

31 MAY REC'D /DEV/sm

Radian Work Order 90-05-248

Analytical Report
05/31/90

Holloman AFB

Radian
Bl.4
Austin

Wally Hise

Customer Work Identification PCB Resampling
Purchase Order Number

Contents:

- 1 Analytical Data Summary
- 2 Sample History
- 3 Comments Summary
- 4 Notes and Definitions

Radian Analytical Services
8501 Mo-Pac Boulevard
P. O. Box 201088
Austin, TX 78720-1088

512/454-4797

Client Services Coordinator: KLACHORD

Certified by: Clifford Mayer

Holloman AFB
Radian Work Order: 90-05-248

Method: SW8080-Pesticides/PCBs (1)
List: 8080 Matrix spike - PCBs only

Sample ID:	GW-6 MS	GW-7 MSD
Factor:	1	1
Results in:	%recvry	%recvry
	06A	07A
Matrix:	water	water

	Result	Det. Limit	Result	Det. Limit
PCB-1016	168		164	
PCB-1260	204		205	
<u>Surrogate Recovery(%)</u>				
Dibutylchloroendate	123		117	
Control Limits: 24 to 154				
2,4,5,6-Tetrachloro-m-xylene	76		76	
Control Limits: 26 to 144				

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

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Method:SW8080-Pesticides/PCBs (1)
List:8080 LIST FOR PCB'S-LIQUIDS

Sample ID:	GW-1	GW-2	GW-3	GW-4
Factor:	0.95	0.99	0.97	0.96
Results in:	ug/L	ug/L	ug/L	ug/L
	01A	02A	03A	04A
Matrix:	water	water	water	water

	Result	Det. Limit						
PCB-1016	ND	0.095	ND	0.099	ND	0.097	ND	0.096
PCB-1221	ND	0.19	ND	0.20	ND	0.19	ND	0.19
PCB-1232	ND	0.19	ND	0.20	ND	0.19	ND	0.19
PCB-1242	ND	0.095	ND	0.099	ND	0.097	ND	0.096
PCB-1248	ND	0.095	ND	0.099	ND	0.097	ND	0.096
PCB-1254	ND	0.19	ND	0.20	ND	0.19	ND	0.19
PCB-1260	ND	0.19	ND	0.20	ND	0.19	ND	0.19
<u>Surrogate Recovery(%)</u>								
Dibutylchlorodate	110		108		110		107	
Control Limits: 24 to 154								
2,4,5,6-Tetrachloro-m-xylene	81		69		75		53	
Control Limits: 26 to 144								

ND Not detected at specified detection limit

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

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Method:SW8080-Pesticides/PCBs (1)

List:8080 LIST FOR PCB'S-LIQUIDS

Sample ID:	GW-5	GW-8	GW-9	REAGENT BLANK
Factor:	0.95	0.98	0.96	1
Results in:	ug/L	ug/L	ug/L	ug/L
	05A	08A	09A	10A
Matrix:	water	water	water	water

	Result	Det. Limit						
PCB-1016	ND	0.095	ND	0.098	ND	0.096	ND	0.10
PCB-1221	ND	0.19	ND	0.20	ND	0.19	ND	0.20
PCB-1232	ND	0.19	ND	0.20	ND	0.19	ND	0.20
PCB-1242	ND	0.095	ND	0.098	ND	0.096	ND	0.10
PCB-1248	ND	0.095	ND	0.098	ND	0.096	ND	0.10
PCB-1254	ND	0.19	ND	0.20	ND	0.19	ND	0.20
PCB-1260	ND	0.19	ND	0.20	ND	0.19	ND	0.20
<u>Surrogate Recovery(%)</u>								
Dibutylchlorodate	108		114		106		99	
Control Limits: 24 to 154								
2,4,5,6-Tetrachloro-m-xylene	52		62		60		36	
Control Limits: 26 to 144								

ND Not detected at specified detection limit

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Sample Identifications and Dates

