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VOLUME II

Organic and Inorganic Data Validation
For
Pemco Corporation (MD-055)

U.S. EPA Region III
Office of Analytical Services and Quality Assurance
Fort Meade, Maryland

ANALYTICAL REPORT

PEMCO PRODUCTS
SUPERFUND SITE CLEANUP
Lab Request # REQ00102

May 18, 2000

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U.S. EPA Region III
Office of Analytical Services
and Quality Assurance
Fort Meade, Maryland

May 18, 2000

ANALYTICAL RESULTS: PEMCO PRODUCTS [REQ00102]

Dear William Wentworth,

Enclosed is our analytical report for the above case. It is organized into several sections: Analytical Request and Sample Descriptions, Organic, Inorganic, and Microbiological Results. All data were peer reviewed.

Analytical Request and Sample Descriptions: (General)
Each laboratory assigned number, station, description, matrix, sample date and locational data is reported. A table summarizes the tests assigned to each sample. A glossary and qualifier code definition is provided.

Inorganic Results:
For requests assigned inorganic tests, results are grouped by service group, e.g., Metals. Sample results are reported; non-detects are provided with the actual quantitation limit. Method description and quality control protocols are described in analyst narratives.

Organic Results:
For requests assigned organic tests, results are grouped by service group, e.g., Volatile Organic Compounds. Only detected analytes are reported. Nominal Quantitation Limit (NQL) tables are provided for each service group. Specific information for the calculation of Actual Quantitation Limits (AQL) achieved for a given sample is included. Quality control values are provided in summary tables with acceptance criteria. Method description and quality control protocols are described in analyst narratives.

Microbiological Results:
For requests assigned microbiological tests, sample results and quality control values are incorporated into a single table. Method description and quality control protocols are described in analyst narratives.

If you have any questions we may be reached at 410-305-2658.

Approval for Release:
Susan Warner

Site Contact(s): Phillip Anderson (MD DEPT OF THE ENVIRONMENT)
William Wentworth

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SAMPLE DESCRIPTIONS

Sample #	Station, Description	Matrix	Type	End Collection Date	Time	Latitude	Longitude
00042717	STA GW-2, GW-2	Ground Water/Monitoring Wells	GRAB	04/26/00	10:15	39	+ 76 17
00042718	STA SW-1, SW-1	Ground Water/Monitoring Wells	GRAB	04/26/00	10:15	39	+ 76 17
00042719	STA SW-2, SW-2	Ground Water/Monitoring Wells	GRAB	04/26/00	13:00	39	+ 76 17
00042720	STA SW-3, SW-3	Ground Water/Monitoring Wells	GRAB	04/26/00	13:45	39	+ 76 17
00042721	STA SW-4, SW-4	Ground Water/Monitoring Wells	GRAB	04/26/00	10:00	39	+ 76 17
00042722	STA SW-5, SW-5	Ground Water/Monitoring Wells	GRAB	04/26/00	10:00	39	+ 76 17
00042723	STA GW-2DM, GW-2DM	Dissolved Fraction of Aqueous Samples	GRAB	04/26/00	10:15	39	+ 76 17
00042724	STA SW-1DM, SW-1DM	Dissolved Fraction of Aqueous Samples	GRAB	04/26/00	10:15	39	+ 76 17
00042725	STA SW-2DM, SW-2DM	Dissolved Fraction of Aqueous Samples	GRAB	04/26/00	13:00	39	+ 76 17
00042726	STA SW-3DM, SW-3DM	Dissolved Fraction of Aqueous Samples	GRAB	04/26/00	13:45	39	+ 76 17
00042727	STA SW-4DM, SW-4DM	Dissolved Fraction of Aqueous Samples	GRAB	04/26/00	10:00	39	+ 76 17
00042728	STA SW-5DM, SW-5DM	Dissolved Fraction of Aqueous Samples	GRAB	04/26/00	10:00	39	+ 76 17
00042729	STA S-1, S-1	Soil	GRAB	04/26/00	11:30	39	+ 76 17
00042730	STA S-2, S-2	Soil	GRAB	04/26/00	09:45	39	+ 76 17
00042731	STA S-3, S-3	Soil	GRAB	04/26/00	11:45	39	+ 76 17
00042732	STA S-4, S-4	Soil	GRAB	04/26/00	11:30	39	+ 76 17
00042733	STA SED-1, SED-1	Soil	GRAB	04/26/00	10:15	39	+ 76 17
00042734	STA SED-2, SED-2	Soil	GRAB	04/26/00	12:18	39	+ 76 17
00042735	STA SED-3, SED-3	Soil	GRAB	04/26/00	13:45	39	+ 76 17
00042736	STA FB-1, FB-1	Aqueous Blank	GRAB	04/26/00	09:30	39	+ 76 17
00042737	STA FB-1DM, FB-1DM	Aqueous Blank	GRAB	04/26/00	09:30	39	+ 76 17
00042738	STA SED-5, SED-5	Soil	GRAB	04/26/00	13:00	39	+ 76 17

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TESTS REQUESTED

Inorganic Test Assigned	Sample No. 000427-														
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Metals Analysis	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Percent Dry Weight													X	X	X
Total Cyanide	X	X	X	X	X	X							X	X	X

Inorganic Test Assigned	Sample No. 000427-														
	32	33	34	35	36	37	38								
Metals Analysis	X	X	X	X	X	X	X								
Percent Dry Weight	X	X	X	X			X								
Total Cyanide	X	X	X	X	X		X								

(X = test was requested)

QUALIFIER CODE AND GLOSSARY DEFINITIONS

Qualifier Codes:

<	=	Sample value is below the quantitation limit. Quantitation limit reported.
</=	=	Reported value is estimated. Sample was analyzed in duplicate, one value is equal to or above the quantitation limit and one below. Average of quantitation limit and detected value reported.
>	=	Sample value is above the quantitation range.
A	=	Quality control value is outside acceptance limits.
B	=	Not detected substantially above (10 times) the level reported in the laboratory or field blanks (includes field, trip, rinsate, and equipment blanks).
C	=	See report narrative for analyst's observations concerning this result.
D	=	Sample and duplicate values are below the quantitation limit. Quantitation limit reported.
E	=	Value exceeds a theoretically greater value (e.g. dissolved > total, orthophosphate > total phosphorus). However, the difference is within the expected precision of the analytical techniques and is not statistically significant.
I	=	An interference exists which masks true response. See report narrative for explanation.
J	=	Analyte present. Reported value is estimated; concentration is outside the range for accurate quantitation.
K	=	Analyte present. Reported value may be biased high. Actual value is expected to be lower.
L	=	Analyte present. Reported value may be biased low. Actual value is expected to be higher.
N	=	Presumptive evidence indicates the presence of the compound. Special methods and/or method modifications may be needed to confirm its presence or absence in future sampling efforts.
NA	=	Analysis was not requested.
Q	=	No analytical results. See report for explanation.
R	=	Unreliable results. Analyte may or may not be present in the sample. Supporting data is necessary to confirm results.
T	=	Tentatively Identified Compound. Identified as a result of a library search using the EPA/NIH Mass Spectral Library. Authentic standards were not available to properly identify and quantitate the compound The reported concentration is an estimate.
TD	=	Spike recovery too dilute for accurate quantitation.
UJ	=	Not detected. Quantitation limit is estimated.
UL	=	Not detected. Quantitation limit is probably higher.

Glossary:

( )	=	Numbers in parentheses are analytical spike recoveries (e.g. post-digestion spikes).
[ ]	=	Numbers in brackets are matrix spike recoveries (e.g. pre-digestion spikes).
MS/MSD	=	Matrix spike/matrix spike duplicate; a known increment of target analyte made to a sample before preparation or analyses.
MSA	=	Method of Standard Additions
RPD	=	Relative Percent Difference; the results for duplicate analyses are presented as the mean and the relative percent difference.

$$RPD = \frac{|Replicate1 - Replicate2|}{(Replicate1 + Replicate2)/2} \times 100$$

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INORGANIC ANALYTICAL REPORT

PEMCO PRODUCTS

SUPERFUND SITE CLEANUP

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INORGANIC ANALYTICAL SAMPLE RESULTS

Sample Number:	00042717			00042718			00042719			00042720		
Station ID :	GW-2			SW-1			SW-2			SW-3		
ANALYTES	SAMPLE			SAMPLE			SAMPLE			SAMPLE		
Metals Analysis	Units: ug/L	% Rec	RPD	ug/L	% Rec	RPD	ug/L	% Rec	RPD	ug/L	% Rec	RPD
Aluminum	9190			<200			683			<200	[102]	D
Antimony	<60			<60			<60			<60	[91]	D
Arsenic	20			<1			<1			<1	[104]	D
Barium	<200			<200			<200			<200	[99]	D
Beryllium	<5			<5			<5			<5	[94]	D
Cadmium	<5			<5			<5			<5	[100]	D
Calcium	67200			39400			37900			44400	[99]	1
Chromium	40			60			<10			<10	[99]	D
Cobalt	<50			<50			<50			<50	[96]	D
Copper	30			<25			38			<25	[100]	D
Iron	58700			274			1930			171	[97]	6
Lead	11			2			24			3	[104]	4
Magnesium	61600			8800			7810			9760	[97]	2
Manganese	204			25			86			19	[92]	1
Mercury	<0.2			<0.2			<0.2			<0.2	[109]	D
Nickel	134			<40			<40			<40	[98]	D
Potassium	3370			5110			4250			5800	[98]	2
Selenium	8			3			<1			3	[105]	14
Silver	<10			<10			<10			<10	[98]	D
Sodium	21600			69300			54900			80000	[104]	1
Thallium	<2			<2			<2			<2	[92]	D
Vanadium	77			<50			<50			<50	[97]	D
Zinc	81			30			70			29	[97]	0
Total Cyanide	Units: mg/L	% Rec	RPD	mg/L	% Rec	RPD	mg/L	% Rec	RPD	mg/L	% Rec	RPD
Cyanide	<0.02			<0.02			<0.02			<0.02	[101]	D

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INORGANIC ANALYTICAL SAMPLE RESULTS

Sample Number:	00042721			00042722			00042723			00042724		
Station ID :	SW-4			SW-5			GW-2DM			SW-1DM		
ANALYTES	SAMPLE			FIELD DUPLICATE			SAMPLE			SAMPLE		
Metals Analysis	Units: ug/L	% Rec	RPD	ug/L	% Rec	RPD	ug/L	% Rec	RPD	ug/L	% Rec	RPD
Aluminum	<200			<200			<200			<200		
Antimony	<60			<60			<60			<60		
Arsenic	<1			<1			<1			<1		
Barium	<200			<200			<200			<200		
Beryllium	<5			<5			<5			<5		
Cadmium	<5			<5			<5			<5		
Calcium	33800			44600			65400			37800		
Chromium	<10			147			<10			45		
Cobalt	<50			<50			<50			<50		
Copper	<25			29			<25			<25		
Iron	356			301			190			<100		
Lead	3			4			<1			<1		
Magnesium	8020			9380			60100			8560		
Manganese	25			24			134			19		
Mercury	<0.2			<0.2			<0.2			<0.2		
Nickel	<40			<40			99			<40		
Potassium	4540			5110			<2000			4800		
Selenium	2			2			8			3		
Silver	<10			<10			<10			<10		
Sodium	51800			87000			21200			65200		
Thallium	<2			<2			<2			<2		
Vanadium	<50			<50			<50			<50		
Zinc	28			55			<20			20		
Total Cyanide	Units: mg/L	% Rec	RPD	mg/L	% Rec	RPD						
Cyanide	<0.02			<0.02								

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INORGANIC ANALYTICAL SAMPLE RESULTS

Sample Number:	00042725			00042726			00042727			00042728		
Station ID :	SW-2DM			SW-3DM			SW-4DM			SW-5DM		
ANALYTES	SAMPLE			SAMPLE			SAMPLE			FIELD DUPLICATE		
Metals Analysis Units:	ug/L	% Rec	RPD	ug/L	% Rec	RPD	ug/L	% Rec	RPD	ug/L	% Rec	RPD
Aluminum	<200			<200	[98]	D	<200			<200		
Antimony	<60			<60	[94]	D	<60			<60		
Arsenic	<1			<1	[107]	D	<1			<1		
Barium	<200			<200	[96]	D	<200			<200		
Beryllium	<5			<5	[93]	D	<5			<5		
Cadmium	<5			<5	[99]	D	<5			<5		
Calcium	35700			42400	[108]	0	33200			43100		
Chromium	<10			<10	[99]	D	<10			124		
Cobalt	<50			<50	[94]	D	<50			<50		
Copper	<25			<25	[97]	D	<25			<25		
Iron	293			<100	[101]	D	<100			<100		
Lead	3			<1	[106]	D	<1			<1		
Magnesium	7290			9310	[98]	1	7850			9060		
Manganese	<15			15	[91]	3	18			19		
Mercury	<0.2			<0.2	(101)	D	<0.2			<0.2		
Nickel	<40			<40	[98]	D	<40			<40		
Potassium	3740			5440	[97]	6	4160			4770		
Selenium	<1			4 E	[102]	14	3 E			3 E		
Silver	<10			<10	[96]	D	<10			<10		
Sodium	51600			75200	[124]	0	50200			81300		
Thallium	<2			<2	[96]	D	<2			<2		
Vanadium	<50			<50	[96]	D	<50			<50		
Zinc	<20			25	[96]	17	<20			30		

