SDMS Document
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UNION CARBIDE CORPORATION

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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

JF 1/23/89 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

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

I. Site moisture content is greater than vendors maximum will run additional 2 plugs x each vendor ~~Sample on best [illegible]~~ (Hot-spot Composite) with higher moisture contact (SAME Tests)

remove

2. Hot Best Spot composite

MEP ~~on Hot Spot composite~~

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

Sample Type HCL:

Lead — Lead

Hot Spot Comp. — lead, chromium, copper

Overall Comp. — lead, chromium, copper

Sludge pit — " "

Surfactant

Spot PCBs — PCBs

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

Overall Comp — " "

Sludge Pit Comp. — " "

Powerkleen

PCBs Hspot — PCBs

Overall Composite — PCBs, VOCs, B/N, ACID Ex, PHC*

Sludge pit of Spot — B/N

Sludge Pit Comp. — VOCs, PCBs, B/N, ACID Ex, PHC*

*ERM 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) metals	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~~; OK leachable metals per Contract Laboratory Program (CLP) protocol

* If possible, based on volume available

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REVISION 2 of TABLE 1 for Sampling Plan, dated 1/6/89

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

Will ReDO

SOIL SAMPLES :

SAMPLING LOCATIONS :

Treatment Technology	Treatability Contractor	Sample Type	Purpose														Depth (feet) *
Thermal Treatment	EER	Hot Spot Soil Composite- Metals	Treatability	B-1	B-2			B-5					MW-5D				
		~~Overall Soil Composite~~	~~Treatability~~			~~B-3~~	~~B-4~~		~~P-2~~	~~P-3~~	~~P-4~~					~~MW-6S~~	pulse
	collected different sample																
Contaminant Extraction	ERM, Inc.	Soil Hot Spot - Lead	Treatability	P-3													
		Soil Hot Spot - PCBs (Arochlor 1242)	Treatability	B-1													
		Hot Spot Soil Composite- All Parameters	Treatability	B-1	B-2			B-5							MW-3S		
		Overall Soil Composite	Treatability			B-3	B-4		P-2	P-3	P-4					MW-6S	
Solidification	Hazcon	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							MW-3S		
		Overall Soil Composite	Treatability			B-3	B-4		P-2	P-3	P-4					MW-6S	
Solidification	Enreco	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							MW-3S		
		Overall Soil Composite	Treatability			B-3	B-4		P-2	P-3	P-4					MW-6S	

Recommend Silicate based

Call Gil -

SLUDGE SAMPLES :

SAMPLING POINTS

Treatment Technology	Treatability Contractor	Sample Type	Purpose				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			
Contaminant Extraction	ERM, Inc.	Sludge Hot Spot - B/N	Treatability				
		Sludge Tank and Pit Composite	Treatability	Random points: 4 from the tank and 4 from the former pit	MW-3S	B-1	
Solidification	Hazcon	Sludge Hot Spot - B/N	Treatability				
		Sludge Tank and Pit Composite	Treatability	Random points: 4 from the tank and 4 from the former pit	MW-6S	B-1	
	POSSIBLE OPTION TO DELETE						
	Enreco	Sludge Hot Spot - B/N	Treatability				
		Sludge Tank and Pit Composite	Treatability	Random points: 4 from the tank and 4 from the former pit	MW-6S	B-1	at 5 6

Note: * Revised depth selections for sampling are provided on new Table 6 (see attached)

