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PUERTO RICO NS
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POLYCHLORINATED BIPHENYL CONFIRMATION SAMPLE RESULTS FOR SITE 15 AND SITE 16 WITH TRANSMITTAL NAVAL ACTIVITY PUERTO RICO
5/6/1994
METCALF AND EDDY, INC.

Metcalf & Eddy

May 6, 1994

Mr. Jim Szykman
Department of Navy
Atlantic Division
Naval Facilities Engineering Command
Environmental Quality Division Code 18
Norfolk, Virginia 23511

Reference: Contract No. N47408-92-D-3042, Delivery Order No. 0031

Subject: PCBs Confirmation Sample Results for Sites 15 and 16 at the Naval Station, Roosevelt Roads, Puerto Rico

Dear Mr. Szykman:

Enclosed please find one (1) copy of the PCBs confirmation sample results. A total of 12 samples were sent to the laboratory for PCBs confirmation analysis. Summary tables of the field screening results compared to the laboratory confirmation results are included. All 12 samples analyzed by the laboratory corresponded with the screening results.

If you have any questions, please contact me at (404) 881-8010.

Sincerely,

METCALF & EDDY, INC.

Robert R. MacPherson

Robert R. MacPherson
Project Manager

cc: Ivan Rosado - ROICC, Naval Station Roosevelt Roads
Barry Van Wagner - OHM
Chuck Katz - M&E/Redwood City
Steve Alvanas - M&E/Puerto Rico
Daniel Howard - M&E/Atlanta

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Affiliates of Air & Water Technologies Corporation

Naval Station, Roosevelt Roads
Site 15
Sample Screening and Laboratory Results
for Total PCBs

Grid Map Sample No. Locations	Area Map Sample No. Locations (Dwg C-15)	Screening Results (ppm)	Lab Confirmation Results (mg/kg=ppm)
R-1-15	C-9	> 10	12
P-2-15 (7.5L)	C-3 (7.5L)	> 10	14
D-1-15	E-9	< 10	1.5
N-1-15 (7.5L)	D-10 (7.5L)	< 10	2.8
G-1-15	E-14	< 10	0.17
P-5-15-3	C-0-3	> 10	610
P-4-15-S	C-1-S	< 10	0.17
P-4-15-B	C-1-B	< 10	0.82

-S Sidewall, -B Bottom
-D Duplicate sample
( ) Distance from original sample location in feet and direction
(R-right, L-left, U-up, D-down)

Naval Station, Roosevelt Roads
Site 16
Sample Screening and Laboratory Results
for Total PCBs

Grid Map Sample No. Locations	Area Map Sample No. Locations (Dwg C-15)	Screening Results (ppm)	Lab Confirmation Results (mg/kg=ppm)
O-6	C-6	> 10	120
O-6-D	C-6-D	> 10	120
K-13	E-6	< 10	0.85
K-12 (7.5R)	E-5 (7.5R)	> 10	58

-D Duplicate sample
( ) Distance from original sample location in feet and direction
(R-right, L-left, U-up, D-down)

Data for PCB RISc™ Soil Test

Operator: Howard/Rabner Date: 3-21-94 Location: Site 15 –

Sample ID		ΔOD	OD sample	Interpretation	Notes
Grid	Area	standards	10 ppm		
		-0.01			
C-3-15	A-5		1.02	<10 ppm	
C-5-15	A-1		0.92	<10	
D-4-15	A-4		0.72	<10	
D-5-15	A-3		0.20	<10	"close"
E-3-15	A-6		0.77	<10	
E-5-15	A-2		1.02	<10	
H-5-15	A-7		0.96	<10	
H-6-15	A-8		0.93	<10	
I-6-15	A-9		0.90	<10	
K-6-15	B-1		0.83	<10	