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INORGANIC ANALYTICAL SAMPLE RESULTS

Sample Number:	00042729			00042730			00042731			00042732		
Station ID :	S-1			S-2			S-3			S-4		
ANALYTES	SAMPLE			SAMPLE			SAMPLE			FIELD DUPLICATE		
Metals Analysis Units:	ug/g	% Rec	RPD	ug/g	% Rec	RPD	ug/g	% Rec	RPD	ug/g	% Rec	RPD
Aluminum	5110			5920			8650			8350		
Antimony	<1.0			<1.0			<1.0			<1.0		
Arsenic	2.8			7.2			3.9			2.8		
Barium	40			61			82			35		
Beryllium	3.1			0.8			1.0			2.1		
Cadmium	<0.5			2.7			1.8			<0.5		
Calcium	253			2770			2310			169		
Chromium	26			25			33			19		
Cobalt	17			9			11			14		
Copper	95.9			56.0			16.6			34.2		
Iron	18100			26900			23100			16900		
Lead	30			93			73			9		
Magnesium	253			1120			1630			644		
Manganese	55.3			166			507			75.8		
Mercury	<0.1			<0.1			<0.1			<0.1		
Nickel	29			59			19			19		
Potassium	260			338			563			292		
Selenium	0.3			0.9			0.4			0.2		
Silver	<1			<2 C			<2 C			<1		
Sodium	<100			<100			<100			<100		
Thallium	<1.0	(102)		<1.0	(98)		<1.0	(100)		<1.0	(104)	
Vanadium	48			45			45			34		
Zinc	60			74			70			42		
Percent Dry Weight Units:	%	% Rec	RPD	%	% Rec	RPD	%	% Rec	RPD	%	% Rec	RPD
Percent Dry Weight (105C)	80.0		2	87.4			80.9			81.2		
Percent Dry Weight (60C)	80.0		1	88.0			82.7			82.0		

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Sample Number:	00042729			00042730			00042731			00042732		
Station ID :	S-1			S-2			S-3			S-4		
ANALYTES (continued)	SAMPLE			SAMPLE			SAMPLE			FIELD DUPLICATE		
Total Cyanide	Units: mg/Kg	% Rec	RPD	mg/Kg	% Rec	RPD	mg/Kg	% Rec	RPD	mg/Kg	% Rec	RPD
Cyanide	<1.0			<1.0			<1.0			<1.0		

Sample Number:	00042733			00042734			00042735			00042736		
Station ID :	SED-1			SED-2			SED-3			FB-1		
ANALYTES	SAMPLE			SAMPLE			SAMPLE			FIELD BLANK		
Metals Analysis	Units: ug/g	% Rec	RPD	ug/g	% Rec	RPD	ug/g	% Rec	RPD	ug/L	% Rec	RPD
Aluminum	2690			9910	(105)	9	2470			<200		
Antimony	38.8			<1.0	[112]	D	28.6			<60		
Arsenic	14.7			1.6	[82]	20	3.4			<1		
Barium	1020			124	[91]	10	45			<200		
Beryllium	<0.5			<0.5	[103]	D	<0.5			<5		
Cadmium	165			1.1	[93]	11	22.1			<5		
Calcium	67700			13700	(103)	8	32700			<500		
Chromium	685			13	[84]	15	39			<10		
Cobalt	22			<5	[98]	D	13			<50		
Copper	619			10.1	[90]	15	36.6			<25		
Iron	80900			6600	(106)	19	14800			<100		
Lead	26400			46	[97]	14	287			<1		
Magnesium	27800			2190	(99)	2	14100			<500		
Manganese	1040			64.0	[79]	15	149			<15		
Mercury	<0.1			<0.1	[107]	D	<0.1			<0.2		
Nickel	412			5	[93]	3	32			<40		
Potassium	286			577	[92]	4	271			<2000		
Selenium	0.5			<0.5	[85]	D	0.4			<1		
Silver	5			<1	[98]	D	1			<10		
Sodium	751			315	[98]	9	747			<1000		
Thallium	<6.0 C	(MSA)		<1.0	(101)	D	<1.5 C	(MSA)		<2		

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Sample Number:	00042733			00042734			00042735			00042736		
Station ID :	SED-1			SED-2			SED-3			FB-1		
ANALYTES (continued)	SAMPLE			SAMPLE			SAMPLE			FIELD BLANK		
Metals Analysis	Units: ug/g	% Rec	RPD	ug/g	% Rec	RPD	ug/g	% Rec	RPD	ug/L	% Rec	RPD
Vanadium	68			19	[92]	11	11			<50		
Zinc	924			69	[70]	4	187			<20		
Percent Dry Weight	Units: %	% Rec	RPD	%	% Rec	RPD	%	% Rec	RPD			
Percent Dry Weight (105C)	84.0			79.4		4	75.5					
Percent Dry Weight (60C)	83.6			79.7		4	72.9					
Total Cyanide	Units: mg/Kg	% Rec	RPD	mg/Kg	% Rec	RPD	mg/Kg	% Rec	RPD	mg/L	% Rec	RPD
Cyanide	<1.0			<1.0	[103]	D	<1.0			<0.02		

Sample Number:	00042737			00042738		
Station ID :	FB-1DM			SED-5		
ANALYTES	FIELD BLANK			SAMPLE		
Metals Analysis	Units: ug/L	% Rec	RPD	ug/g	% Rec	RPD
Aluminum	<200			3640		
Antimony	<60			<1.0		
Arsenic	<1			4.5		
Barium	<200			55		
Beryllium	<5			0.6		
Cadmium	<5			0.5		
Calcium	<500			3020		
Chromium	<10			21		
Cobalt	<50			5		
Copper	<25			40.7		
Iron	144 C			17800		
Lead	<1			69		
Magnesium	<500			638		

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Sample Number:	00042737			00042738		
Station ID :	FB-1DM			SED-5		
ANALYTES (continued)	FIELD BLANK			SAMPLE		
Metals Analysis	Units: ug/L	% Rec	RPD	ug/g	% Rec	RPD
Manganese	<15			90.1		
Mercury	<0.2			0.1		
Nickel	<40			11		
Potassium	<2000			386		
Selenium	<1			0.4		
Silver	<10			<1		
Sodium	<1000			<100		
Thallium	<2			<1.0	(103)	
Vanadium	<50			32		
Zinc	<20			64		
Percent Dry Weight	Units:			%	% Rec	RPD
Percent Dry Weight (105C)				77.4		
Percent Dry Weight (60C)				77.3		
Total Cyanide	Units:			mg/Kg	% Rec	RPD
Cyanide				<1.0		

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INORGANIC WET/DRY CONVERSION

Sample Number:		00042729		00042730		00042731		00042732		00042733	
		WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY
ANALYTES		SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE
Percent Dry Weight	Units:	%		%		%		%		%	
Percent Dry Weight (105C)		80.0		87.4		80.9		81.2		84.0	
Percent Dry Weight (60C)		80.0		88.0		82.7		82.0		83.6	
Metals Analysis	Units:	ug/g	ug/g	ug/g	ug/g	ug/g	ug/g	ug/g	ug/g	ug/g	ug/g
Aluminum		4090	5110	5210	5920	7150	8650	6850	8350	2250	2690
Antimony		< 0.8	< 1.0	< 0.9	< 1.0	< 0.8	< 1.0	< 0.8	< 1.0	32.4	38.8
Arsenic		2.2	2.8	6.3	7.2	3.2	3.9	2.3	2.8	12.3	14.7
Barium		32.0	40	53.7	61	67.8	82	28.7	35	852.7	1020
Beryllium		2.5	3.1	0.7	0.8	0.8	1.0	1.7	2.1	< 0.4	< 0.5
Cadmium		< 0.4	< 0.5	2.4	2.7	1.5	1.8	< 0.4	< 0.5	137.9	165
Calcium		202.4	253	2440	2770	1910	2310	138.6	169	56600	67700
Chromium		20.8	26	22.0	25	27.3	33	15.6	19	572.7	685
Cobalt		13.6	17	7.9	9	9.1	11	11.5	14	18.4	22
Copper		76.7	95.9	49.3	56.0	13.7	16.6	28.0	34.2	517.5	619
Iron		14500	18100	23700	26900	19100	23100	13900	16900	67600	80900
Lead		24.0	30	81.8	93	60.4	73	7.4	9	22100	26400
Magnesium		202.4	253	985.6	1120	1350	1630	528.1	644	23200	27800
Manganese		44.2	55.3	146.1	166	419.3	507	62.2	75.8	869.4	1040
Mercury		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Nickel		23.2	29	51.9	59	15.7	19	15.6	19	344.4	412
Potassium		208.0	260	297.4	338	465.6	563	239.4	292	239.1	286
Selenium		0.2	0.3	0.8	0.9	0.3	0.4	0.2	0.2	0.4	0.5
Silver		< 0.8	< 1	< 1.8 C	< 2 C	< 1.7 C	< 2 C	< 0.8	< 1	4.2	5
Sodium		< 80.0	< 100	< 88.0	< 100	< 82.7	< 100	< 82.0	< 100	627.8	751
Thallium		< 0.8	< 1.0	< 0.9	< 1.0	< 0.8	< 1.0	< 0.8	< 1.0	< 5.0 C	< 6.0 C
Vanadium		38.4	48	39.6	45	37.2	45	27.9	34	56.8	68
Zinc		48.0	60	65.1	74	57.9	70	34.4	42	772.5	924

ORIGINAL (Red)

U.S. EPA Region III
Office of Analytical Services
and Quality Assurance
Fort Meade, Maryland

Section: INORGANIC
Page: B2

Facility: PEMCO PRODUCTS
Program: SUPERFUND SITE CLEANUP

Lab Request #: REQ00102

INORGANIC WET/DRY CONVERSION

Sample Number:		00042729		00042730		00042731		00042732		00042733	
		WET SAMPLE	DRY SAMPLE	WET SAMPLE	DRY SAMPLE	WET SAMPLE	DRY SAMPLE	WET SAMPLE	DRY SAMPLE	WET SAMPLE	DRY SAMPLE
ANALYTES (continued)											
Total Cyanide	Units:	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Cyanide		<1.0	< 1.3	<1.0	< 1.1	<1.0	< 1.2	<1.0	< 1.2	<1.0	< 1.2

Sample Number:		00042734		00042735		00042738	
		WET SAMPLE	DRY SAMPLE	WET SAMPLE	DRY SAMPLE	WET SAMPLE	DRY SAMPLE
ANALYTES							
Percent Dry Weight	Units:	%		%		%	
Percent Dry Weight (105C)		79.4		75.5		77.4	
Percent Dry Weight (60C)		79.7		72.9		77.3	
Metals Analysis	Units:	ug/g	ug/g	ug/g	ug/g	ug/g	ug/g
Aluminum		7900	9910	1800	2470	2810	3640
Antimony		< 0.8	< 1.0	20.8	28.6	< 0.8	< 1.0
Arsenic		1.3	1.6	2.5	3.4	3.5	4.5
Barium		98.8	124	32.8	45	42.5	55
Beryllium		< 0.4	< 0.5	< 0.4	< 0.5	0.5	0.6
Cadmium		0.9	1.1	16.1	22.1	0.4	0.5
Calcium		10900	13700	23800	32700	2330	3020
Chromium		10.4	13	28.4	39	16.2	21
Cobalt		< 4.0	< 5	9.5	13	3.9	5
Copper		8.0	10.1	26.7	36.6	31.5	40.7
Iron		5260	6600	10800	14800	13800	17800
Lead		36.7	46	209.2	287	53.3	69
Magnesium		1750	2190	10300	14100	493.2	638
Manganese		51.0	64.0	108.6	149	69.6	90.1
Mercury		< 0.1	< 0.1	< 0.1	< 0.1	0.1	0.1
Nickel		4.0	5	23.3	32	8.5	11
Potassium		459.9	577	197.6	271	298.4	386
Selenium		< 0.4	< 0.5	0.3	0.4	0.3	0.4
Silver		< 0.8	< 1	0.7	1	< 0.8	< 1
Sodium		251.1	315	544.6	747	< 77.3	< 100

ORIGINAL (Red)

U.S. EPA Region III
Office of Analytical Services
and Quality Assurance
Fort Meade, Maryland

Section: INORGANIC
Page: B3

Facility: PEMCO PRODUCTS
Program: SUPERFUND SITE CLEANUP

Lab Request #: REQ00102

INORGANIC WET/DRY CONVERSION

Sample Number:		00042734		00042735		00042738	
		WET SAMPLE	DRY SAMPLE	WET SAMPLE	DRY SAMPLE	WET SAMPLE	DRY SAMPLE
ANALYTES (continued)							
Metals Analysis	Units:	ug/g	ug/g	ug/g	ug/g	ug/g	ug/g
Thallium		< 0.8	< 1.0	< 1.1 C	< 1.5 C	< 0.8	< 1.0
Vanadium		15.1	19	8.0	11	24.7	32
Zinc		55.0	69	136.3	187	49.5	64
Total Cyanide	Units:	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Cyanide		<1.0	< 1.3	<1.0	< 1.3	<1.0	< 1.3

The wet/dry weight conversion table is presented for the convenience of the data user. The attached analyst narratives state whether a test was determined on a wet or dry weight basis. Any difference in significant figures between the two columns is an artifact of the reporting function and does not imply that the calculated value has greater precision than the measured value.

