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ENVIRONMENTAL DATA SUMMARIES

SOUTH DAYTON LANDFILL
(GRILLOT LANDFILL)
Moraine, Ohio

Project No. 0279.44.05

July 26, 2002

Prepared For

COOLIDGE, WALL, WOMSLEY & LOMBARD
Dayton, Ohio

Prepared By

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Base map provided by:
WOOLPERT LLP
409 East Monument Avenue
Dayton, Ohio 45402-1261
from photography dated:
APRIL 21, 1996

Property Boundary & Easement overlay
from plot plan Feburary 20, 1995
by NORFLEET, BROWN & PETKEWICZ
228 Byers Road
Miamisburg, Ohio 45342

APPROXIMATE SCALE: 1 INCH = 120 FEET

TITLE
SOUTH DAYTON LANDFILL
SITE MAP AND PROPERTY BOUNDARY

DATE 07/26/02	FIGURE 1
DRAWN BY MRD	APPROVED BY DDW
CLIENT COOLIDGE, WALL, WOMSLEY & LOMBARD	
PROJECT NO. 0279.44.05	

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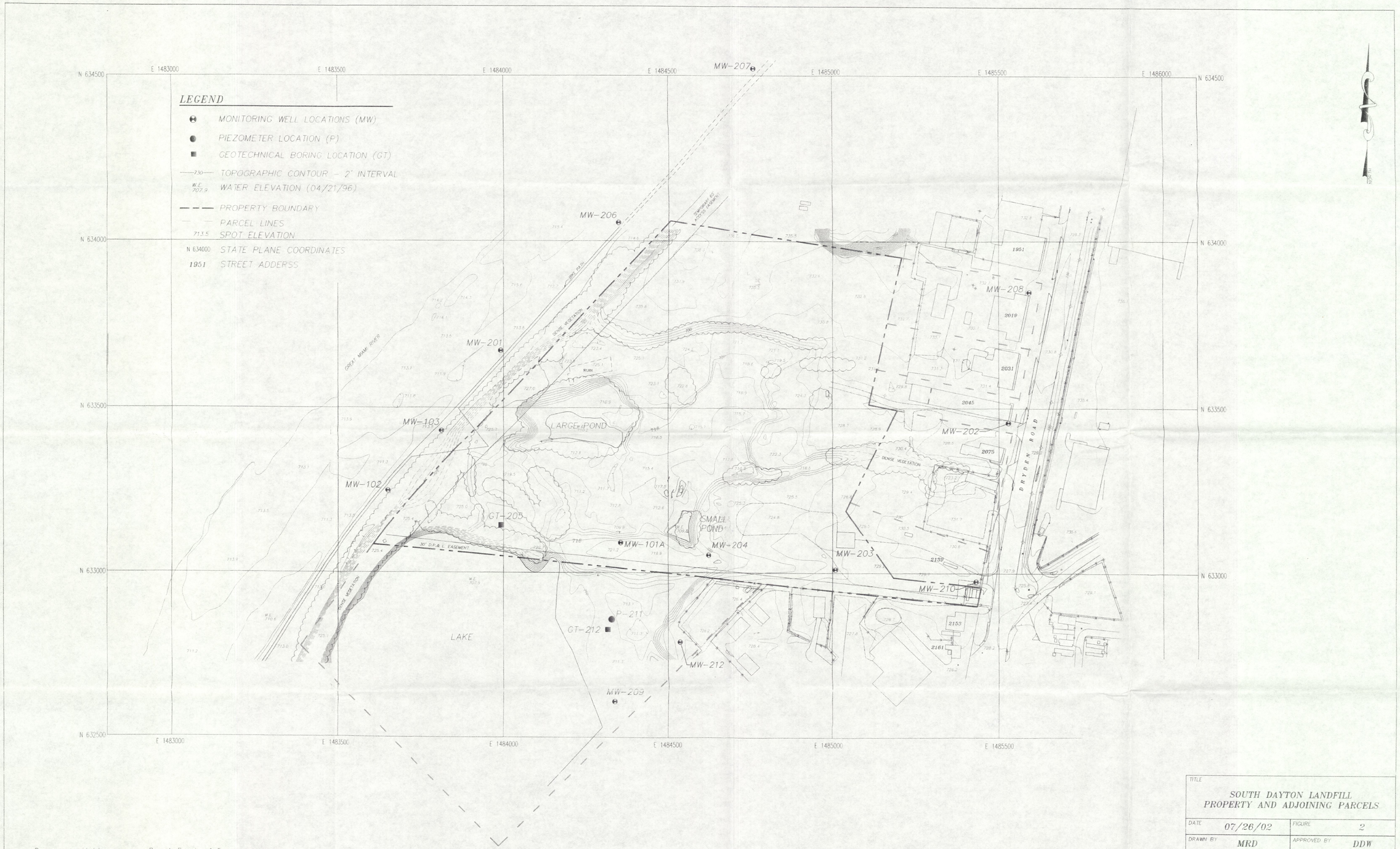
Cincinnati, Ohio 45242