Data for PCB RISc™ Soil Test

Operator: Howard/Fadner Date: 3-22-94 Location: Site 15

Sample ID Grid	Sample ID Area	ΔOD standards	OD sample 10 ppm	Interpretation	Notes
		-0.29			
* N-1-15	D-10		-0.03	> 10ppm	*
* O-1-15	D-12		-1.19	> 10	* very slight yellow tinge
O-2-15	D-11		0.72	< 10	
O-4-15	C-0(15L)		0.52	<10	
O-5-15	C-1(15L)		0.06	<10	
O-5-15 Dup.	C-1(15L) Dup		0.14	<10	
P-1-15	D-13		-0.85	>10	* slight color change
P-2-15	C-3		-1.05	>10	* " " "
P-2-15 Dup.	C-3 Dup		-0.34	>10	*
Q-1-15	C-6		0.70	<10 ppm	
Q-2-15	C-5		-1.05	>10	* slight color change
Q-3-15	C-4		0.31	<10	
R-1-15	C-9		-0.46	>10.	*
R-2-15	C-8		-1.13	>10	* " " "
R-3-15	C-7		0.27	<10	
S-2-15	C-11		-0.20	>10	*
S-3-15	C-10		-1.01	>10	* " " "

Data for PCB RISc™ Soil Test

Operator: HOWARD / CARDNER Date: 3-22-94 Location: Site 15

Sample ID		ΔOD	OD sample	Interpretation	Notes
Grid	Area	standards	10 ppm		
		-0.02			
F-1-15	E-12		0.76	<10 ppm	
H-1-15	D-1		0.81	< 10"	
I-1-15	D-3		0.70	< 10 "	
J-1-15	D-4		0.45	< 10	
K-1-15	D-6		0.47	< 10	
I-2-15	D-2		0.65	< 10	
K-2-15	D-5		0.86	< 10	
L-1-15	D-7		0.75	< 10	
M-1-15	D-9		0.67	< 10	
M-2-15	D-8		0.63	< 10	

Data for PCB RISc™ Soil Test

Operator: Howard/RADNER | Date: 3-23-94 | Location: Site 15

Sample ID		ΔOD	OD sample	Interpretation	Notes
Grid	Area	standards	10 ppm		
		-0.34			
A-1-E-3-15	E-3		0.93	<10ppm	
A-1-E-2-15	E-2		0.72	<10ppm	
A-2-15	E-1		0.80	<10	
B-1-E-5-15	E-5		0.68	<10	
B-1-E6-15	E-6		0.41	<10	
C-1-15	E-8		0.45	<10	
* C-2-15	E-7		0.37	<10	*
* D-1-15	E-9		0.33	<10	*
D-1-15 Dup.	E-9D		0.97	<10	may not have dropped 3 drops of enzyme
E-1-15	E-11		0.78	<10	
E-2-15	E-10		0.69	<10	
* P-2-15 7.5 Left	C-3(7.5L)		-0.26	>10ppm	*

Data for PCB RISc™ Soil Test

Operator: Howard | Date: 3-25-94 | Location: Site 15

Sample ID		ΔOD	OD sample	Interpretation	Notes
Grid	Area	standards	10 ppm		
		-0.00			
B-2	E-4		0.71	<10	
P-3(7.5R)	C-2(7.5R)		-0.01	>10	
R-2(15L)	C-3(15L)		0.75	<10	
Q-2(7.5U)	C-5(7.5U)		-1.02	>10	
Q-2(7.5D)	C-5(7.5D)		-0.74	>10	
R-2(7.5U)	C-8(7.5U)		-0.00	>10	
S-2(7.5R)	C-11(7.5R)		-0.11	>10	
S-2(7.5D)	C-11(7.5R)		0.24	<10	
S-3(7.5R)	C-10(7.5R)		0.38	<10	
S-3(7.5R)D	C-10(7.5R)D		0.50	<10	
S-3(7.5U)	C-10(7.5U)		0.52	<10	
S-3(7.5L)	C-10(7.5L)		-0.46	>10	