ORIGINAL (Red)

ORIGINAL (Red)

Percent Dry Weight Determinations

Analyst:

John D. Curry
LMES Chemist

Method:

Eight soil samples from the PEMCO PRODUCTS site (REQ00102) were analyzed for Percent Dry Weight as required by EPA analytical methods. The samples were dried at 105°C following the procedure outlined in the EPA Region III OASQA laboratory SOP #R3QA056.0.

These results are to be used to convert analyte concentrations to a dry weight basis for organic and non-metal analyses. Normally, analytical values are reported on a wet weight basis for organic and non-metals. All metals reported use a 60°C drying temperature for the percent dry weight determinations, as required by the methodology. The 60°C percent dry weight values are reported with the metals results, if applicable.

Metals Determinations

Analysts:

F. Khan	R. Howard
LMES Chemist	LMES Chemist

Methods:

Twenty-two (22) mixed matrix samples from PEMCO PRODUCTS (REQ00102) were prepared for analysis by acid digestion and analyzed for metals by graphite furnace atomic absorption spectroscopy (GFAAS) and inductively coupled plasma-atomic emission spectrometry (ICP-AES). The results are presented in the attached table. The following are the digestion, analytical techniques and methods employed:

Digestion Methods
EPA Method 200.2 [1] and Internal SOP R3-QA133, metals digestion procedure.

Analytical Methods
EPA Method 200.7 [1] and Internal SOP R3-QA148.1, metals by ICP-AES.
EPA Method 200.9 [1] and Internal SOP R3-QA132, metals by GFAAS.

[1] EPA Methods for the Determination of Metals in Environmental Samples, May 1994.

Results for solid samples are reported in ug/g (ppm) **DRY** weight at 60 degrees centigrade. This Percent Dry Weight test pertains only to metals results. The drying temperature of 60 degrees centigrade is selected to retain volatile elements. The Percent Dry Weight (60°C) is reported to allow for conversion to wet weight.

Notes: The qualifier code "C" was applied to the silver (Ag) results for samples 000427-30 and 000427-31, as well as the thallium (Tl) results for samples 000427-33 and 000427-35 because the detection limits have been raised due to matrix interferences.

The qualifier code "C" was applied to the iron (Fe) result for sample 000427-37 because the value for the dissolved metals sample exceeded the value for the total metals sample. The difference was outside the program acceptance limits of ± 20% Relative Percent Difference (RPD) for duplicate result analyses. Acceptable precision obtained for Laboratory Duplicate analyses, an acceptable Laboratory Reagent Blank result, and

ORIGINAL (Red)

the analyses of the original filtered undigested samples for this analyte confirmed the reported results.

The qualifier code "E" was applied to the selenium (Se) results for samples 000427-26, 000427-27, and 000427-28 because the values reported for the dissolved metals samples exceed the values reported for the total metals samples. However, the difference is within the expected precision of the analytical technique and is not statistically significant.

ORIGINAL (Red)

Mercury Determinations

Analyst:

Richard B. Fisher
LMES Chemist

METHOD:

Twenty-two (22) mixed matrix samples from PEMCO PRODUCTS (REQ00102) were prepared for analysis by potassium permanganate-potassium persulfate digestion and analyzed for Mercury (Hg) by cold vapor atomic absorption spectrometry (CV-AAS). The results are presented in the attached table. The following are the digestion and analytical techniques and methods employed.

Analytical Methods
EPA Method 245.1[1] and Internal SOP R3-QA131.2, Total Mercury Utilizing Leeman PS200 Mercury Analyzer.

[1]Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-020.

Results for solid samples are reported in ug/g **Dry** weight at 60 degrees centigrade. This Percent Dry Weight test pertains only to metals results. The drying temperature of 60 degrees centigrade is selected to retain volatile elements. The Percent Dry Weight (60 degrees C) is reported to allow for conversion to wet weight.

Total Cyanide Determinations

Analyst:

Steven Bartimo
LMES CHEMIST

METHOD:

Fifteen (15) mixed matrix samples from PEMCO PRODUCTS (REQ00102) were prepared for analysis using the Midi Distillation System and analyzed for Cyanide (CN) by semi-automated colorimetry. The results are presented in the attached table. The following are the digestion and analytical techniques and methods employed.

Analytical Methods
EPA Method 335.4[1] "Determination of Total Cyanide by Semi-Automated Colorimetry using the Midi Distillation System".

Internal SOP R3-QA101.1, Cyanide Analysis By Leeman 1214 Automated Analyzer.

[1] Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-020.

Results for solid samples are reported in ug/g (ppm) on a wet weight basis.

U.S. EPA REGION 3 CHAIN OF CUSTODY RECORD

RECORD No.: CT498 | PAGE: 3 OF 3

PROGRAM: Superfund	SAMPLER: Phillip Anderson	COLUMN A MATRIX	COLUMN B PRESERVATION	COLUMN C QC	COLUMN D TYPE
ACCOUNT No.: 2000T03N50/02DE326CR00	SAMPLING ORGANIZATION: Maryland Department of Environment	1. SURFACE WATER 2. GROUND WATER	1. HCL 2. HNO3	(B) BLANK	(G) GRAB/ (C) COMPOSITE
ACTIVITY: Site Inspection	DATE SHIPPED: / CARRIER: FEDEX	3. LEACHATE 4. FIELD QC	3. NaHSO4 4. H2SO4	(D) DUPLICATE (R) RINSATE	SAMPLES USED FOR LAB QC: CT49820
AIRBILL No.: 819742448284	SITE: PEMCO Products	5.SOIL/SEDIMENT 6. OIL (HIGH ONLY)	5. NaOH 6. K2Cr2O7	(PE) P. EVAL (-) NO QC	
CITY: Baltimore / STATE: MD	SHIP TO: Office of Analytical Services & Quality Assurance, U.S. Environmental Protection Agency, 701 Mapes Road, Fort Meade, MD 20755-5350 Attn. Pat Sosnicki	7. WASTE (HIGH ONLY) 8. OTHER:	7. ICE 8. NONE 9. OTHER:	(DP) DUP. PAIR SPECIFY:	

SHIPMENT COMPLETE? (Y/N): Y | FINAL SHIP DATE TO LAB: 4/26/2000 | TOTAL NUMBER OF SAMPLES SHIPPED: 22 | TOTAL NUMBER OF CONTAINERS SHIPPED: 3

RELINQUISHED BY SIGNATURE:	RECEIVED BY SIGNATURE:	DATE	TIME	RELINQUISHED BY SIGNATURE:	RECEIVED BY SIGNATURE:	DATE	TIME
[signature]							
					John D Cwary	4/27/00	9:00

SAMPLE NUMBER	STATION NUMBER	STATION LOCATION	TAG NUMBER	COLLECTION DATE	COLLECTION TIME	PARAMETERS 1	2	3	4	5	COLUMNS A	B	C	D
CT49820	SED-2	SED-2 00042734	3-3031029	4/26/2000	1218	X	X				5	7	-	G
CT49821	SED-3	SED-3 00042735	3-3031030	4/26/2000	1345	X	X				5	7	-	G
CT49822	FB-1	FB-1 00042736	3-3031031 to 3-3031032	4/26/2000	0930	X	X				4	2,5,7	B	G
CT49823	FB-1DM	FB-1DM 00042737	3-3031033	4/26/2000	0930			X			4	2,7	B	G
CT49824	SED-5	SED-5 00042738	3-3031220	4/26/2000	1300	X	X				5	7	-	G

PARAMETERS 1	Total Metals
PARAMETERS 2	Cyanide
PARAMETERS 3	Dissolved Metals
PARAMETER 4	
PARAMETERS 5	

U.S. EPA REGION 3 CHAIN OF CUST Y RECORD

RECORD ! CT498 PAGE: 2 OF 3

PROGRAM: Superfund	SAMPLER: Phillip Anderson	COLUMN A MATRIX	COLUMN B PRESERVATION	COLUMN C QC	COLUMN D TYPE
ACCOUNT No.: 2000T63N50102DE326CR00	SAMPLING ORGANIZATION: Maryland Department of Environment	1. SURFACE WATER 2. GROUND WATER	1. HCL 2. HNO3	(B) BLANK	(G) GRAB/ (C) COMPOSITE
ACTIVITY: Site Inspection	DATE SHIPPED: / CARRIER: FEDEX	3. LEACHATE 4. FIELD QC	3. NaHSO4 4. H2SO4	(D) DUPLICATE (R) RINSATE	SAMPLES USED FOR LAB QC: CT49811
AIRBILL No.: 819742448284	SITE: PEMCO Products	5.SOIL/SEDIMENT 6. OIL (HIGH ONLY)	5. NaOH 6. K2Cr2O7	(PE) P. EVAL (-) NO QC	
CITY: Baltimore / STATE: MD	SHIP TO: Office of Analytical Services & Quality Assurance U.S. Environmental Protection Agency 701 Mapes Road Fort Meade, MD 20755-5380 Attn. Pat Sosinski	7. WASTE (HIGH ONLY) 8. OTHER:	7. ICE 8. NONE 9. OTHER:	(DP) DUP. PAIR SPECIFY:	

SHIPMENT COMPLETE? (Y/N) Y | FINAL SHIP DATE TO LAB: 4/26/2000 | TOTAL NUMBER OF SAMPLES SHIPPED: 22 | TOTAL NUMBER OF CONTAINERS SHIPPED: 31

RELINQUISHED BY SIGNATURE:	RECEIVED BY SIGNATURE:	DATE	TIME	RELINQUISHED BY SIGNATURE:	RECEIVED BY SIGNATURE:	DATE	TIME
[signature]							
					John D Cwozy	4/27/00	9:00

SAMPLE NUMBER	STATION NUMBER	STATION LOCATION	TAG NUMBER	COLLECTION DATE	COLLECTION TIME	PARAMETERS 1	2	3	4	5	COLUMNS A	B	C	D
CT49810	SW-2DM	SW-2DM 00042725	3-3031018	4/26/2000	1300			X			1	2,7	-	G
CT49811	SW-3DM	SW-3DM 00042726	3-3031019	4/26/2000	1345			X			1	2,7	-	G
CT49812	SW-4DM	SW-4DM 00042727	3-3031021	4/26/2000	1000			X			1	2,7	-	G
CT49813	SW-5DM	SW-5DM 00042728	3-3031022	4/26/2000	1000			X			1	2,7	D	G
CT49814	S-1	S-1 00042729	3-3031023	4/26/2000	1130	X	X				5	7	-	G
~~CT49815~~	~~SED-1~~	~~SED-1~~				~~X~~	~~X~~				~~5~~	~~7~~	~~-~~	~~G~~
CT49816	S-2	S-2 00042730	3-3031026	4/26/2000	0945	X	X				5	7	-	G
CT49817	S-3	S-3 00042731	3-3031025	4/26/2000	1145	X	X				5	7	-	G
CT49818	S-4	S-4 00042732	3-3031027	4/26/2000	1130	X	X				5	7	D	G
CT49819	SED-1	SED-1 00042733	~~3-3031029~~ 3-3031028	4/26/2000	1015	X	X				5	7	-	G

DO 4/21

PARAMETERS 1	Total Metals
PARAMETERS 2	Cyanide
PARAMETERS 3	Dissolved Metals
PARAMETER 4	
PARAMETERS 5	

U.S. EPA REGION 3	CHAIN OF CUS	Y RECORD	RECORD	CT498	PAGE: 1 OF 3

PROGRAM: Superfund	SAMPLER: Phillip Anderson		COLUMN A MATRIX	COLUMN B PRESERVATION	COLUMN C QC	COLUMN D TYPE
ACCOUNT No.: 2000T03NS0102DE326CR00	SAMPLING ORGANIZATION: Maryland Department of Environment		1. SURFACE WATER 2. GROUND WATER	1. HCL 2. HNO3	(B) BLANK	(G) GRAB/ (C) COMPOSITE
ACTIVITY: Site Inspection	DATE SHIPPED: 4/26/2000	CARRIER: FEDEX	3. LEACHATE 4. FIELD QC	3. NaHSO4 4. H2SO4	(D) DUPLICATE (R) RINSATE	SAMPLES USED FOR LAB QC: CT49804
AIRBILL No.: 819742448284	SITE: PEMCO Products		5.SOIL/SEDIMENT 6. OIL (HIGH ONLY)	5. NaOH 6. K2Cr2O7	(PE) P. EVAL (-) NO QC	
CITY: Baltimore / STATE: MD	SHIP TO: Office of Analytical Services and Quality Assurance, U.S. Environmental Protection Agency, 701 Mapes Road, Fort Meade, MD 20755-5350, Attn. Pat Sosinski		7. WASTE (HIGH ONLY) 8. OTHER:	7. ICE 8. NONE 9. OTHER:	(DP) DUP. PAIR SPECIFY:	

SHIPMENT COMPLETE? (Y/N)	FINAL SHIP DATE TO LAB:	TOTAL NUMBER OF SAMPLES SHIPPED:	TOTAL NUMBER OF CONTAINERS SHIPPED:
Y	4/26/2000	22	31