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	S/N	Aroclor 1242	Aroclor 1254
B-1	0 to 2	12168	81600	447	15000	-
	5 to 6	6501	27500	277.1	210	-
	Top of clay	7.288	440	7.202	4.6	-
B-2	0 to 2	4347	13700	130.723	-	-
	5 to 6	6394	10400	130.4	8.9	-
	Top of clay	81.56	1010	4.373	1.6	-
B-3	0 to 2	109.99	4650	374.85	2.2	-
	5 to 6	8418	13600	160.8	1.6	2.4
	Top of clay	16.747	5780	4.268	0.032	-
B-4	0 to 2	986.9	430	113.253	2.2	-
	5 to 6	12.7	1270	2.7	-	-
	Top of clay	-	61	1.73	-	-
B-5	0 to 2	449.8	7410	46.97	20	-
	5 to 6	2061	10900	61	-	-
	Top of clay	15.254	130	42.47	-	-
B-6	0 to 2	1.02	660	38.43	-	-
	5 to 6	69.5	29600	152.5	-	-
	Top of clay	0.276	61	12.14	-	-
P-1	0 to 2	0.616	4160	121.49	1.2	-
	5 to 6	26.7	360	1.2	0.065	-
	Top of clay	-	<34	4.838	-	-
P-2	0 to 2	231.7	2600	177.25	96	-
	5 to 6	311.7	278	10	5.2	3.5
	Top of clay	183.45	<29	0.93	0.04	-
P-3	0 to 2	0.079	2660	47.676	-	-
	5 to 6	65.1	1060	41.5	-	-
	Top of clay	2.172	3760	38.511	2.8	2.2
P-4	0 to 2	0.024	679	23.165	0.33	-
	5 to 6	0.8	950	26.1	0.58	-
	Top of clay	1822	623	174.343	2.1	-
MW-1S	0 to 2	0.027	605	42.663	-	4.1
	5 to 6	-	36	4.2	-	0.16
	Top of clay	0.0421	191	2.39	-	-
MW-3S	0 to 2	7.354	11800	170.046	160	-
	5 to 6	2101	16500	3912.8	290	-
	Top of clay	65.81	126	6.865	5.4	-
MW-4S	0 to 2	1.358	290	304.357	5.4	-
	5 to 6	237.3	14000	227.8	1.4	-
	Top of clay	0.0614	4650	4.887	0.017	-
MW-6S	0 to 2	7993	5010	55.2	4.4	-
	5 to 6	0.3	390	7.1	1.6	-
	Top of clay	26.53	120	6.19	0.039	-
MW-2D	0 to 2	99513	7660	46.121	39	7.4
	5 to 6	0.8	8290	430.3	350	-
	Top of clay	2.145	61	0.999	-	-
MW-5D	0 to 2	2.608	18000	145.582	-	7.5
	5 to 6	11	1110	-	0.08	-
	Top of clay	0.355	80	1.18	0.18	0.064
MW-7D	0 to 2	0.476	1870	38.59	-	12
	5 to 6	-	8360	-	23	-
	Top of clay	34.942	154	5.35	0.76	-

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	-	-	15	0.35	95.1
	5 to 6	-	-	8.8	0.23	25
	Top of clay	-	-	14	0.43	132
B-2	0 to 2	23	9.9	2.7	0.52	38.9
	5 to 6	-	10	-	0.49	26
	Top of clay	-	1	4.3	0.74	3.3
B-3	0 to 2	-	-	5.4	0.66	56.2
	5 to 6	-	-	5.6	0.4	22
	Top of clay	-	-	2.5	0.41	0.97
B-4	0 to 2	-	-	9.5	0.78	1.9
	5 to 6	-	-	3	0.75	0.32
	Top of clay	-	-	1.5	0.41	-
B-5	0 to 2	-	-	60	0.41	5.4
	5 to 6	9.7	-	20	0.39	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	0.26	-	-	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	0.3	-
P-2	0 to 2	-	-	10	0.23	6.5
	5 to 6	-	-	7.5	0.3	8.5
	Top of clay	-	-	4.2	0.49	-
P-3	0 to 2	-	-	5.7	0.4	9.5
	5 to 6	-	-	29	0.9	4.5
	Top of clay	-	-	18	0.5	26
P-4	0 to 2	-	-	3.8	0.42	1
	5 to 6	-	-	3.5	0.37	1.6
	Top of clay	-	-	3.5	0.67	0.52
MW-1S	0 to 2	4.1	-	11	0.38	1.3
	5 to 6	-	-	1.2	0.4	0.46
	Top of clay	-	-	-	0.36	-
MW-3S	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	-	-	62	0.44	6.6
	Top of clay	-	-	3.4	0.55	-
MW-6S	0 to 2	-	-	13	0.44	16
	5 to 6	-	-	19	0.77	0.74
	Top of clay	-	-	-	0.61	-
MW-2D	0 to 2	-	-	7.7	0.35	2.5
	5 to 6	-	-	8.9	0.37	8
	Top of clay	-	-	-	0.41	-
MW-5D	0 to 2	15	48	-	57.6	2.9
	5 to 6	-	2.1	9.6	0.78	0.48
	Top of clay	-	0.048	-	0.68	0.58
MW-7D	0 to 2	12	-	-	0.57	5.5
	5 to 6	-	-	51	0.56	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	1.9	1	4170	4.7
	5 to 6	40	-	1110	3.5
	Top of clay	1.2	1.3	140	0.36
B-2	0 to 2	1.2	4.9	295	11.8
	5 to 6	-	2.1	761	13.6
	Top of clay	-		140	0.44
B-3	0 to 2	-	3.5	292	1
	5 to 6	-		517	1.3
	Top of clay	-		43	-
B-4	0 to 2	-		150	0.41
	5 to 6	-		67	0.78
	Top of clay	-		29	-
B-5	0 to 2	6.4		440	0.64
	5 to 6	-		1050	2.7
	Top of clay	-		100	0.63
B-6	0 to 2	3.9		667	21.3
	5 to 6	-		1870	1.4
	Top of clay	-		231	0.41
P-1	0 to 2	1.6		227	1.1
	5 to 6	-		46	0.25
	Top of clay	-		22	-
P-2	0 to 2	-		180	1
	5 to 6	-		350	0.42
	Top of clay	-		56	-
P-3	0 to 2	-		442	1.7
	5 to 6	-	1	1400	0.14
	Top of clay	-		44400	13.6
P-4	0 to 2	-		349	0.83
	5 to 6	-		411	0.82
	Top of clay	-		120	-
MW-1S	0 to 2	1.3		637	0.49
	5 to 6	-		83	1.6
	Top of clay	-		26	0.084
MW-3S	0 to 2	-		542	1.7
	5 to 6	-		485	0.77
	Top of clay	-		69	-
MW-4S	0 to 2	-		229	1.1
	5 to 6	-	1.6	130	-
	Top of clay	-		53	-
MW-6S	0 to 2	-	1.2	715	6.3
	5 to 6	-		170	3.4
	Top of clay	-		45	0.25
MW-2D	0 to 2	-		130	0.4
	5 to 6	-		376	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	713	0.55
	5 to 6	-		883	0.35
	Top of clay	-		45	0.35

