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

ANALYTICAL REPORT

ROBERT WOOLER
SUPERFUND REMOVAL/REMEDIAL

Account #: 97 T 03N FAX A343SI00
Lab Request # REQ97099

May 8, 1997

DRAFT

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

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Facility: ROBERT WOOLER
Program: SUPERFUND REMOVAL/REMEDIAL

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TESTS REQUESTED

Inorganic Test Assigned	Sample No. 970401-														
	01	02	03	04	05	06	07	08	09	10	11	12			
Metals Analysis				X	X										
Percent Dry Weight				X	X										
Total Cyanide				X	X										

Organic Test Assigned	Sample No. 970401-														
	01	02	03	04	05	06	07	08	09	10	11	12			
Volatile Organics by Purge and Trap GC/MS	X	X	X	X	X	X	X	X	X	X	X	X			

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(X = test was requested)

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SAMPLE DESCRIPTIONS

Sample #	Station, Description	Matrix	Type	End Collection Date	Time	Latitude	Longitude
97040101	STA RWGW01, Wooler Well	Water - Type Unspecified	GRAB	03/31/97	09:18		
97040102	STA RWGW04, Manufacturer's Well	Water - Type Unspecified	GRAB	03/31/97	10:15		
97040103	STA RWGW02, (b) (6) Well	Water - Type Unspecified	GRAB	03/31/97	10:40		
97040104	STA RWSS02, Sediment Upstream	Soil	GRAB	03/31/97	11:05		
97040105	STA RWSS01, Sediment Outfall	Soil	GRAB	03/31/97	11:05		
97040106	STA RWSW01, Surface Water Outfall	Water - Type Unspecified	GRAB	03/31/97	11:10		
97040107	STA RWGW05, (b) (6) Well	Water - Type Unspecified	GRAB	03/31/97	11:45		
97040108	STA RWSW03, Mouth of Tributary	Water - Type Unspecified	GRAB	03/31/97	12:20		
97040109	STA RWSW02, 200 ft. Downstream	Water - Type Unspecified	GRAB	03/31/97	12:45		
97040110	STA RWGW03, (b) (6) Well	Water - Type Unspecified	GRAB	03/31/97	13:15		
97040111	STA RWGW06, (b) (6) Well	Water - Type Unspecified	GRAB	03/31/97	14:00		
97040112	STA RWBL01, Trip Blank	Aqueous Matrix - Type Unspecified	GRAB	03/31/97	08:00		

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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 equivalent or 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

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INORGANIC ANALYTICAL SAMPLE RESULTS

Sample Number:	97040104			97040105		
ANALYTES	SAMPLE			SAMPLE		
Metals Analysis	Units: ug/g	% Rec	RPD	ug/g	% Rec	RPD
Aluminum	9960		6	11600	(108)	
Antimony	<0.5	(97)	D	<0.5	(97)	
Arsenic	3.0	(86)	35	3.9	(MSA)	
Barium	227		4	213	[85]	
Beryllium	1.1		6	1.1	[99]	
Cadmium	<=0.5			0.8	[81]	
Calcium	22500		2	18700	(107)	
Chromium	25.4		2	25.0	[90]	
Cobalt	10.6		3	10.6	[88]	
Copper	36.7		2	38.1	[82]	
Iron	17800		5	18100	(102)	
Lead	162		5	147	[106]	
Magnesium	8390		6	8220	(96)	
Manganese	501		0	493	(105)	
Mercury	<0.1	[101]	D	<0.1		
Nickel	18.7		3	19.4	[89]	
Potassium	1660		7	1910	[81]	
Selenium	<0.5	(MSA)	D	<0.5	(MSA)	
Silver	<1.0		D	<1.0	[110]	
Sodium	512		4	539	[94]	
Thallium	<0.5	(99)	D	<0.5	[95]	
Vanadium	30.6		6	33.4	(93)	
Zinc	226		4	225	(108)	
Percent Dry Weight	Units: %	% Rec	RPD	%	% Rec	RPD
Percent Dry Weight (105C)	71.2		1	72.4		
Percent Dry Weight (60C)	70.0		2	70.4		

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INORGANIC ANALYTICAL SAMPLE RESULTS