RELINQUISHED BY SIGNATURE:	RECEIVED BY SIGNATURE:	DATE	TIME	RELINQUISHED BY SIGNATURE:	RECEIVED BY SIGNATURE:	DATE	TIME
					John D Curry	4/27/00	9:00

SAMPLE NUMBER	STATION NUMBER	STATION LOCATION		TAG NUMBER	COLLECTION DATE	COLLECTION TIME	PARAMETERS 1	2	3	4	5	COLUMNS A	B	C	D
~~CT49800~~	~~GW-1~~	~~GW-1~~		~~3-3031001 to 3-3031002~~			X	X				2	2,5,7	--	G
CT49801	GW-2	GW-2	00042717	3-3031003 to 3-3031004	4/26/2000	1015	X	X				2	2,5,7	--	G
CT49802	SW-1	SW-1	00042718	3-3031005 to 3-3031006	4/26/2000	1015	X	X				1	2,5,7	--	G
CT49803	SW-2	SW-2	00042719	3-3031007 to 3-3031008	4/26/2000	1300	X	X				1	2,5,7	--	G
CT49804	SW-3	SW-3	00042720	3-3031009 to 3-3031012	4/26/2000	1345	X	X				1	2,5,7	--	G
CT49805	SW-4	SW-4	00042721	3-3031013 to 3-3031014	4/26/2000	1000	X	X				1	2,5,7	--	G
CT49806	SW-5	SW-5	00042722	3-3031348 to 3-3031349	4/26/2000	1000	X	X				1	2,5,7	D	G
~~CT49807~~	~~GW-1DM~~	~~GW-1DM~~		~~3-3031015~~					X			2	2,7	--	G
CT49808	GW-2DM	GW-2DM	00042723	3-3031016	4/26/2000	1015			X			2	2,7	--	G
CT49809	SW-1DM	SW-1DM	00042724	3-3031017	4/26/2000	1015			X			2	2,7	--	G

PARAMETERS 1	Total Metals
PARAMETERS 2	Cyanide
PARAMETERS 3	Dissolved Metals
PARAMETER 4	
PARAMETERS 5	

ORIGINAL (Red)

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FedEx USA Airbill Tracking No. 8197 4244 8284

1 From This portion can be removed for Recipient's records.

Date 4-26-00 FedEx Tracking Number 8197424482 84

Sender's Name Alan W. Fong Phone 410 631-3493

Company Maryland Dept. of Environment WASTE MANAGEMENT ADMIN

Address 2500 BROENING HWY BLDG 40

Dept./Floor/Suite/Room

City BALTIMORE State MD ZIP 21224

RECIPIENT: PEEL HERE

2 Your Internal Billing Reference 5421

3 To Recipient's Name Pat Sosinski Phone 410 305-2667

Company Office of Analytical Services & Quality Assurance U.S. Environmental Protection Agency

Address 701 Mapes Road

To "HOLD" at FedEx location, print FedEx address. We cannot deliver to P.O. boxes or P.O. ZIP codes.

Dept./Floor/Suite/Room

City Ft. Meade State MD ZIP 20755-5350

8197 4244 8284

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4a Express Package Service — Packages up to 150 lbs. Delivery commitment may be later in some areas.

- [x] FedEx Priority Overnight — Next business morning
- [ ] FedEx Standard Overnight — Next business afternoon
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations
- [ ] FedEx 2Day* — Second business day
- [ ] FedEx Express Saver* — Third business day

* FedEx Envelope/Letter Rate not available. Minimum charge: One-pound rate

4b Express Freight Service — Packages over 150 lbs. Delivery commitment may be later in some areas.

- [ ] FedEx 1Day Freight* — Next business day
- [ ] FedEx 2Day Freight — Second business day
- [ ] FedEx 3Day Freight — Third business day

* Call for Confirmation:

5 Packaging — * Declared value limit $500

- [ ] FedEx Envelope/Letter*
- [ ] FedEx Pak*
- [x] Other Pkg — Includes FedEx Box, FedEx Tube, and customer pkg.

6 Special Handling — Include FedEx address in Section 3.

- [ ] SATURDAY Delivery — Available for FedEx Priority Overnight and FedEx 2Day to select ZIP codes
- [ ] SUNDAY Delivery — Available for FedEx Priority Overnight to select ZIP codes
- [ ] HOLD Weekday at FedEx Location — Not available with FedEx First Overnight
- [ ] HOLD Saturday at FedEx Location — Available for FedEx Priority Overnight and FedEx 2Day to select locations

Does this shipment contain dangerous goods? One box must be checked.

- [x] No
- [ ] Yes — As per attached Shipper's Declaration
- [ ] Yes — Shipper's Declaration not required
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous Goods cannot be shipped in FedEx packaging.

- [ ] Cargo Aircraft Only

7 Payment Bill to: Enter FedEx Acct. No. or Credit Card No. below.

- [ ] Obtain Recip. Acct. No.
- [x] Sender — Acct. No. in Section 1 will be billed.
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

Total Packages 2 Total Weight 116 Total Charges

Credit Card Auth.

†Our liability is limited to $100 unless you declare a higher value. See the *FedEx Service Guide* for details.

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By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.

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ORIGINAL (Red)

EPA United States Environmental Protection Agency, Contract Laboratory Program

Organic Traffic Rep & Chain of Custody Record
(For Organic CLP Analysis)

SAS No. (if applicable):

Case No.: 28009

1. Project Code	Account Code	2. Region No.	Sampling Co.	4. Date Shipped	Carrier
PMP	2TSAP3N922	III	MDE	4/26/2000	Fedex

Regional Information: —

Sampler (Name): Phillip Anderson

Airbill Number: 819742449236

Non-Superfund Program: —

Sampler Signature: Phillip Anderson

5. Ship To: EnviroSystems, Inc. 9200 Rumsey Road Columbia, MD 21045 (410) 964-0336 ATTN: Mohan Khare

Site Name: PEMCO Products

3. Purpose — Lead: [ ] SF [ ] PRP [X] ST [ ] FED; Early Action: [ ] CLEM [ ] PA [ ] REM [ ] RI [X] SI [ ] ESI; Long-Term Action: [ ] FS [ ] RD [ ] RA [ ] O&M [ ] NPLD

City, State: Baltimore, MD

Site Spill ID: E26

6. Matrix (Enter in Column A): 1. Surface Water 2. Ground Water 3. Leachate 4. Field QC 5. Soil/Sediment 6. Oil (High only) 7. Waste (High only) 8. Other (Specify in Column A)

7. Preservative (Enter in Column D): 1. HCl 2. HNO3 3. NaHSO4 4. H2SO4 5. Ice only 6. Other (Specify in Column D) N. Not preserved

CLP Sample Numbers (from labels)	A Matrix (from Box 6) / Other:	B Conc.: Low Med High	C Sample Type: Comp./ Grab	D Preservative (from Box 7) / Other:	E RAS Analysis: VOA	BNA	Pest/PCB	High only / ARO/TOX	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Field QC Qualifier (B = Blank S = Spike D = Duplicate R = Rinsate PE = Perform. Eval. — = Not a QC Sample)
CSL 72	2	L	G	1,5	X	X	X		3-3031151 to 3-3031154	GW-1		CT49800		—
CSL 73	1	L	G	1,5	X	X	X		3-3031155 to 3-3031158	SW-1	4/26/00 1015	CT49802	AW	—
CSL 74	5	L	G	5	X	X	X		3-3031159 to 3-3031161	S-1	4/26/00 1130	CT49814	AW	—
CSL 75	5	L	G	5	X	X	X		3-3031162 to 3-3031164	SED-1	4/26/00 1015	CT49819	AW	—
CSL 76	2	L	G	1,5	X	X	X		3-3031165 to 3-3031168	GW-2	4/26/00 1015	CT49801	AW	—
CSL 77	2	L	G	1,5	X	X	X		3-3031169 to 3-3031172	SW-2	4/26/00 1300	CT49803	AW	—
CSL 78	5	L	G	5	X	X	X		3-3031173 to 3-3031175	S-2	4/26/00 0945	CT49816	AW	—
CSL 79	5	L	G	5	X	X	X		3-3031176 to 3-3031181	SED-2	4/26/00 1218	CT49820	[illegible]	S
CSL 80	2	L	G	1,5	X	X	X		3-3031182 to 3-3031193	SW-3	4/26/00 1345	CT49804	AW	S
CSL 81	5	L	G	5	X	X	X		3-3031194 to 3-3031196	S-3	4/26/00 1145	CT49817	AW	

Shipment for Case Complete? (Y/N): Y

Page: 1 of 2

Sample(s) to be Used for Laboratory QC: Do QC on CSL 79 and CSL 80

Additional Sampler Signatures: [illegible]

Chain of Custody Seal Number(s):

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[illegible]	4/26/2000 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks Is custody seal intact? Y/N/none	

A21-012-3 REV. 3/93

DISTRIBUTION: Blue - Region Copy; White - Lab Copy for Return to Region; Pink - SMO Copy; Yellow - Lab Copy for Return to SMO

EPA Form 9110-2

SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS
*SEE REVERSE FOR PURPOSE CODE DEFINITIONS

355990

ORIGINAL (Red)

Appendix E

Support Documentation

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Rep. & Chain of Custody Record
(For Organic CLP Analysis)

SAS No. (if applicable):

Case No.: 28009

1. Project Code: PMP
Account Code: 2TSA03N922
2. Region No.: III
Sampling Co.: MDE
4. Date Shipped: 4/26/2000
Carrier: FedEx

Regional Information: —
Sampler (Name): Phillip Anderson
Airbill Number: 8197424 9236

Non-Superfund Program: —
Sampler Signature: Phillip Anderson
5. Ship To: Envirosystems, Inc. 9206 Rumsey Road Columbia, MD 21045 (410) 964-6339 ATTN: Mohan Kapur

Site Name: REMCO Products
3. Purpose*: Lead: SF, PRP, ST, FED; Early Action: CLEM, PA, REM, RI, SI, ESI; Long-Term Action: FS, RD, RA, O&M, NPLD

City, State: Baltimore, MD
Site Spill ID: E26

6. Matrix (Enter in Column A): 1. Surface Water 2. Ground Water 3. Leachate 4. Field QC 5. Soil/Sediment 6. Oil (High only) 7. Waste (High only) 8. Other (Specify in Column A)

7. Preservative (Enter in Column D): 1. HCl 2. HNO3 3. NaHSO4 4. H2SO4 5. Ice only 6. Other (Specify in Column D) N. Not preserved

CLP Sample Numbers (from labels)	A Matrix (from Box 6) / Other:	B Conc.: Low Med High	C Sample Type: Comp./ Grab	D Preservative (from Box 7) / Other:	E RAS Analysis: VOA	BNA	Pest/ PCB	High only ARO/ TOX	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Field QC Qualifier (B = Blank S = Spike D = Duplicate R = Rinsate PE = Perform. Eval. — = Not a QC Sample)
CSL82	5	L	G	5	X	X	X		3-3031197 to 3-3031199	SED-3	4/26/00 1345	CT49821	AN	—
CSL83	1	L	G	1,5	X	X	X		3-3031200 to 3-3031203	SW-4	4/26/00 1000	CT49805	AN	—
CSL84	5	L	G	5	X	X	X		3-3031204 to 3-3031206	S-4	4/26/00 1130	CT49818	AN	D of CSL74
CSL85	5	L	G	5	X	X	X		3-3031207 to 3-3031209	SED-5	4/26/00 1300	CT49824	AN	—
CSL86	1	L	G	1,5	X	X	X		3-3031210 to 3-3031213	SW-5	4/26/00 1000	CT49806	AN	D of CSL73
CSL87	4	L	G	1,5	X	X	X		3-3031214 to 3-3031217	FB-1	4/26/00 0930	CT49822	AN	B
CSL88	4	L	G	1,5	X				3-3031218 to 3-3031219	TB-1	4/26/00 0915	—	AN	B

Shipment for Case Complete? (Y/N): Y
Page 2 of 2
Sample(s) to be Used for Laboratory QC:
Additional Sampler Signatures:
Chain of Custody Seal Number(s):

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	4/26/2000 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks: Is custody seal intact? Y/N/none	

DISTRIBUTION: Blue - Region Copy; White - Lab Copy for Return to Region; Pink - SMO Copy; Yellow - Lab Copy for Return to SMO

EPA Form 9110-2

SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS
*SEE REVERSE FOR PURPOSE CODE DEFINITIONS

A21-012-3 REV. 3/93

355999

ORIGINAL

SDG NARRATIVE

LABORATORY NAME: ENVIROSYSTEMS, INC.