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

		Chromium	Copper	Nickel	Lead	Antimony
B-1	0 to 2	721	15600	39	2750	18
	5 to 6	542	8600	46	2110	-
	Top of clay	39	11900	13	170	-
B-2	0 to 2	211	840	37	1060	11
	5 to 6	120	428	27	891	-
	Top of clay	27	48	23	53	-
B-3	0 to 2	73	484	23	410	-
	5 to 6	80	158	18	620	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	34	-
	Top of clay	14	11	11	-	-
B-5	0 to 2	57	71600	-	470	-
	5 to 6	168	284	27	1340	38
	Top of clay	28	225	12	180	-
B-6	0 to 2	140	19300	-	880	-
	5 to 6	60	4880	11	1660	8
	Top of clay	19	290	10	120	-
P-1	0 to 2	19	10800	12	420	-
	5 to 6	22	88	17	18	-
	Top of clay	12	28	5.8	-	-
P-2	0 to 2	79	460	13	300	-
	5 to 6	51	183	40	290	-
	Top of clay	18	27	20	10	-
P-3	0 to 2	870	645	19	872	-
	5 to 6	43	884	50	2810	-
	Top of clay	58	448	44	918	29
P-4	0 to 2	59	315	10	620	-
	5 to 6	19	522	11	610	7.6
	Top of clay	19	37	21	28	-
MW-1S	0 to 2	27	16500	19	290	-
	5 to 6	12	808	8.5	45	-
	Top of clay	13	59	6.4	9	-
MW-3S	0 to 2	100	979	33	400	-
	5 to 6	255	561	18	1490	-
	Top of clay	24	28	23	31	-
MW-4S	0 to 2	79	1670	14	140	-
	5 to 6	61	747	116	87	-
	Top of clay	18	39	18	8.8	-
MW-6S	0 to 2	244	2980	28	782	-
	5 to 6	88	85	24	110	-
	Top of clay	21	17	9.9	12	-
MW-2D	0 to 2	38	1970	14	140	-
	5 to 6	28	5870	25	230	-
	Top of clay	13	47	17	9.5	-
MW-5D	0 to 2	98	399	12	959	5.9
	5 to 6	28	32	27	20	-
	Top of clay	19	31	22	32	-
MW-7D	0 to 2	39	1420	24	648	-
	5 to 6	72	100	48	100	-
	Top of clay	17	120	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					
will composite vertically	B-1	0 to ~~[illegible]~~ 2	6	Ag, Cr, Ni, Pb, Zn, Cd	Selected to provide material containing the highest detected concentration of these metals
	B-2	0 to 6	2	Se, 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	Be	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, B/Ns, and metals	Contains non-hot-spot concentrations of VOCs, PHCs, PCBs, base neutrals, and 9 metals; contains hot spot locations for 2 metals
bore hole down to top of clay	B-4	0 to ~~top of clay~~ 0-6'	1	VOCs, PHCs, PCBs, B/Ns 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, B/Ns 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, B/Ns, 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, B/Ns, and metals	Contains non-hot-spot concentrations of PHCs, PCBs, base neutrals, and 10 metals.
	MW-6S	0 to ~~top of clay~~ 6	1	VOCs, PHCs, B/Ns, 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- Arochlor 1242					
	B-1	0 to 2	1	Arochlor 1242	The highest PCB concentration (15,000 mg/kg) was detected here.