Data for PCB RISc™ Soil Test

Operator: Howard Date: 3-28-94 Location: Site 15

Sample ID		ΔOD	OD sample	Interpretation	Notes
Grid	Area	standards	10 ppm		
		-0.15			
R-1(7.5D)	C-9 (7.5D)		0.82	<10	
R-1 (7.5R)	C-9 (7.5R)		0.90	<10	
R-1(7.5L)	C-9 (7.5L)		0.64	<10	
R-1(7.5L)-D	C-9 (7.5L)-D		0.63	<10	
P-1(7.5D)	D-13(7.5D)		0.53	<10	
P-1(7.5R)	D-13 (7.5R)		0.56	<10	
O-1(7.5D)	D-12 (7.5D)		0.55	<10	
N-1(7.5U)	D-10 (7.5U)		0.28	<10	
N-1(7.5D)	D-10 (7.5D)		0.37	<10	
N-1(7.5L)	D-10 (7.5L)		0.25	<10	
G-1	E-14		0.33	<10	
G-2	E-13		0.39	<10	

Data for PCB RISc™ Soil Test

Operator: Howard | Date: 3-29-94 | Location: Site 16

Sample ID		ΔOD	OD sample	Interpretation	Notes
Grid	Area	standards	10 ppm		
		-0.12			
O-6	C-6		-1.17		no color change
O-6-D	C-6-D		-1.16		no color change
O-7	C-7		-0.04		
P-6	C-12		-1.18		no color change
P-7	C-13		0.21		
Q-6	C-17		0.56		
Q-7	C-18		0.45		
Q-8	D-1		0.48		
Q-9	D-2		0.30		
Q-10	D-3		0.35		
Q-10-D	D-3-D		0.23		
K-13	E-6	↓	0.12		

Data for PCB RISc™ Soil Test

Operator: Howard Date: 3-30-94 Location: Site 16

Sample ID		ΔOD	OD sample	Interpretation	Notes
Grid	Area	standards	10 ppm		
		-0.10			
M-8	E-17		0.49	<10	
M-~~8~~ 10	E-19		0.74	<10	
K-12	E-5		-0.88	>10	
K-11	E-4		-1.09	>10	slight ~~cobalt~~ OH color change
K-10	E-3		-0.20	>10	
K-8	E-1		0.29	>10	

Data for PCB RISc™ Soil Test

Operator: Howard | Date: 4-6-94 | Location: Site 15

Depth (ft)	Sample ID Grid	Sample ID Area	ΔOD standards	OD sample 10 ppm	Interpretation Total PCBs	Notes
			-0.00			
2	N-1-15-2 (7.5R)	D-10-7.5(7.5R)2		0.28	<10	
2	O-6-15-2	B-5-15-2		0.76	<10	
2	P-2-15-2	C-3-15-2		0.70	<10	
2	P-4-15-2	C-1-15-2		-1.18	>10	no color change
2	P-4-15-2-D	C-1-15-2-D		-1.16	>10	no color change
4	P-5-15-2	C-0-15-2		-1.14	>10	no color change
8.5	P-5-15-3	C-0-15-3		-1.18	>10	no color change
2	P-6-15-2	B-6-15-2		0.07	<10	
2	Q-2-15(7.5U)-2	C-5-15(7.5U)2		0.57	<10	
2	R-1-15-2	C-9-15-2		0.51	<10	
2	R-2-15-2	C-8-15-2		0.38	<10	
2	S-2-15-2	C-11-15-2		0.56	<10	
2	S-3-15-2	C-10-15-2		0.50	<10	

Data for PCB RISc™ Soil Test

Operator: Howard | Date: 4-6-94 | Location: Site 15

Sample ID		ΔOD	OD sample	Interpretation	Notes
Grid	Area	standards	10 ppm		
		-0.00			
N-1-15-2 (7.5R)	D-10-75(7.5R)2		0.28	<10	
O-6-15-2	B-5-15-2		0.76	<10	
P-2-15-2	C-3-15-2		0.70	<10	
P-4-15-2	C-1-15-2		-1.18	>10	no color change
P-4-15-2-D	C-1-15-2-D		-1.16	>10	no color change
P-5-15-2	C-0-15-2		-1.14	>10	no color change
P-5-15-3	C-0-15-3		-1.18	>10	no color change
P-6-15-2	B-6-15-2		0.07	<10	
Q-2-15(2.5U)-2	C-5-15(2.5U)2		0.57	<10	
R-1-15-2	C-9-15-2		0.51	<10	
R-2-15-2	C-8-15-2		0.38	<10	
S-2-15-2	C-11-15-2		0.56	<10	
S-3-15-2	C-10-15-2		0.50	<10	