CASE #: 28009 SDG #: CSL73 REGION: III

CONTRACT: 68-W9-9024

DATE SAMPLES RECEIVED AT LABORATORY: 27 APRIL 2000

SAMPLE ANALYSES INCLUDED IN THIS REPORT:

EPA SAMPLE #	LAB ID #	ANALYSIS	MATRIX	VOA pH
CSL73	00041242	VOA, BNA, PEST	WATER	2
CSL74	00041243	VOA, BNA, PEST	SOIL	n/a
CSL75	00041244	VOA, BNA, PEST	SOIL	n/a
CSL76	00041245	VOA, BNA, PEST	WATER	2
CSL77	00041246	VOA, BNA, PEST	WATER	2
CSL78	00041247	VOA, BNA, PEST	SOIL	n/a
CSL79	00041248	VOA, BNA, PEST	SOIL	n/a
CSL80	00041249	VOA, BNA, PEST	WATER	2
CSL81	00041250	VOA, BNA, PEST	SOIL	n/a
CSL82	00041251	VOA, BNA, PEST	SOIL	n/a
CSL83	00041252	VOA, BNA, PEST	WATER	2
CSL84	00041253	VOA, BNA, PEST	SOIL	n/a
CSL85	00041254	VOA, BNA, PEST	SOIL	n/a
CSL86	00041255	VOA, BNA, PEST	WATER	2
CSL87	00041256	VOA, BNA, PEST	WATER	2
CSL88	00041257	VOA	WATER	2

Matrix spike/matrix spike duplicate (MS/MSD) analysis was performed on sample CSL79 for solid matrix and CSL80 for water samples.

Samples for this contract are analyzed by EPA SOW OLM04.2 for multi-media, multi-concentration organics.

VOLATILES SECTION:

The volatile analysis was performed using a Finnigan 5100 GC/MS with a Restek 105 meter RTX-502.2 column, an inner diameter of 0.53 mm and a 3 micron film thickness. The trap used with the autosampler is a 30 cm Supelco, Inc. K Trap (VOCARB 3000) packed with Carbopack B/Carboxen 1000 & 1001.

All QC criteria was met for all samples in this SDG.

Each of ten MS/MSD recoveries and each of the five MS/MSD RPD values were within the EPA advisory QC limits for water samples. Each of ten MS/MSD recoveries were within the EPA advisory QC limits and one of the five MS/MSD RPD values was outside the EPA advisrory QC limits for soil samples.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL SCIENCE CENTER
701 MAPES ROAD
FORT MEADE, MD 20755-5350

DATE : June 5, 2000

SUBJECT: Region III Data QA Review

FROM : Fredrick Foreman
Region III ESAT RPO (3ES20)

TO : William Wentworth
Regional Program Manager (3HS34)

Attached is the organic data validation report for the Pemco Products site (Case#: 28009, SDG#: CSL73) completed by the Region III Environmental Services Assistance Team (ESAT) contractor under the direction of Region III ESD.

If you have any questions regarding this review, please call me at (410) 305-2629.

Attachment

cc: Alan Fong (MDE)

WA File: 0300402 TDF# 0543

OFFICE OF ANAYTICAL SERVICES AND QUALITY ASSURANCE

RECEIVED
JUN 0 8 2000
ERRP

Lockheed Martin Environmental Services
US EPA Environmental Science Center
701 Mapes Road Ft. Meade, MD 20755-5350
Telephone 410-305-3037 Facsimile 410-305-3597

LOCKHEED MARTIN

DATE: June 2, 2000

SUBJECT: Level M3 Organic Data Validation for Case 28009
SDG: CSL73
Site: Pemco Products

FROM: Kenneth W. Curry
Senior Data Reviewer

Mahboobeh Mecanic
Senior Oversight Chemist

TO: Fredrick Foreman
ESAT Regional Project Officer

OVERVIEW

Case 28009, Sample Delivery Group (SDG) CSL73, consisted of eight (8) soil and eight (8) aqueous samples submitted to Envirosystems Incorporated (ENVSYS) for volatile, semivolatile and pesticide/PCB analyses. The sample set included one (1) trip blank, one (1) field blank, one (1) aqueous field duplicate pair and one (1) soil field duplicate pair. The trip blank was analyzed solely for volatile organic compounds. Samples were analyzed according to Contract Laboratory Program (CLP) Statement of Work (SOW) OLM04.2 through Routine Analysis Services (RAS) program.

SUMMARY

Data were validated according to Region III Modifications to the National Functional Guidelines for Organic Data Review, Level M3. All samples were successfully analyzed for all target compounds with exception of 3-nitroaniline and atrazine.

MAJOR PROBLEM

- Response Factors (RFs) for 3-nitroaniline and atrazine were less than 0.05 (<0.05) in semivolatile initial and/or continuing calibrations. Quantitation limits for these compounds in affected samples were rejected and qualified "R" on the Data Summary Forms (DSFs).

MINOR PROBLEMS

- Several volatile and semivolatile target compounds failed precision criteria [Percent Relative Standard Deviation (%RSD) and/or Percent Difference (%D)] in initial and/or continuing calibrations. Positive results associated with these compounds in affected samples were qualified "J". Quantitation limits for compounds having percent differences greater than fifty percent (% D>50%) were qualified "UJ" in affected samples on the DSFs unless superseded by "R".

- Several semivolatile samples had two (2) or more surrogate recoveries outside the lower QC limits as tabled below. The MSD analysis of sample CSL79 had similar surrogate recovery results, sample CSL78 was reanalyzed at a fifty fold (50X) dilution and sample CSL81 was not renalyzed. The "L" qualifier for positive results in these samples has been superseded by "J". Quantitation limits in affected fractions in these samples were qualified "UL" on the DSFs unless superseded by "UJ" or "R".

sample	Surrogate outliers
CSL79	S1, S2, S4, S5, S8
CSL78	S4, S5
CSL81	S1, S2, S4, S5, S8

S1 = nitrobenzene-d5
S2 = 2-fluorobiphenyl
S4 = phenol-d5
S5 = 2-fluorophenol
S8 = 1,2-dichlorobenzene

- Several pesticide/PCB samples had three (3) or more surrogate recoveries outside the lower QC limits. These samples were not reanalyzed. Individual samples and surrogates outliers are tabled below. Quantitation limits in these samples were qualified "UL" on the DSFs.

sample	Surrogate outliers
CSL77	TCX1, DCB1, DCB2
CSL80	TCX2, DCB1, DCB2
CSL83	TCX2, DCB1, DCB2
CSL84	TCX1,TCX2, DCB1, DCB2
CSL86	TCX1,TCX2, DCB1, DCB2

TCX = tetrachloro-m-xylene
DCB = decachlorobiphenyl

NOTES

- The maximum concentrations of all target compounds found in the analyses of field and method blanks are listed below. Samples with concentrations of common laboratory contaminants less than ten times (<10X) highest blank concentration or with concentrations of other contaminants less than five times (<5X) blank concentration have been qualified "B".

Compound	Concentration
2-butanone*	14 ug/Kg
acetophenone	2 J ug/L
diethylphthalate*	10 ug/L
Di-n-butylphthalate *	2 J ug/L

* common laboratory contaminant

- Pesticide/PCB samples CSL76, CSL80MSD, CSL75, and CSL82 each reported recovery of one (1) surrogate outside upper or lower QC limits. No data were qualified based on a single recovery outlier in these samples.

- Compounds detected below Contract Required Quantitation Limits (CRQLs) were qualified "J" except when superseded by "B" on the DSFs.

- Tentatively Identified Compounds (TICs) in Appendix D were reviewed during data validation. Compounds identified as blank contaminants were crossed off TIC Form Is. Several semivolatile TICs were identified incorrectly by the laboratory. The compound names were corrected by the reviewer on the TIC Form Is. (See the TIC spectra in Appendix E.)

- Volatile Martix Spike/Matrix Spike Duplicate (MS/MSD) analyses of sample CSL79 reported Relative Percent Difference (RPD) for spike compound 1,1-dichloroethene outside the QC limit. No data were qualified based on this QC outlier.

- Semivolatile MS analysis of sample CSL80 reported recovery for spike compound 4-nitrophenol slightly outside the upper QC limit. No data were qualified based on this QC outlier.

- Semivolatile MS/MSD analyses of sample CSL79 reported recoveries of spike compounds phenol, 2-chlorophenol, N-nitroso-di-n-propylamine, 4-chloro-3-methylphenol, acenaphthene, 2,4-dinitrotoluene and pyrene outside lower QC limits in the MSD analysis. RPDs for all spike compounds were outside QC limits. These outliers may be attributed to matrix interferences and/or extraction deficiency for sample CSL79MSD. No data were qualified based on these QC outliers.

ORIGINAL (Red)

- Pesticide/PCB MS/MSD analyses of sample CSL80 reported recoveries of spike compounds gamma-BHC, heptachlor, aldrin, dieldrin, endrin and 4,4'-DDT outside lower QC limits in the MS analysis. All RPDs for these analyses were outside QC limits. No data were qualified based on these QC outliers.

- Recovery of spike compound endrin in the pesticide/PCB GPC calibration was outside the upper QC limit. Endrin was not detected in any samples. No data were qualified based on this QC outlier.

- Based on sample screening, initial analyses of semivolatile samples CSL78 and CSL82 were performed at ten fold (10X) dilutions. CRQLs are elevated in these samples due to this dilution.

- All soil samples, collected 4/26/00, were extracted for semivolatile and pesticide/PCB analyses 5/5/00. Although no technical holding time has been established for soil samples, the technical holding time of seven (7) days for aqueous samples has been exceeded by two (2) days. The contractual holding time of ten (10) days from the Validated Time of Sample Receipt (VTSR) was met by the laboratory. No data were qualified based on this minor holding time infraction.

- Semivolatile sample CSL78 was initially analyzed at a ten fold (10X) dilution in which all compounds were within the calibration range. This sample was subsequently reanalyzed at a fifty fold (50X) dilution by the laboratory. Results from the initial analysis of this sample were reported by the reviewer on the DSFs.

- Non-spiked compounds, other than blank contaminates, were detected in the analyses of samples CSL79, CSL80 and the MS/MSD analyses of these samples. The results and precision estimates are as follows:

	Concentration (ug/Kg)			
Compound	CSL79	MS	MSD	%RSD
fluoranthene	ND	ND	570	IN
4,4'-DDE	0.77 J	ND	ND	IN

	Concentration (ug/L)			
Compound	CSL80	MS	MSD	%RSD
methylene chloride	ND	5 J	ND	IN
acetone	ND	ND	11 J	IN
2-methylnaphthalene	ND	ND	16	IN
4-bromophenyl-phenylether	ND	ND	1 J	IN
fluoranthene	ND	ND	32	IN

%RSD = Percent Relative Standard Deviation
ND = Not Detected
IN = Indetermined

All data for Case 28009, SDG CSL73, were reviewed in accordance with Region III Modifications to the National Functional Guidelines for Organic Data Review, September 1994.

ATTACHMENTS

1)	Appendix A	Glossary of Data Qualifier Terms
2)	Appendix B	Data Summary Forms
3)	Appendix C	Form I s
4)	Appendix D	Tentatively Identified Compounds
5)	Appendix E	Support Documentation

DCN: 28009M3.wpd

Appendix A

Glossary of Data Qualifiers

GLOSSARY OF DATA QUALIFIER CODES (ORGANIC)

CODES RELATED TO IDENTIFICATION
(confidence concerning presence or absence of compounds)

U = Not detected. The associated number indicates approximate sample concentration necessary to be detected.

NO CODE = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unusable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION
(can be used for both positive results and sample quantitation limits):

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably higher.

OTHER CODES

NJ = Qualitative identification questionable due to poor resolution. Presumptively present at approximate quantity.

Q = No analytical result.