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

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

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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~~ 2 ft.	1	Ag, Cr, Ni, Pb, Zn, Cd VOCs, PHCs, B/N, Arochlor 1242 (a PCB),	Contains hot spots for6 metals, VOCs, PHCs, B/Ns, and Arochlor 1242; concentrations of these were higher than at any other location and depth
	B-2	0-5 ?	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 6	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-2S~~	5-6 ~~0 to 2~~	1	Total VOCs	The highest total VOCs concentration was detected h here. NO ~~7B~~ at 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-2D~~ B-3	~~0 to 2~~ 5-6	1	VOCs	The highest total VOCs concentration (99,513 mg/kg) was detected here. wrong ~~7B~~ 5-6
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 feasible, [illegible] access conditions~~	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 Dames and Moore RI data.

CONTAMINANT EXTRACTION TREATABILITY

SCP/CARLSTADT SITE

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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% Powerkleen (citrate-based product) at 15, 30, and 45-min. contact times.
4) Trials with 10% Powerkleen at 15, 30, and 45-min. contact times.

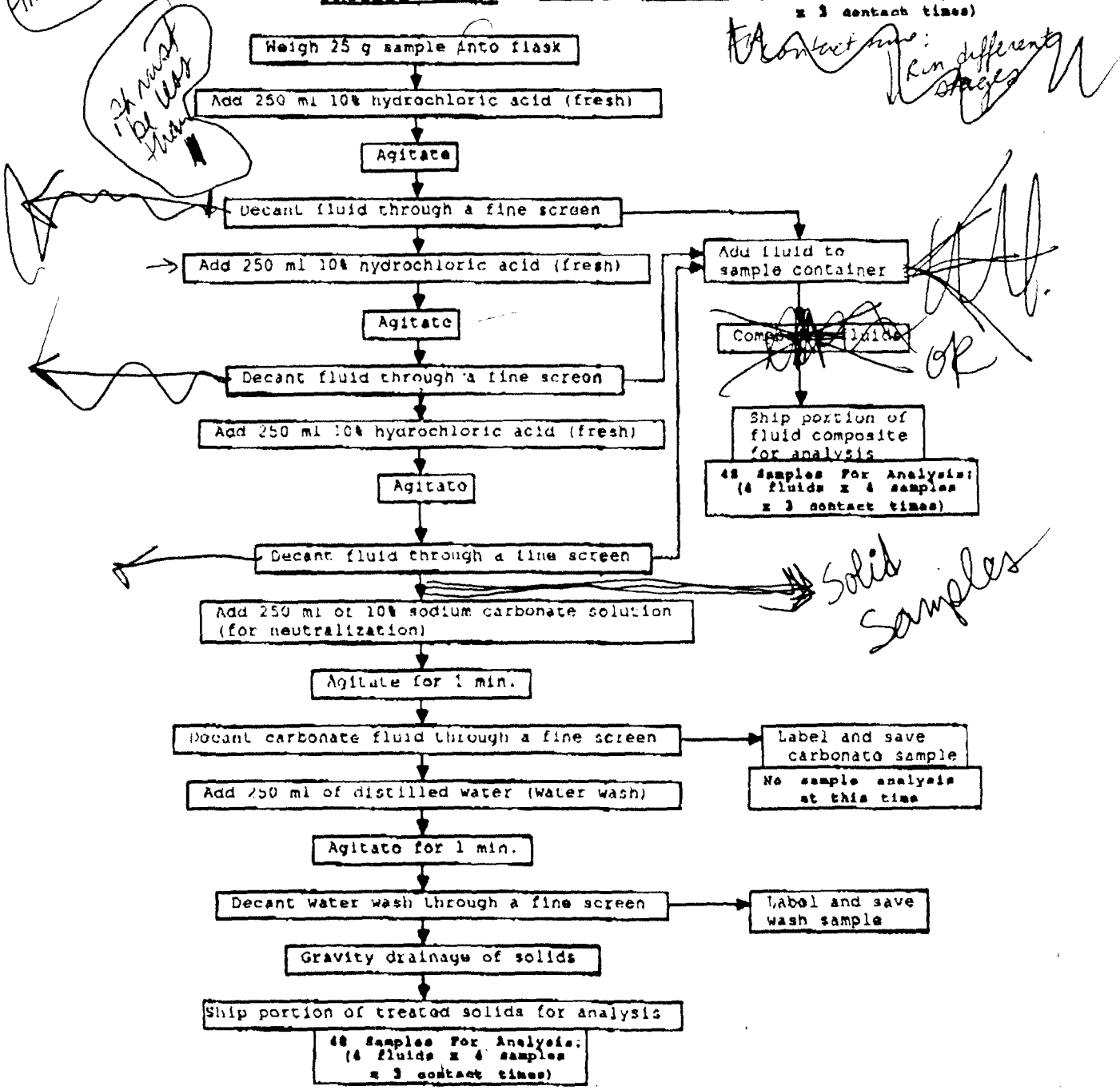
APPLIES TO SAMPLES:

HCl:
1) Soil Hot Spot- Lead
2) Soil Hot Spot Composite
3) Overall Soil Composite
4) Sludge Pit Composite

Aqueous Surfactant:
1) Soil Hot Spot- PCBs
2) Soil Hot Spot Composite
3) Overall Soil Composite
4) Sludge Pit Composite

Powerkleen (5% and 10%):
1) Soil Hot Spot- PCBs
2) Overall Soil Composite
3) Sludge Hot Spot- B/N
4) Sludge Pit Composite

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



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CONTAMINANT EXTRACTION TREATABILITY

SCP/CARLSTADT SITE

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

Weigh 25 g sample into flask

↓

Add 250 ml 5% aqueous surfactant (fresh)

↓

Agitate for ~~30~~ 1hr min.

↓

Decant fluid through a fine screen → Label and ship surfactant sample for analysis
3 Samples For Analysis: (1 fluid type x 3 samples x 1 contact time)

↓

Add 250 ml 10% hydrochloric acid (fresh)

↓

Agitate for ~~15 min~~ 1hr.

↓

Decant fluid through a fine screen → Label and ship HCl sample for analysis
3 Samples For Analysis: (1 fluid type x 3 samples x 1 contact time)

↓

Add 250 ml of 10% sodium carbonate solution (for neutralization)

↓

Agitate for ~~1 min~~ 1hr. OK

↓

Decant carbonate fluid through a fine screen → Label and save carbonate sample
No sample analysis at this time

↓

Add 250 ml 10% Powerkleen (fresh)

↓

Agitate for ~~30 min~~ 1hr.

↓

Decant fluid through a fine screen → Label and ship Powerkleen sample for analysis
3 Samples For Analysis: (1 fluid type x 3 samples x 1 contact time)

↓

Add 250 ml of distilled water (water wash)

↓

Agitate for 1 min.