Data for PCB RISc™ Soil Test

Operator: Howard | Date: 4-8-94 | Location: Site 15 + 16

	Sample ID		ΔOD	OD sample	Interpretation	Notes
	Grid	Area	standards	10 ppm		
Site 15	P-4-15-B	C-1-15-B	-0.08	0.59	DH ~~X~~ <10	
↓	P-4-15-5	C-1-15-5		0.52	<10	
Site 16	L-10	E-10		0.30	<10	
	L-11	E-11		0.30	<10	
	L-12	E-~~20~~ DH 12		0.56	<10	
	L-13	E-~~27~~ DH 13		0.50	<10	
	L-13-D	E-13-D		0.58	<10	
	M-11	E-20		0.56	<10	
	M-12	E-21		0.47	<10	
	M-13	E-22		-1.19	>10	no color change
	N-11	E-27		0.22	<10	
	N-12	E-28		0.61	<10	
	N-13	E-29		0.23	<10	
	O-13	E-36	↓	0.05	<10	

Data for PCB RISc™ Soil Test

Operator: Howard | Date: 4-9-94 | Location: Site 16

Sample ID Grid	Sample ID Area	ΔOD standards	OD sample 10 ppm	Interpretation	Notes
K-10(7.5R)	E-3(7.5R)	-0.04	0.76	<10	
K-10(7.5R)-D	E-3(7.5R)-D		0.80	<10	
K-10(7.5U)	E-3(7.5U)		-0.88	>10	no color change
K-11(7.5R)	E-4(7.5R)		-0.68	>10	slight color change
K-12(7.5R)	E-5(7.5R)		-0.84	>10	very slight color change
K-12(7.5D)	E-5(7.5D)		-0.88	>10	no color change
L-9(7.5R)	E-9(7.5R)		0.37	<10	
L-9(7.5L)	E-9(7.5L)		-0.80	>10	very slight color change
L-9(7.5D)	E-9(7.5D)		-0.24	>10	
V-10 RA	D-18 RA		0.68	~~D-18 RA~~ D+1 <10	
0 ~~P~~ DH-6(7.5L)	C-~~12~~ DH 6(7.5L)		-0.61	~~C-12(7.5L)~~ >10 DH	slight color change
0 ~~P~~ DH-6(7.5D)	C-~~12~~ DH 6(7.5L)		-0.88	~~C-12(7.5L)~~ >10 DH	no color change

Data for PCB RISc™ Soil Test

Operator: Howard | Date: 4-11-94 | Location: Site 16

Sample ID		ΔOD	OD sample	Interpretation	Notes
Grid	Area	standards	10 ppm		
J-15 (7.5L)	B-23 (7.5L)	-0.06	0.55	< 10	
J-15 (7.5L) D	B-23 (7.5L) D		0.60	< 10	
K-15 (7.5D)	B-25 (7.5D)		-0.40	> 10	
M-13 (7.5R)	E-22 (7.5R)		-0.92	> 10	slight color change
M-13 (7.5L)	E-22 (7.5L)		0.34	< 10	
M-13 (7.5U)	E-22 (7.5U)		0.02	< 10	
M-13 (7.5D)	E-22 (7.5D)		0.02	< 10	
O-7 (7.5R)	C-7 (7.5R)		0.57	~~>~~ < 10	
P-6 (7.5R)	C-12 (7.5R)		-0.54	> 10	
P-6 (7.5D)	C-12 (7.5D)		-0.72	> 10	

Data for PCB RISc™ Soil Test

Operator: Howard Date: 4-13-94 Location: Site 16

Sample ID		ΔOD	OD sample	Interpretation	Notes
Grid	Area	standards	10 ppm		
K-10-2	E-3-2	-0.17	0.35	<10	
K-11-2	E-4-2		0.74	<10	
K-12-2	E-5-2		-0.14	>10	
L-9-2	E-9-2		0.48	<10	
M-13-2	E-22-2		0.51	<10	
M-13-2-D	E-22-2-D		0.46	<10	
O-11	E-34		0.44	<10	
O-12	E-35		0.41	<10	