Appendix B

Data Summary Forms

DATA SUMMARY FORM: VOLATILES

Case #: 28009
Site :
Lab. :

SDG : CSL73
PEMCO PRODUCTS
ENVSYS

Sample Number :		CSL73		CSL76		CSL77		CSL80		CSL83	
Sampling Location :		SW-1		GW-2		SW-2		SW-3		SW-4	
Field QC		Field Dup. of CSL86									
Matrix :		Water		Water		Water		Water		Water	
Units :		ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :		04/26/2000		04/26/2000		04/26/2000		04/26/2000		04/26/2000	
Time Sampled :		10:15		10:15		13:00		13:45		10:00	
%Moisture :		N/A		N/A		N/A		N/A		N/A	
pH :											
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Dichlorodifluoromethane	10										
Chloromethane	10										
*Vinyl Chloride	10										
Bromomethane	10										
Chloroethane	10										
Trichlorofluoromethane	10										
*1,1-Dichloroethene	10										
1,1,2-Trichloro-1,2,2-trifluoroethane	10										
Acetone	10	18	J								
Carbon Disulfide	10										
Methyl Acetate	10										
*Methylene Chloride	10										
trans-1,2-Dichloroethene	10										
Methyl tert-Butyl Ether	10										
1,1-Dichloroethane	10										
cis-1,2-Dichloroethene	10										
*2-Butanone	10										
Chloroform	10										
*1,1,1-Trichloroethane	10										
Cyclohexane	10										
Carbon Tetrachloride	10										
*Benzene	10										
*1,2-Dichloroethane	10										
Trichloroethene	10										
Methylcyclohexane	10										
*1,2-Dichloropropane	10										
Bromodichloromethane	10										
cis-1,3-Dichloropropene	10										
4-Methyl-2-pentanone	10										
*Toluene	10										
trans-1,3-Dichloropropene	10										
1,1,2-Trichloroethane	10										
*Tetrachloroethene	10										

DATA SUMMARY FORM: VOLATILES

Case #: 28009 SDG : CSL73
Site : PEMCO PRODUCTS
Lab. : ENVSYS

Sample Number :		CSL73		CSL76		CSL77		CSL80		CSL83	
Sampling Location :		SW-1		GW-2		SW-2		SW-3		SW-4	
Field QC		Field Dup. of CSL86									
Matrix :		Water		Water		Water		Water		Water	
Units :		ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :		04/26/2000		04/26/2000		04/26/2000		04/26/2000		04/26/2000	
Time Sampled :		10:15		10:15		13:00		13:45		10:00	
%Moisture :		N/A		N/A		N/A		N/A		N/A	
pH :											
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
2-Hexanone	10										
Dibromochloromethane	10										
1,2-Dibromoethane	10										
*Chlorobenzene	10										
*Ethylbenzene	10										
Xylenes (total)	10										
*Styrene	10										
Bromoform	10										
Isopropylbenzene	10										
1,1,2,2-Tetrachloroethane	10										
*1,3-Dichlorobenzene	10										
*1,4-Dichlorobenzene	10										
1,2-Dichlorobenzene	10										
1,2-Dibromo-3-chloropropane	10										
1,2,4-Trichlorobenzene	10										

CRQL = Contract Required Quantitation Limit *Action Level Exists SEE NARRATIVE FOR CODE DEFINITIONS
To calculate sample quantitation limits multiply the CRQL by the Dilution Factor Revised 09/99

ORIGINAL (Red)

DATA SUMMARY FORM: VOLATILES

Case #: 28009 SDG : CSL73
Site : PEMCO PRODUCTS
Lab. : ENVSYS

Sample Number :		CSL86		CSL87		CSL88					
Sampling Location :		SW-5		FB-1		TB-1					
Field QC		Field Dup. of CSL73		Field Blank		Trip Blank					
Matrix :		Water		Water		Water					
Units :		ug/L		ug/L		ug/L					
Date Sampled :		04/26/2000		04/26/2000		04/26/2000					
Time Sampled :		10:00		09:30		09:15					
%Moisture :		N/A		N/A		N/A					
pH :											
Dilution Factor :		1.0		1.0		1.0					
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Dichlorodifluoromethane	10										
Chloromethane	10										
*Vinyl Chloride	10										
Bromomethane	10										
Chloroethane	10										
Trichlorofluoromethane	10										
*1,1-Dichloroethene	10										
1,1,2-Trichloro-1,2,2-trifluoroethane	10										
Acetone	10	31	J								
Carbon Disulfide	10										
Methyl Acetate	10										
*Methylene Chloride	10										
trans-1,2-Dichloroethene	10										
Methyl tert-Butyl Ether	10										
1,1-Dichloroethane	10										
cis-1,2-Dichloroethene	10										
*2-Butanone	10										
Chloroform	10										
*1,1,1-Trichloroethane	10										
Cyclohexane	10										
*Carbon Tetrachloride	10										
enzene	10										
2-Dichloroethane	10										
Trichloroethene	10										
Methylcyclohexane	10										
*1,2-Dichloropropane	10										
Bromodichloromethane	10										
cis-1,3-Dichloropropene	10										
4-Methyl-2-pentanone	10										
*Toluene	10										
trans-1,3-Dichloropropene	10										
1,1,2-Trichloroethane	10										
*Tetrachloroethene	10										

ORIGINAL (Red)

DATA SUMMARY FORM: VOLATILES

Case #: 28009 SDG : CSL73
Site : PEMCO PRODUCTS
Lab. : ENVSYS

Sample Number :		CSL86		CSL87		CSL88					
Sampling Location :		SW-5		FB-1		TB-1					
Field QC		Field Dup. of CSL73									
Matrix :		Water		Water		Water					
Units :		ug/L		ug/L		ug/L					
Date Sampled :		04/26/2000		04/26/2000		04/26/2000					
Time Sampled :		10:00		09:30		09:15					
%Moisture :		N/A		N/A		N/A					
pH :											
Dilution Factor :		1.0		1.0		1.0					
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
2-Hexanone	10										
Dibromochloromethane	10										
1,2-Dibromoethane	10										
*Chlorobenzene	10										
*Ethylbenzene	10										
Xylenes (total)	10										
*Styrene	10										
Bromoform	10										
Isopropylbenzene	10										
1,1,2,2-Tetrachloroethane	10										
*1,3-Dichlorobenzene	10										
*1,4-Dichlorobenzene	10										
1,2-Dichlorobenzene	10										
1,2-Dibromo-3-chloropropane	10										
1,2,4-Trichlorobenzene	10										

CRQL = Contract Required Quantitation Limit *Action Level Exists SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits multiply the CRQL by the Dilution Factor Revised 09/99

DATA SUMMARY FORM: VOLATILES

Case #: 28009 SDG : CSL73 Number of Soil Samples : 8
Site : PEMCO PRODUCTS Number of Water Samples : 8
Lab. : ENVSYS

Sample Number :		CSL74		CSL75		CSL78		CSL79		CSL81	
Sampling Location :		S-1		SED-1		S-2		SED-2		S-3	
Field QC		Field Dup. of CSL84									
Matrix :		Soil		Soil		Soil		Soil		Soil	
Units :		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :		04/26/2000		04/26/2000		04/26/2000		04/26/2000		04/26/2000	
Time Sampled :		11:30		10:15		09:45		12:18		11:45	
%Moisture :		19		18		14		11		20	
pH :											
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Dichlorodifluoromethane	10										
Chloromethane	10										
Vinyl Chloride	10										
Bromomethane	10										
Chloroethane	10										
Trichlorofluoromethane	10										
1,1-Dichloroethene	10										
1,1,2-Trichloro-1,2,2-trifluoroethane	10										
Acetone	10										
Carbon Disulfide	10										
Methyl Acetate	10										
Methylene Chloride	10										
trans-1,2-Dichloroethene	10										
Methyl tert-Butyl Ether	10										
1,1-Dichloroethane	10										
cis-1,2-Dichloroethene	10										
2-Butanone	10	16	B	15	B						
Chloroform	10										
1,1,1-Trichloroethane	10										
Cyclohexane	10										
Carbon Tetrachloride	10										
Benzene	10										
1,2-Dichloroethane	10										
Trichloroethene	10										
Methylcyclohexane	10										
1,2-Dichloropropane	10										
Bromodichloromethane	10										
cis-1,3-Dichloropropene	10										
4-Methyl-2-pentanone	10										
Toluene	10										
trans-1,3-Dichloropropene	10										
1,1,2-Trichloroethane	10										
Tetrachloroethene	10										

DATA SUMMARY FORM: VOLATILES

Case #: 28009 SDG : CSL73
Site : PEMCO PRODUCTS
Lab. : ENVSYS

Sample Number :		CSL74		CSL75		CSL78		CSL79		CSL81	
Sampling Location :		S-1		SED-1		S-2		SED-2		S-3	
Field QC		Field Dup. of CSL84									
Matrix :		Soil		Soil		Soil		Soil		Soil	
Units :		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :		04/26/2000		04/26/2000		04/26/2000		04/26/2000		04/26/2000	
Time Sampled :		11:30		10:15		09:45		12:18		11:45	
%Moisture :		19		18		14		11		20	
pH :											
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
2-Hexanone	10										
Dibromochloromethane	10										
1,2-Dibromoethane	10										
Chlorobenzene	10										
Ethylbenzene	10										
Xylenes (total)	10										
Styrene	10										
Bromoform	10										
Isopropylbenzene	10										
1,1,2,2-Tetrachloroethane	10										
1,3-Dichlorobenzene	10										
1,4-Dichlorobenzene	10										
1,2-Dichlorobenzene	10										
1,2-Dibromo-3-chloropropane	10										
1,2,4-Trichlorobenzene	10										

CRQL = Contract Required Quantitation Limit SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL * Dilution Factor) / (100 - %Moisture) / 100 Revised 09/99

DATA SUMMARY FORM: VOLATILES

Case #: 28009
Site :
Lab. :

SDG : CSL73
PEMCO PRODUCTS
ENVSYS

Sample Number :		CSL82		CSL84		CSL85					
Sampling Location :		SED-3		S-4		SED-5					
Field QC				Field Dup. of CSL74							
Matrix :		Soil		Soil		Soil					
Units :		ug/Kg		ug/Kg		ug/Kg					
Date Sampled :		04/26/2000		04/26/2000		04/26/2000					
Time Sampled :		13:45		11:30		13:00					
%Moisture :		31		23		24					
pH :											
Dilution Factor :		1.0		1.0		1.0					
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Dichlorodifluoromethane	10										
Chloromethane	10										
Vinyl Chloride	10										
Bromomethane	10										
Chloroethane	10										
Trichlorofluoromethane	10										
1,1-Dichloroethene	10										
1,1,2-Trichloro-1,2,2-trifluoroethane	10										
Acetone	10										
Carbon Disulfide	10										
Methyl Acetate	10										
Methylene Chloride	10										
trans-1,2-Dichloroethene	10										
Methyl tert-Butyl Ether	10										
1,1-Dichloroethane	10										
cis-1,2-Dichloroethene	10										
2-Butanone	10										
Chloroform	10										
1,1,1-Trichloroethane	10										
Cyclohexane	10										
Carbon Tetrachloride	10										
Benzene	10										
1,2-Dichloroethane	10										
Trichloroethene	10										
Methylcyclohexane	10										
1,2-Dichloropropane	10										
Bromodichloromethane	10										
cis-1,3-Dichloropropene	10										
4-Methyl-2-pentanone	10										
Toluene	10										
trans-1,3-Dichloropropene	10										
1,1,2-Trichloroethane	10										
Tetrachloroethene	10										

DATA SUMMARY FORM: VOLATILES

Case #: 28009
Site :
Lab. :

SDG : CSL73
PEMCO PRODUCTS
ENVSYS

Sample Number :		CSL82		CSL84		CSL85					
Sampling Location :		SED-3		S-4		SED-5					
Field QC				Field Dup. of CSL74							
Matrix :		Soil		Soil		Soil					
Units :		ug/Kg		ug/Kg		ug/Kg					
Date Sampled :		04/26/2000		04/26/2000		04/26/2000					
Time Sampled :		13:45		11:30		13:00					
%Moisture :		31		23		24					
pH :											
Dilution Factor :		1.0		1.0		1.0					
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
2-Hexanone	10										
Dibromochloromethane	10										
1,2-Dibromoethane	10										
Chlorobenzene	10										
Ethylbenzene	10										
Xylenes (total)	10										
Styrene	10										
Bromoform	10										
Isopropylbenzene	10										
1,1,2,2-Tetrachloroethane	10										
1,3-Dichlorobenzene	10										
1,4-Dichlorobenzene	10										
1,2-Dichlorobenzene	10										
1,2-Dibromo-3-chloropropane	10										
1,2,4-Trichlorobenzene	10										

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL * Dilution Factor) / (100 - %Moisture) / 100

Revised 09/99

DATA SUMMARY FORM: BNA

Case #: 28009
Site :
Lab. :

SDG : CSL73
PEMCO PRODUCTS
ENVSYS

Sample Number :		CSL73		CSL76		CSL77		CSL80		CSL83	
Sampling Location :		SW-1		GW-2		SW-2		SW-3		SW-4	
Field QC		Field Dup. of CSL86									
Matrix :		Water		Water		Water		Water		Water	
Units :		ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :		04/26/2000		04/26/2000		04/26/2000		04/26/2000		04/26/2000	
Time Sampled :		10:15		10:15		13:00		13:45		10:00	
%Moisture :		N/A		N/A		N/A		N/A		N/A	
pH :											
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Benzaldehyde	10		UJ		UJ		UJ		UJ		UJ
Phenol	10										
bis-(2-Chloroethyl) ether	10										
2-Chlorophenol	10										
2-Methylphenol	10										
2,2'-oxybis(1-Chloropropane)	10										
Acetophenone	10										
4-Methylphenol	10										
N-Nitroso-di-n-propylamine	10										
Hexachloroethane	10										
Nitrobenzene	10										
Isophorone	10										
2-Nitrophenol	10										
2,4-Dimethylphenol	10										
bis(2-Chloroethoxy)methane	10										
2,4-Dichlorophenol	10										
Naphthalene	10										
4-Chloroaniline	10										
Hexachlorobutadiene	10										
Caprolactam	10										
4-Chloro-3-methylphenol	10										
2-Methylnaphthalene	10										
Hexachlorocyclopentadiene	10										
2,4,6-Trichlorophenol	10										
2,4,5-Trichlorophenol	25										
1,1'-Biphenyl	10										
2-Chloronaphthalene	10										
2-Nitroaniline	25										
Dimethylphthalate	10										
2,6-Dinitrotoluene	10										
Acenaphthylene	10										
3-Nitroaniline	25		R		R		R		R		R