Sample ID	GW-1	GW-2	GW-3	GW-4	GW-5	GW-6 MS
Date Sampled	05/21/90	05/21/90	05/21/90	05/21/90	05/21/90	05/21/90
Date Received	05/22/90	05/22/90	05/22/90	05/22/90	05/22/90	05/22/90
Matrix	water 01	water 02	water 03	water 04	water 05	water 06
SW8080-Pesticides/PCBs						05/22/90
Prepared						05/24/90
Analyzed						REM
Analyst						R052233
File ID						R05229
Blank ID						HP 5
Instrument						received
Report as						
SW8080-Pesticides/PCBs						
Prepared	05/22/90	05/22/90	05/22/90	05/22/90	05/22/90	
Analyzed	05/24/90	05/24/90	05/24/90	05/24/90	05/24/90	
Analyst	REM	REM	REM	REM	REM	
File ID	R052226	R052227	R052228	R052229	R052232	
Blank ID	R05229	R05229	R05229	R05229	R05229	
Instrument	HP 5					
Report as	received	received	received	received	received	

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Sample Identifications and Dates

Sample ID	GW-7 MSD	GW-8	GW-9	REAGENT BLANK
Date Sampled	05/21/90	05/21/90	05/21/90	
Date Received	05/22/90	05/22/90	05/22/90	05/22/90
Matrix	water 07	water 08	water 09	water 10

SW8080-Pesticides/PCBs

Prepared 05/22/90
Analyzed 05/24/90
Analyst REM
File ID R052234
Blank ID R05229
Instrument HP 5
Report as received

SW8080-Pesticides/PCBs

Prepared	05/22/90	05/22/90	05/22/90
Analyzed	05/24/90	05/24/90	05/24/90
Analyst	REM	REM	REM
File ID	R052235	R052236	R05229
Blank ID	R05229	R05229	R05229
Instrument	HP 5	HP 5	HP 5
Report as	received	received	received

Appendix A
Comments, Notes and Definitions

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ND ALL METHODS EXCEPT CLP

This flag is used to denote analytes which are not detected at or above the specified detection limit.

EXPLANATION

The value to the right of the < symbol is the method specified detection limit for the analyte.

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TERMS USED IN THIS REPORT:

Analyte - A chemical for which a sample is to be analyzed. The analysis will meet EPA method and QC specifications.

Compound - See Analyte.

Detection Limit - The method specified detection limit, which is the lower limit of quantitation specified by EPA for a method. Radian staff regularly assess their laboratories' method detection limits to verify that they meet or are lower than those specified by EPA. Detection limits which are higher than method limits are based on experimental values at the 99% confidence level. The detection limits for EPA CLP (Contract Laboratory Program) methods are CRQLs (contract required quantitation limits) for organics and CRDLs (contract required detection limits) for inorganics. Note, the detection limit may vary from that specified by EPA based on sample size, dilution or cleanup. (Refer to Factor, below)

EPA Method - The EPA specified method used to perform an analysis. EPA has specified standard methods for analysis of environmental samples. Radian will perform its analyses and accompanying QC tests in conformance with EPA methods unless otherwise specified.

Factor - Default method detection limits are based on analysis of clean water samples. A factor is required to calculate sample specific detection limits based on alternate matrices (soil or water), reporting units, use of cleanup procedures, or dilution of extracts/digestates. For example, extraction or digestion of 10 grams of soil in contrast to 1 liter of water will result in a factor of 100.

Matrix - The sample material. Generally, it will be soil, water, air, oil, or solid waste.

Radian Work Order - The unique Radian identification code assigned to the samples reported in the analytical summary.

