSTADT SITE

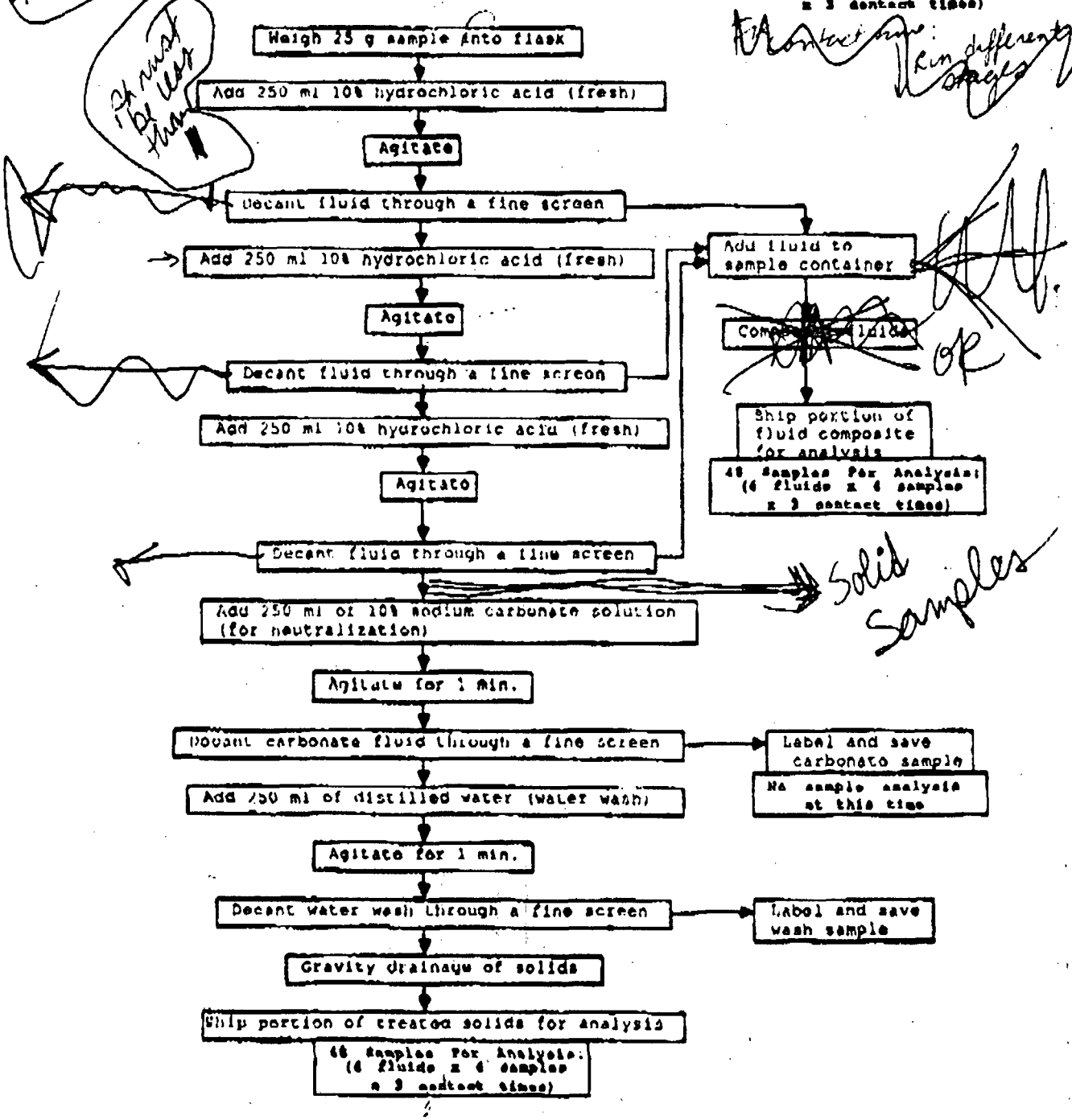
Day 1 and Day 2 Kinetic Process Trials

APPLIES TO:
1) Trials with 10% hydrochloric acid (HCl) at 5, 10, and 15-min. contact times.
2) Trials with 5% aqueous surfactant at 15, 30, and 45-min. contact times.
3) Trials with 5% Powerklean (citrate-based product) at 15, 30, and 45-min. contact times.
4) Trials with 10% Powerklean at 15, 30, and 45-min. contact times.