DATA SUMMARY FORM: BNA

Case #: 28009 SDG : CSL73
Site : PEMCO PRODUCTS
Lab. : ENVSYS

Sample Number :		CSL73		CSL76		CSL77		CSL80		CSL83	
Sampling Location :		SW-1		GW-2		SW-2		SW-3		SW-4	
Field QC		Field Dup. of CSL86									
Matrix :		Water		Water		Water		Water		Water	
Units :		ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :		04/26/2000		04/26/2000		04/26/2000		04/26/2000		04/26/2000	
Time Sampled :		10:15		10:15		13:00		13:45		10:00	
%Moisture :		N/A		N/A		N/A		N/A		N/A	
pH :											
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Acenaphthene	10										
2,4-Dinitrophenol	25										
4-Nitrophenol	25										
Dibenzofuran	10										
2,4-Dinitrotoluene	10										
Diethylphthalate	10										
Fluorene	10										
4-Chlorophenyl-phenyl ether	10										
4-Nitroaniline	25		UJ		UJ		UJ		UJ		UJ
4,6-Dinitro-2-methylphenol	25										
N-Nitrosodiphenylamine	10										
4-Bromophenyl-phenylether	10										
*Hexachlorobenzene	10										
Atrazine	10										
*Pentachlorophenol	25										
Phenanthrene	10										
Anthracene	10										
Carbazole	10		UJ		UJ		UJ		UJ		UJ
Di-n-butylphthalate	10	1	B	1	B	1	B	1	B	1	B
Fluoranthene	10										
Pyrene	10										
Butylbenzylphthalate	10										
3,3'-Dichlorobenzidine	10										
Benzo(a)anthracene	10										
Chrysene	10										
bis(2-Ethylhexyl)phthalate	10										
Di-n-octylphthalate	10										
Benzo(b)fluoranthene	10										
Benzo(k)fluoranthene	10										
Benzo(a)pyrene	10										
Indeno(1,2,3-cd)pyrene	10										
Dibenzo(a,h)anthracene	10										
Benzo(g,h,i)perylene	10										

CRQL = Contract Required Quantitation Limit *Action Level Exists SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits multiply the CRQL by the Dilution Factor Revised 09/99

DATA SUMMARY FORM: BNA

Case #: 28009 SDG : CSL73
Site : PEMCO PRODUCTS
Lab. : ENVSYS

Sample Number :		CSL86		CSL87							
Sampling Location :		SW-5		FB-1							
Field QC		Field Dup. of CSL73		Field Blank							
Matrix :		Water		Water							
Units :		ug/L		ug/L							
Date Sampled :		04/26/2000		04/26/2000							
Time Sampled :		10:00		09:30							
%Moisture :		N/A		N/A							
pH :											
Dilution Factor :		1.0		1.0							
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Benzaldehyde	10		UJ								
Phenol	10										
bis-(2-Chloroethyl) ether	10										
2-Chlorophenol	10										
2-Methylphenol	10										
2,2'-oxybis(1-Chloropropane)	10										
Acetophenone	10										
4-Methylphenol	10										
N-Nitroso-di-n-propylamine	10										
Hexachloroethane	10										
Nitrobenzene	10										
Isophorone	10										
2-Nitrophenol	10										
2,4-Dimethylphenol	10										
bis(2-Chloroethoxy)methane	10										
2,4-Dichlorophenol	10										
Naphthalene	10										
4-Chloroaniline	10										
Hexachlorobutadiene	10										
Caprolactam	10										
4-Chloro-3-methylphenol	10										
2-Methylnaphthalene	10										
Hexachlorocyclopentadiene	10										
2,4,6-Trichlorophenol	10										
2,4,5-Trichlorophenol	25										
1,1'-Biphenyl	10										
2-Chloronaphthalene	10										
2-Nitroaniline	25										
Dimethylphthalate	10										
2,6-Dinitrotoluene	10										
Acenaphthylene	10										
3-Nitroaniline	25		R		R						

DATA SUMMARY FORM: BNA

Case #: 28009 SDG : CSL73
Site : PEMCO PRODUCTS
Lab. : ENVSYS

Sample Number :		CSL86		CSL87							
Sampling Location :		SW-5		FB-1							
Field QC		Field Dup. of CSL73		Field Blank							
Matrix :		Water		Water							
Units :		ug/L		ug/L							
Date Sampled :		04/26/2000		04/26/2000							
Time Sampled :		10:00		09:30							
%Moisture :		N/A		N/A							
pH :											
Dilution Factor :		1.0		1.0							
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Acenaphthene	10										
2,4-Dinitrophenol	25										
4-Nitrophenol	25										
Dibenzofuran	10										
2,4-Dinitrotoluene	10										
Diethylphthalate	10			10							
Fluorene	10										
4-Chlorophenyl-phenyl ether	10										
4-Nitroaniline	25		UJ								
4,6-Dinitro-2-methylphenol	25										
N-Nitrosodiphenylamine	10										
4-Bromophenyl-phenylether	10										
*Hexachlorobenzene	10										
Atrazine	10										
*Pentachlorophenol	25										
Phenanthrene	10										
Anthracene	10										
Carbazole	10		UJ		UJ						
Di-n-butylphthalate	10			2	B						
Fluoranthene	10										
Pyrene	10										
Butylbenzylphthalate	10										
3,3'-Dichlorobenzidine	10										
Benzo(a)anthracene	10										
Chrysene	10										
bis(2-Ethylhexyl)phthalate	10										
Di-n-octylphthalate	10										
Benzo(b)fluoranthene	10										
Benzo(k)fluoranthene	10										
Benzo(a)pyrene	10										
Indeno(1,2,3-cd)pyrene	10										
Dibenzo(a,h)anthracene	10										
Benzo(g,h,i)perylene	10										

CRQL = Contract Required Quantitation Limit *Action Level Exists SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits multiply the CRQL by the Dilution Factor Revised 09/99

DATA SUMMARY FORM: BNA

Case #: 28009
Site :
Lab. :

SDG : CSL73
PEMCO PRODUCTS
ENVSYS

Number of Soil Samples : 8
Number of Water Samples : 7

Sample Number :		CSL74		CSL75		CSL78		CSL79		CSL81	
Sampling Location :		S-1		SED-1		S-2		SED-2		S-3	
Field QC		Field Dup. of CSL84									
Matrix :		Soil		Soil		Soil		Soil		Soil	
Units :		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :		04/26/2000		04/26/2000		04/26/2000		04/26/2000		04/26/2000	
Time Sampled :		11:30		10:15		09:45		12:18		11:45	
%Moisture :		19		18		14		11		20	
pH :		5		7		8		8		8	
Dilution Factor :		1.0		1.0		10.0		1.0		1.0	
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Benzaldehyde	330								UL		UL
Phenol	330						UL		UL		UL
bis-(2-Chloroethyl) ether	330								UL		UL
2-Chlorophenol	330						UL		UL		UL
2-Methylphenol	330						UL		UL		UL
2,2'-oxybis(1-Chloropropane)	330								UL		UL
Acetophenone	330								UL		UL
4-Methylphenol	330						UL		UL		UL
N-Nitroso-di-n-propylamine	330								UL		UL
Hexachloroethane	330								UL		UL
Nitrobenzene	330								UL		UL
Isophorone	330								UL		UL
2-Nitrophenol	330						UL		UL		UL
2,4-Dimethylphenol	330						UL		UL		UL
bis(2-Chloroethoxy)methane	330								UL		UL
2,4-Dichlorophenol	330						UL		UL		UL
Naphthalene	330					6400			UL		UL
4-Chloroaniline	330		UJ		UJ				UJ		UL
Hexachlorobutadiene	330								UL		UL
Caprolactam	330								UL		UL
4-Chloro-3-methylphenol	330						UL		UL		UL
2-Methylnaphthalene	330					2100	J		UL		UL
Hexachlorocyclopentadiene	330								UL		UL
2,4,6-Trichlorophenol	330						UL		UL		UL
2,4,5-Trichlorophenol	830						UL		UL		UL
1,1'-Biphenyl	330					810	J		UL		UL
2-Chloronaphthalene	330								UL		UL
2-Nitroaniline	830								UL		UL
Dimethylphthalate	330								UL		UL
2,6-Dinitrotoluene	330								UL		UL
Acenaphthylene	330					1100	J		UL		UL
3-Nitroaniline	830								UL		UL

DATA SUMMARY FORM: BNA

Case #: 28009 SDG : CSL73
Site : PEMCO PRODUCTS
Lab. : ENVSYS

Sample Number :		CSL74		CSL75		CSL78		CSL79		CSL81	
Sampling Location :		S-1		SED-1		S-2		SED-2		S-3	
Field QC		Field Dup. of CSL84									
Matrix :		Soil		Soil		Soil		Soil		Soil	
Units :		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :		04/26/2000		04/26/2000		04/26/2000		04/26/2000		04/26/2000	
Time Sampled :		11:30		10:15		09:45		12:18		11:45	
%Moisture :		19		18		14		11		20	
pH :		5		7		8		8		8	
Dilution Factor :		1.0		1.0		10.0		1.0		1.0	
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Acenaphthene	330					8400			UL		UL
2,4-Dinitrophenol	830						UL		UL		UL
4-Nitrophenol	830						UL		UL		UL
Dibenzofuran	330					6000			UL		UL
2,4-Dinitrotoluene	330								UL		UL
Diethylphthalate	330								UL		UL
Fluorene	330					11000			UL		UL
4-Chlorophenyl-phenyl ether	330								UL		UL
4-Nitroaniline	830								UL		UL
4,6-Dinitro-2-methylphenol	830						UL		UL		UL
N-Nitrosodiphenylamine	330								UL		UL
4-Bromophenyl-phenylether	330								UL		UL
Hexachlorobenzene	330								UL		UL
Atrazine	330		R		R		R		R		R
Pentachlorophenol	830						UL		UL		UL
Phenanthrene	330			140	J	43000			UL	77	J
Anthracene	330					16000			UL		UL
Carbazole	330					16000			UL		UL
Di-n-butylphthalate	330	48	B						UL		UL
Fluoranthene	330			270	J	42000			UL	110	J
Pyrene	330			260	J	38000			UL	92	J
Butylbenzylphthalate	330								UL		UL
3,3'-Dichlorobenzidine	330								UL		UL
Benzo(a)anthracene	330			100	J	22000			UL	44	J
Chrysene	330			160	J	21000			UL	62	J
bis(2-Ethylhexyl)phthalate	330	200	J						UL	50	J
Di-n-octylphthalate	330			110	J				UL		UL
Benzo(b)fluoranthene	330			140	J	23000			UL	50	J
Benzo(k)fluoranthene	330			130	J	9500			UL	50	J
Benzo(a)pyrene	330			120	J	17000			UL	42	J
Indeno(1,2,3-cd)pyrene	330			82	J	14000			UL		UL
Dibenzo(a,h)anthracene	330					6000			UL		UL
Benzo(g,h,i)perylene	330			60	J	12000			UL		UL

CRQL = Contract Required Quantitation Limit SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL * Dilution Factor) / (100 - %Moisture) / 100 Revised 09/99

DATA SUMMARY FORM: BNA

Case #: 28009 SDG : CSL73
Site : PEMCO PRODUCTS
Lab. : ENVSYS

Sample Number :		CSL82		CSL84		CSL85					
Sampling Location :		SED-3		S-4		SED-5					
Field QC				Field Dup. of CSL74							
Matrix :		Soil		Soil		Soil					
Units :		ug/Kg		ug/Kg		ug/Kg					
Date Sampled :		04/26/2000		04/26/2000		04/26/2000					
Time Sampled :		13:45		11:30		13:00					
%Moisture :		31		23		24					
pH :		7		5		8					
Dilution Factor :		10.0		1.0		1.0					
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Benzaldehyde	330										
Phenol	330										
bis-(2-Chloroethyl) ether	330										
2-Chlorophenol	330										
2-Methylphenol	330										
2,2'-oxybis(1-Chloropropane)	330										
Acetophenone	330										
4-Methylphenol	330										
N-Nitroso-di-n-propylamine	330										
Hexachloroethane	330										
Nitrobenzene	330										
Isophorone	330										
2-Nitrophenol	330										
2,4-Dimethylphenol	330										
bis(2-Chloroethoxy)methane	330										
2,4-Dichlorophenol	330										
Naphthalene	330	630	J								
4-Chloroaniline	330										
Hexachlorobutadiene	330										
Caprolactam	330										
4-Chloro-3-methylphenol	330										
2-Methylnaphthalene	330										
Hexachlorocyclopentadiene	330										
2,4,6-Trichlorophenol	330										
2,4,5-Trichlorophenol	830										
1,1'-Biphenyl	330										
2-Chloronaphthalene	330										
2-Nitroaniline	830										
Dimethylphthalate	330										
2,6-Dinitrotoluene	330										
Acenaphthylene	330										
3-Nitroaniline	830										