Sample Number:	97040104			97040105		
ANALYTES (continued)	SAMPLE			SAMPLE		
Total Cyanide	Units: mg/Kg	% Rec	RPD	mg/Kg	% Rec	RPD
Cyanide	< 1.0	(120)		< 1.0	[101]	D

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ORGANIC ANALYTICAL SAMPLE RESULTS

Sample Number:	97040101	97040102	97040103	97040104	97040105	97040106	97040107	97040108
ANALYTES	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE
Percent Dry Weight				%	%			
Percent Dry Weight (105C)				71.2	72.4			
NQL Factor:	1	1	1	1	1	1	1	1
Volatile Organics by Purge and Trap GC/MS Units:	ug/L	ug/L	ug/L	ug/Kg	ug/Kg	ug/L	ug/L	ug/L
Acetone				5 J		5.9		
Chloroform	0.4 J	2.7					2.4	
1,1-Dichloroethane	0.4 J							
1,1-Dichloroethene	10.8							
Cis-1,2-Dichloroethene	0.9 J	0.2 J		0.6 J				
Methylene Chloride	0.5 B	0.4 B	0.4 B	2 B	2 B	0.5 B	0.5 B	0.2 B
Tetrachloroethene	6.0	0.3 J						
1,1,1-Trichloroethane	7.4							
Trichloroethene	36.9	0.3 J			1 J	0.7 J		

Sample Number:	97040109	97040110	97040111	97040112
ANALYTES	SAMPLE	SAMPLE	SAMPLE	TRIP BLANK
NQL Factor:	1	1	1	1
Volatile Organics by Purge and Trap GC/MS Units:	ug/L	ug/L	ug/L	ug/L
Acetone				
Chloroform				
1,1-Dichloroethane				
1,1-Dichloroethene	0.4 J			
Cis-1,2-Dichloroethene	0.2 J			
Methylene Chloride	0.5 B	0.6 B	0.5 B	0.5 B
Tetrachloroethene	0.2 J			
1,1,1-Trichloroethane	0.3 J			
Trichloroethene	1.2			

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LABORATORY REAGENT BLANK RESULTS

Method: Volatile Organics by Purge and Trap GC/MS

Run: OH975011 17 LRB

SURROGATES	NQL Factor	% Rec
Bromofluorobenzene	1	101
d4-1,2-Dichloroethane	1	102
d8-Toluene	1	98

ANALYTES	NQL Factor	ug/L
Methylene Chloride	1	0.5 J

Run: OH975011 18 LRB

SURROGATES	NQL Factor	% Rec
Bromofluorobenzene	1	101
d4-1,2-Dichloroethane	1	100
d8-Toluene	1	100

ANALYTES	NQL Factor	ug/Kg
Methylene Chloride	1	2 J

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WESTON
MANAGERS DESIGNERS/CONSULTANTS
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SITE ASSESSMENT TECHNICAL ASSISTANCE

EPA CONTRACT 68-S5-3002

1April 1997

Ms. Maggie Jennis (3HW33)
Site Assessment Manager
U.S. Environmental Protection Agency
841 Chestnut Building
Philadelphia, PA 19107

TDD No. 9701-151
DCN: C0000192

Subject: Amendments to Robert Wooler Sampling Plan

Dear Ms. Jennis:

Sampling at the Robert Wooler Site was conducted on 31 March 1997 as outlined in the Robert Wooler Site Sampling Plan (14 February 1997) with the following exceptions:

- Sample RWGW04 was not collected from the (b) (6) Home, as it was discovered that the home utilizes the public water supply. A sample was collected from the Manufacturers' Country Club well to replace this groundwater sample.

- Sample RWSW03 was collected at the mouth of the unnamed tributary as it emptied into Rapp Run. Rapp Run flows for approximately 1.3 miles before emptying into Sandy Run near Fort Washington.

The samples were shipped to the U.S. Environmental Protection Agency Laboratory in Annapolis on 31 March 1997, via Federal Express (Airbill No. 4269798260). As per your voice-mail message, dated 28 March 1997, I will await the raw data results from your office for incorporation into the PREscore, version 4.1, model.

If you have any comments concerning these amendments, please contact me at (b) (6) (b) (6)

Very Truly Yours,

ROY F. WESTON, INC.

Not Responsive Based on Revised Scope

Site Leader

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cc: TDD File

A:sample plan amendments