APPLIES TO SAMPLES:

HCl:	Aqueous Surfactant:	Powerklean (5% and 10%):
1) Soil Hot Spot- Lead	1) Soil Hot Spot- PCBs	1) Soil Hot Spot- PCBs
2) Soil Hot Spot Composite	2) Soil Hot Spot Composite	2) Overall Soil Composite
3) Overall Soil Composite	3) Overall Soil Composite	3) Sludge Hot Spot- D/N
4) Sludge Pit Composite	4) Sludge Pit Composite	4) Sludge Pit Composite

PROCESS FLOW: 48 Process Trials (4 fluids x 4 samples x 3 contact times)



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CO MINANT EXTRACTION TREATABILITY

ACP/CARLSTADT SITE

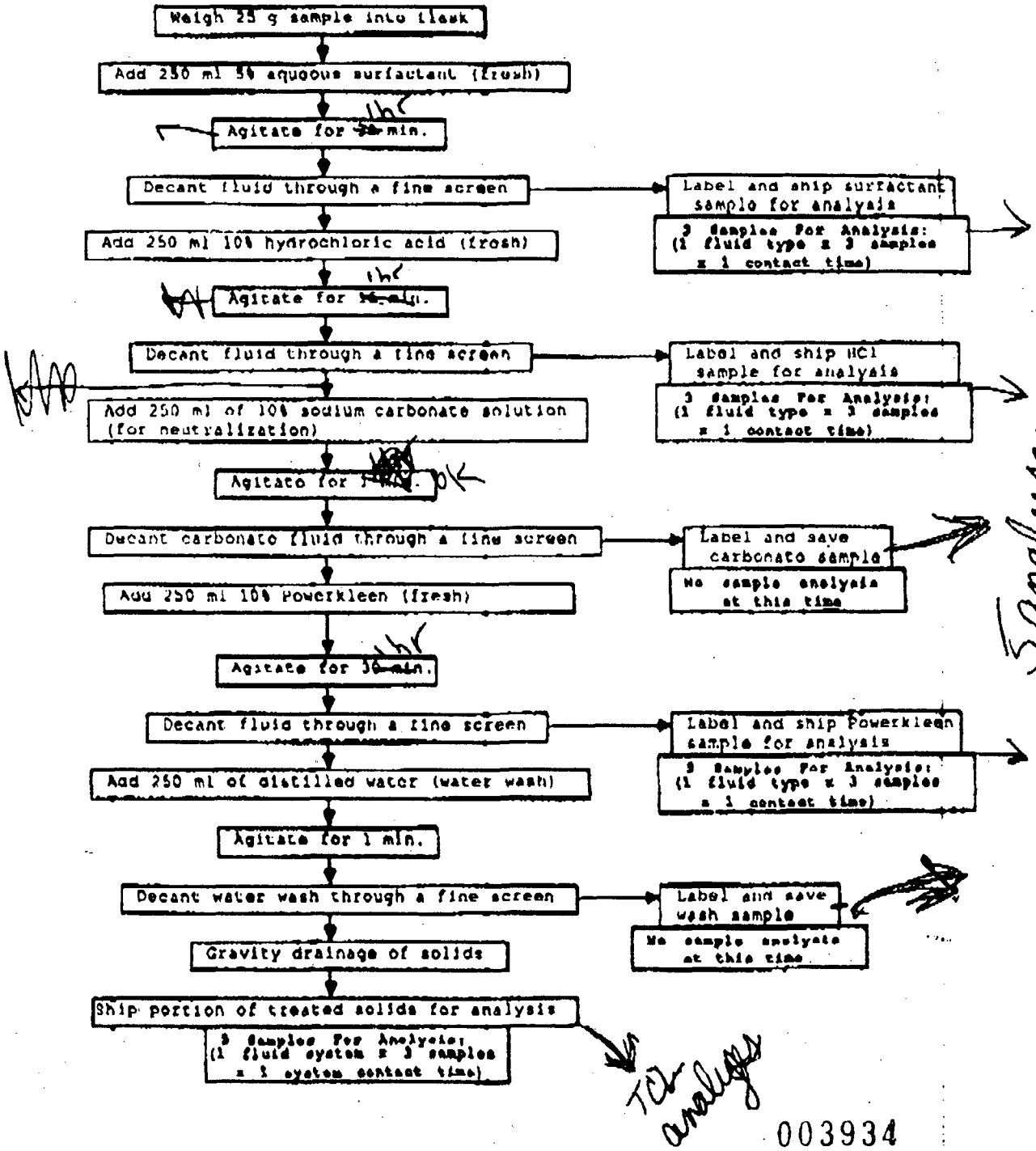
DRAFT

Day 3 Sequential Extraction Process Trials

APPLIES TO: Trials with 5% aqueous surfactant at a 30-min. contact time; followed by ~~10%~~ hydrochloric acid (HCl) at a 15-min. contact time; followed by 10% Powerkleen at a 30-min. contact time.

APPLIES TO SAMPLES:
1) Soil Hot Spot Composite
2) Overall Soil Composite
4) Sludge Pit Composite

PROCESS FLOW: ~~3 Process Trial:~~ (1 fluid system x 3 samples x 1 system contact time)



Revise

Table 1 → analyses of Raw
Table 2 → analyses of Treated

Extract: Figure 1
Figure 2

Stabil Figure 1

Text of Scope of Treatability Studies: revise in accordance with EPA Comments not discussed.

Draft Sampling Plan
revise in accordance with EPA comments (+ tables

Next Meeting February 9th: 10:00AM

EP Toxic on 12 grab samples: 0-2 feet
(Regular turnaround

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