ORIGINAL

DATA SUMMARY FORM: BNA

Case #: 28009 SDG : CSL73
Site : PEMCO PRODUCTS
Lab. : ENVSYS

Sample Number :		CSL82		CSL84		CSL85					
Sampling Location :		SED-3		S-4		SED-5					
Field QC				Field Dup. of CSL74							
Matrix :		Soil		Soil		Soil					
Units :		ug/Kg		ug/Kg		ug/Kg					
Date Sampled :		04/26/2000		04/26/2000		04/26/2000					
Time Sampled :		13:45		11:30		13:00					
%Moisture :		31		23		24					
pH :		7		5		8					
Dilution Factor :		10.0		1.0		1.0					
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Acenaphthene	330	1100	J								
2,4-Dinitrophenol	830										
4-Nitrophenol	830										
Dibenzofuran	330	750	J								
2,4-Dinitrotoluene	330										
Diethylphthalate	330										
Fluorene	330	1100	J								
4-Chlorophenyl-phenyl ether	330										
4-Nitroaniline	830										
4,6-Dinitro-2-methylphenol	830										
N-Nitrosodiphenylamine	330										
4-Bromophenyl-phenylether	330										
Hexachlorobenzene	330										
Atrazine	330		R		R		R				
Pentachlorophenol	830										
Phenanthrene	330	10000				87	J				
Anthracene	330	2300	J								
Carbazole	330	2200	J								
Di-n-butylphthalate	330			44	B						
Fluoranthene	330	13000				94	J				
Pyrene	330	10000				92	J				
Butylbenzylphthalate	330	790	J								
3,3'-Dichlorobenzidine	330										
Benzo(a)anthracene	330	5700				44	J				
Chrysene	330	6700				54	J				
bis(2-Ethylhexyl)phthalate	330	1700	J	770		78	J				
Di-n-octylphthalate	330										
Benzo(b)fluoranthene	330	5300									
Benzo(k)fluoranthene	330	4300	J								
Benzo(a)pyrene	330	5200				46	J				
Indeno(1,2,3-cd)pyrene	330	3300	J								
Dibenzo(a,h)anthracene	330	1100	J								
Benzo(g,h,i)perylene	330	3000	J								

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL * Dilution Factor) / (100 - %Moisture) / 100

Revised 09/99

DATA SUMMARY FORM: PESTICIDES AND PCBS

Case #: 28009
Site :
Lab. :

SDG : CSL73
PEMCO PRODUCTS
ENVSYS

Sample Number :		CSL73		CSL76		CSL77		CSL80		CSL83	
Sampling Location :		SW-1		GW-2		SW-2		SW-3		SW-4	
Field QC		Field Dup. of CSL86									
Matrix :		Water		Water		Water		Water		Water	
Units :		ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :		04/26/2000		04/26/2000		04/26/2000		04/26/2000		04/26/2000	
Time Sampled :		10:15		10:15		13:00		13:45		10:00	
%Moisture :		N/A		N/A		N/A		N/A		N/A	
pH :		7.0		7.0		7.0		7.0		7.0	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
Pesticide/PCB Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
alpha-BHC	0.050						UL		UL		UL
beta-BHC	0.050						UL		UL		UL
delta-BHC	0.050						UL		UL		UL
gamma-BHC (Lindane)	0.050						UL		UL		UL
*Heptachlor	0.050						UL		UL		UL
Aldrin	0.050						UL		UL		UL
Heptachlor epoxide	0.050						UL		UL		UL
Endosulfan I	0.050						UL		UL		UL
Dieldrin	0.10						UL		UL		UL
4,4'-DDE	0.10						UL		UL		UL
*Endrin	0.10						UL		UL		UL
Endosulfan II	0.10						UL		UL		UL
4,4'-DDD	0.10						UL		UL		UL
Endosulfan sulfate	0.10						UL		UL		UL
4,4'-DDT	0.10						UL		UL		UL
*Methoxychlor	0.50						UL		UL		UL
Endrin ketone	0.10						UL		UL		UL
Endrin aldehyde	0.10						UL		UL		UL
alpha-Chlordane	0.050						UL		UL		UL
gamma-Chlordane	0.050						UL		UL		UL
*Toxaphene	5.0						UL		UL		UL
Aroclor-1016	1.0						UL		UL		UL
*Aroclor-1221	2.0						UL		UL		UL
*Aroclor-1232	1.0						UL		UL		UL
*Aroclor-1242	1.0						UL		UL		UL
*Aroclor-1248	1.0						UL		UL		UL
*Aroclor-1254	1.0						UL		UL		UL
*Aroclor-1260	1.0						UL		UL		UL

CRQL = Contract Required Quantitation Limit *Action Level Exists SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits multiply the CRQL by the Dilution Factor

Revised 09/99

DATA SUMMARY FORM: PESTICIDES AND PCBS

Case #: 28009 SDG : CSL73
Site : PEMCO PRODUCTS
Lab. : ENVSYS

Sample Number :		CSL86		CSL87							
Sampling Location :		SW-5		FB-1							
Field QC		Field Dup. of CSL73		Field Blank							
Matrix :		Water		Water							
Units :		ug/L		ug/L							
Date Sampled :		04/26/2000		04/26/2000							
Time Sampled :		10:00		09:30							
%Moisture :		N/A		N/A							
pH :		7.0		7.0							
Dilution Factor :		1.0		1.0							
Pesticide/PCB Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
alpha-BHC	0.050		UL								
beta-BHC	0.050		UL								
delta-BHC	0.050		UL								
gamma-BHC (Lindane)	0.050		UL								
*Heptachlor	0.050		UL								
Aldrin	0.050		UL								
Heptachlor epoxide	0.050		UL								
Endosulfan I	0.050		UL								
Dieldrin	0.10		UL								
4,4'-DDE	0.10		UL								
*Endrin	0.10		UL								
Endosulfan II	0.10		UL								
4,4'-DDD	0.10		UL								
Endosulfan sulfate	0.10		UL								
4,4'-DDT	0.10		UL								
*Methoxychlor	0.50		UL								
Endrin ketone	0.10		UL								
Endrin aldehyde	0.10		UL								
alpha-Chlordane	0.050		UL								
gamma-Chlordane	0.050		UL								
Toxaphene	5.0		UL								
*Aroclor-1016	1.0		UL								
*Aroclor-1221	2.0		UL								
*Aroclor-1232	1.0		UL								
*Aroclor-1242	1.0		UL								
*Aroclor-1248	1.0		UL								
*Aroclor-1254	1.0		UL								
*Aroclor-1260	1.0		UL								

CRQL = Contract Required Quantitation Limit *Action Level Exists SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits multiply the CRQL by the Dilution Factor Revised 09/99

DATA SUMMARY FORM: PESTICIDES AND PCBS

Case #: 28009 SDG : CSL73 Number of Soil Samples : 8
Site : PEMCO PRODUCTS Number of Water Samples : 7
Lab. : ENVSYS

Sample Number :		CSL74		CSL75		CSL78		CSL79		CSL81	
Sampling Location :		S-1		SED-1		S-2		SED-2		S-3	
Field QC		Field Dup. of CSL84									
Matrix :		Soil		Soil		Soil		Soil		Soil	
Units :		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :		04/26/2000		04/26/2000		04/26/2000		04/26/2000		04/26/2000	
Time Sampled :		11:30		10:15		09:45		12:18		11:45	
%Moisture :		19		18		14		11		20	
pH :		4.9		7.2		7.6		8.3		7.8	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
Pesticide/PCB Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
alpha-BHC	1.7										
beta-BHC	1.7										
delta-BHC	1.7										
gamma-BHC (Lindane)	1.7										
Heptachlor	1.7										
Aldrin	1.7										
Heptachlor epoxide	1.7										
Endosulfan I	1.7										
Dieldrin	3.3							1.1	J		
4,4'-DDE	3.3							0.77	J		
Endrin	3.3										
Endosulfan II	3.3										
4,4'-DDD	3.3										
Endosulfan sulfate	3.3										
4,4'-DDT	3.3										
Methoxychlor	17										
Endrin ketone	3.3										
Endrin aldehyde	3.3										
alpha-Chlordane	1.7			3.0	J						
gamma-Chlordane	1.7			4.9	J						
Toxaphene	170										
Aroclor-1016	33										
Aroclor-1221	67										
Aroclor-1232	33										
Aroclor-1242	33										
Aroclor-1248	33										
Aroclor-1254	33										
Aroclor-1260	33										

CRQL = Contract Required Quantitation Limit SEE NARRATIVE FOR CODE DEFINITIONS
To calculate sample quantitation limits: (CRQL * Dilution Factor) / (100 - %Moisture) / 100 Revised 09/99

DATA SUMMARY FORM: PESTICIDES AND PCBS

Case #: 28009 SDG : CSL73
Site : PEMCO PRODUCTS
Lab. : ENVSYS

Sample Number :		CSL82		CSL84		CSL85					
Sampling Location :		SED-3		S-4		SED-5					
Field QC				Field Dup. of CSL74							
Matrix :		Soil		Soil		Soil					
Units :		ug/Kg		ug/Kg		ug/Kg					
Date Sampled :		04/26/2000		04/26/2000		04/26/2000					
Time Sampled :		13:45		11:30		13:00					
%Moisture :		31		23		24					
pH :		7.5		5.1		7.6					
Dilution Factor :		1.0		1.0		1.0					
Pesticide/PCB Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
alpha-BHC	1.7				UL						
beta-BHC	1.7				UL						
delta-BHC	1.7				UL						
gamma-BHC (Lindane)	1.7				UL						
Heptachlor	1.7				UL						
Aldrin	1.7				UL						
Heptachlor epoxide	1.7				UL						
Endosulfan I	1.7				UL						
Dieldrin	3.3	3.9	J		UL						
4,4'-DDE	3.3	4.5	J		UL						
Endrin	3.3				UL						
Endosulfan II	3.3				UL						
4,4'-DDD	3.3				UL						
Endosulfan sulfate	3.3				UL						
4,4'-DDT	3.3	17	J		UL						
Methoxychlor	17				UL						
Endrin ketone	3.3	11	J		UL						
Endrin aldehyde	3.3				UL						
alpha-Chlordane	1.7	10	J		UL						
gamma-Chlordane	1.7	15	J		UL						
Toxaphene	170				UL						
Aroclor-1016	33				UL						
Aroclor-1221	67				UL						
Aroclor-1232	33				UL						
Aroclor-1242	33				UL						
Aroclor-1248	33				UL						
Aroclor-1254	33				UL						
Aroclor-1260	33				UL						

CRQL = Contract Required Quantitation Limit SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL * Dilution Factor) / (100 - %Moisture) / 100 Revised 09/99

Appendix C

Form Is

ORIGINAL (Red)

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CSL73

Lab Name: ENVIROSYSTEMS Contract: 68-W9-9024

Lab Code: ENVSYS Case No.: 28009 SAS No.: SDG No.: CSL73

Matrix: (soil/water) WATER Lab Sample ID: 00041242

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 041242

Level: (low/med) LOW Date Received: 04/27/00

% Moisture: not dec. Date Analyzed: 04/28/00

GC Column: RTX-502.2 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	10	U
74-87-3	Chloromethane	10	U
75-01-4	Vinyl Chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
75-35-4	1,1-Dichloroethene	10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluo	10	U
	1,2,2-trifluoroethane		
67-64-1	Acetone	18	
75-15-0	Carbon Disulfide	10	U
79-20-9	Methyl Acetate	10	U
75-09-2	Methylene Chloride	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
1634-04-4	tert-Butyl Methyl Ether	10	U
75-34-3	1,1-Dichloroethane	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
78-93-3	2-Butanone	10	U
67-66-3	Chloroform	10	U
71-55-6	1,1,1-Trichloroethane	10	U
110-82-7	Cyclohexane	10	U
56-23-5	Carbon Tetrachloride	10	U
71-43-2	Benzene	10	U
107-06-2	1,2-Dichloroethane	10	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CSL73

Lab Name: ENVIROSYSTEMS Contract: 68-W9-9024

Lab Code: ENVSYS Case No.: 28009 SAS No.: SDG No.: CSL73

Matrix: (soil/water) WATER Lab Sample ID: 00041242

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 041242

Level: (low/med) LOW Date Received: 04/27/00

% Moisture: not dec. Date Analyzed: 04/28/00

GC Column: RTX-502.2 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-01-6	Trichloroethene	10	U
108-87-2	Methylcyclohexane	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
127-18-4	Tetrachloroethene	10	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	10	U
106-93-4	1,2-Dibromoethane	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	Xylene (total)	10	U
100-42-5	Styrene	10	U
75-25-2	Bromoform	10	U
98-82-8	Isopropylbenzene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
541-73-1	1,3 Dichlorobenzene	10	U
106-46-7	1,4 Dichlorobenzene	10	U
95-50-1	1,2 Dichlorobenzene	10	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U

ORIGINAL (Red)

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CSL76/

Lab Name: ENVIROSYSTEMS Contract: 68-W9-9024

Lab Code: ENVSYS Case No.: 28009 SAS No.: SDG No.: CSL73

Matrix: (soil/water) WATER Lab Sample ID: 00041245

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 041245

Level: (low/med) LOW Date Received: 04/27/00

% Moisture: not dec. Date Analyzed: 04/28/00

GC Column: RTX-502.2 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	10	U
74-87-3	Chloromethane	10	U
75-01-4	Vinyl Chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
75-35-4	1,1-Dichloroethene	10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluo	10	U
	1,2,2-trifluoroethane		
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
79-20-9	Methyl Acetate	10	U
75-09-2	Methylene Chloride	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
1634-04-4	tert-Butyl Methyl Ether	10	U
75-34-3	1,1-Dichloroethane	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
78-93-3	2-Butanone	10	U
67-66-3	Chloroform	10	U
71-55-6	1,1,1-Trichloroethane	10	U
110-82-7	Cyclohexane	10	U
56-23-5	Carbon Tetrachloride	10	U
71-43-2	Benzene	10	U
107-06-2	1,2-Dichloroethane	10	U

000064