Units - ug/L	micrograms per liter (parts per billion);liquids/water
ug/kg	micrograms per kilogram (parts per billion); soils/solids
ug/M3	micrograms per cubic meter; air samples
mg/L	milligrams per liter (parts per million);liquids/water
mg/kg	milligrams per kilogram (parts per million);soils/solids
%	percent; usually used for percent recovery of QC standards
uS/cm	conductance unit; microSiemens/centimeter
mL/hr	milliliters per hour; rate of settlement of matter in water
NTU	turbidity unit; nephelometric turbidity unit
CU	color unit; equal to 1 mg/L of chloroplatinate salt

Radian Work Order 90-05-261

Analytical Report
05/31/90

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Certified by: Clifford Mazon

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Radian Work Order: 90-05-261

Method:SW8080-Pesticides/PCBs (1)				
List:8080 LIST FOR PCB'S-LIQUIDS				
Sample ID:	GW-10	GW-11	GW-12	GW-13
Factor:	0.97	0.96	0.98	0.96
Results in:	ug/L	ug/L	ug/L	ug/L
	01A	02A	03A	04A
Matrix:	water	water	water	water

	Result	Det. Limit						
PCB-1016	ND	0.097	ND	0.099	ND	0.098	ND	0.096
PCB-1221	ND	0.19	ND	0.20	ND	0.20	ND	0.19
PCB-1232	ND	0.19	ND	0.20	ND	0.20	ND	0.19
PCB-1242	ND	0.097	ND	0.099	ND	0.098	ND	0.096
PCB-1248	ND	0.097	ND	0.099	ND	0.098	ND	0.096
PCB-1254	ND	0.19	ND	0.20	ND	0.20	ND	0.19
PCB-1260	ND	0.19	ND	0.20	ND	0.20	ND	0.19
<u>Surrogate Recovery(%)</u>								
Dibutylchlorendate	104		112		108		105	
Control Limits: 24 to 154								
2,4,5,6-Tetrachloro-m-xylene	102		107		112		114	
Control Limits: 26 to 144								

ND Not detected at specified detection limit

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

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Method: SW8080-Pesticides/PCBs (1)
List: 8080 LIST FOR PCB'S-LIQUIDS
Sample ID: GW-14 REAGENT BLANK
Factor: 0.97 1
Results in: ug/L ug/L
05A 06A
Matrix: water water

	Result	Det. Limit						
PCB-1016	ND	0.097	ND	0.10				
PCB-1221	ND	0.19	ND	0.20				
PCB-1232	ND	0.19	ND	0.20				
PCB-1242	ND	0.097	ND	0.10				
PCB-1248	ND	0.097	ND	0.10				
PCB-1254	ND	0.19	ND	0.20				
PCB-1260	ND	0.19	ND	0.20				
<u>Surrogate Recovery(%)</u>								
Dibutylchloroendate	102		99					
Control Limits: 24 to 154								
2,4,5,6-Tetrachloro-m-xylene	113		36					
Control Limits: 26 to 144								

ND Not detected at specified detection limit

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Appendix A
Comments, Notes and Definitions

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ND ALL METHODS EXCEPT CLP

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ug/M3	micrograms per cubic meter; air samples
mg/L	milligrams per liter (parts per million);liquids/water
mg/kg	milligrams per kilogram (parts per million);soils/solids
%	percent; usually used for percent recovery of QC standards
uS/cm	conductance unit; microSiemens/centimeter
mL/hr	milliliters per hour; rate of settlement of matter in water
NTU	turbidity unit; nephelometric turbidity unit
CU	color unit; equal to 1 mg/L of chloroplatinate salt

HOLGAMAN GROUNDWATER SAMPLES

<u>Sample ID</u>	<u>Location</u>	<u>Comment</u>
GW-1	MW-8	8080-PCBs
GW-2	MW-2	8080-PCBs
GW-3	MW-2	Duplicate of GW-2
GW-4	MW-4	8080-PCBs
GW-5	MW-4	Duplicate of GW-4
GW-6	MW-4	Matrix spike
GW-7	MW-4	Matrix spike duplicate
GW-8	MW-7	8080-PCBs
GW-9	MW-3	8080-PCBs
GW-10	MW-1	8080-PCBs
GW-11	MW-5	8080-PCBs
GW-12	MW-6	8080-PCBs
GW-13	S-4	8080-PCBs
GW-14	S-2	8080-PCBs