↓

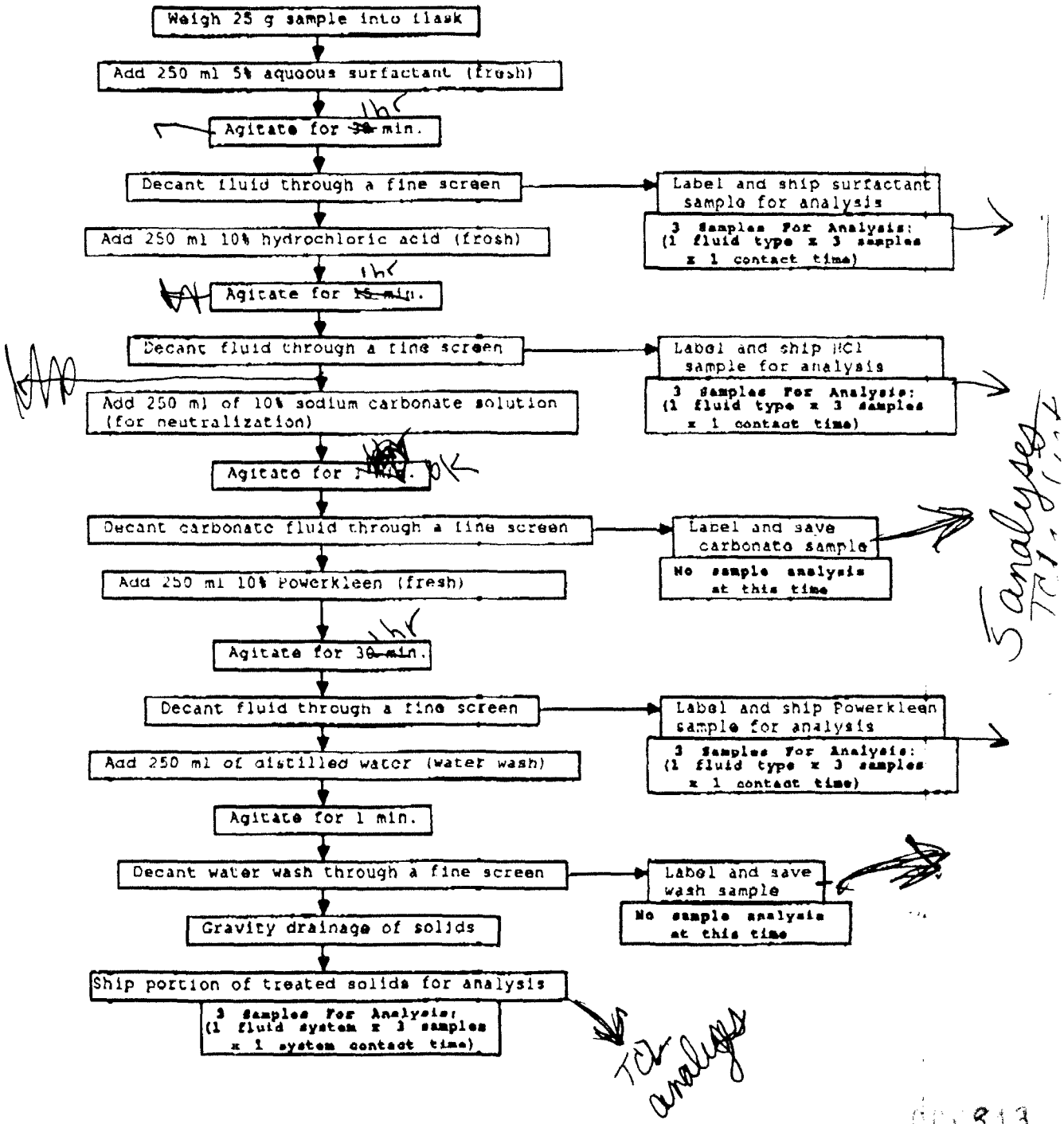
Decant water wash through a fine screen → Label and save wash sample
No sample analysis at this time

↓

Gravity drainage of solids

↓

Ship portion of treated solids for analysis
3 Samples For Analysis: (1 fluid system x 3 samples x 1 system contact time)



TCL analyses

5 analyses TCL

Revise

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

Extract: Figure 1
Figure 2

Stabil Figure 1

Test 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

Rec'd
1/17/89
Fedex

ronmental Resources Management, inc.

ringdale Drive • Exton, Pennsylvania 19341 • (215) 524-3500 • Telex 4900009249

13 January 1989

s. Janet Feldstein
.S. Environmental Protection Agency
egion II
mergency and Remedial Response Division
oom 737
6 Federal Plaza
ew York, NY 10278

File No: 802-01-00-01

ear Janet:

nclosed for your review is the Interim Status Report on Task 1 of Phase I of the Feasibility Study/First Operable Unit for the SCP/Carlstadt Site.

If you have any questions/comments, please contact me at (215) 524-3521. Thank you.

Sincerely,

Marian E. Donovan Carlin

Marian E. Donovan Carlin
Project Manager

MEDC/sw

Enclosure

cc: Pam Lange
Gil Weil
Harry Yeh
Ron Fender

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