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APPROXIMATE SCALE: 1 INCH = 120 FEET

TITLE	SOUTH DAYTON LANDFILL PROPERTY AND ADJOINING PARCELS
DATE 07/26/02	FIGURE 2
DRAWN BY MRD	APPROVED BY DDW
CLIENT COOLIDGE, WALL, WOMSLEY & LOMBARD	
PROJECT NO. 0279.44.05	

The Payne Firm, Inc.
Environmental Consultants
Cincinnati, Ohio 45242

FIGURES

TABLES

\BLE 1: Summary of Ground Water Analytical Results (mg/L) (1996 to 2002)

CHEMICAL	US EPA MCL (mg/L)	MW101A 7/9/96 Ohio EPA	MW101A 7/9/96 Ohio EPA (dup.)	MW101A 1/6/98 TPF	MW101A 5/28/98 TPF	MW101A 2/19/99 TPF	MW101A 11/11/99 TPF	MW101A 5/10/00 TPF	MW101A 6/6/01 TPF	MW101A 6/14/02 TPF
Cs (mg/L)										
Trichloroethene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	0.002	0.004J	0.004J	0.032	0.008	0.048	ND	0.15	0.14	0.18
1,1,-Dichloroethane	NL	0.013	0.013	0.016	20	0.014	ND	0.032	0.031	0.039
Chloroethane	NL	0.002J	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	NL	0.03	0.029	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	0.005	ND	0.004J	ND	ND	.0014 J,B	0.005B	ND	ND	ND
Toluene	1	ND	0.001J	ND	0.0072J	.0051 J	ND	ND	ND	ND
Xylenes	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane (total)[1]	0.005	ND	ND	ND	ND	ND	0.034	ND	ND	ND
1,2-Dichloroethenes (total[2]	0.07	0.15	0.14	0.18	0.27	0.2	ND	0.41	0.4	0.48
1,1,1-Trichloroethane	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	0.1	ND	ND	ND	0.0006J	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	NL	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	0.1	ND	ND	ND	0.00078J	ND	ND	ND	ND	ND
Tetrachloroethene	NL	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	NL	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	NL	ND	ND	ND	ND	ND	ND	ND	ND	ND
etals (mg/L)							NA	NA	NA	NA
Arsenic	0.05	0.0096B	ND	ND	ND	ND				
Barium	2	0.33	0.347	ND	ND	0.24				
Cadmium	0.005	ND	ND	ND	ND	ND				
Chromium	0.1	0.0174	0.0012B	0.012	ND	0.026				
Lead		0.0215	0.0087	ND	ND	ND				
Mercury	0.002	ND	ND	ND	ND	NA				
Selenium	0.05	ND	ND	ND	ND	NA				
Silver	NL	ND	ND	ND	ND	NA				
eneral Chemistry (mg/L)		NA	NA	NA			NA	NA	NA	NA
Chloride	NL				16.2	14.7				
Nitrate	10				ND	ND				
Nitrogen, as Ammonia	NL				0.9	0.6				
Sulfate	500				31.1	30.2				
Total Alkalinity	NL				530	450				
Total Organic Compound	NL				3	4				
Methane	NL				0.27E,0.83D	0.29E,0.69D				
Ethane	NL				5.6	0.0051				
Ethene	NL				4	0.0067				
Iron (Dissolved)	NL				1	1.6				

CHEMICAL	MW102 7/9/96 Ohio EPA	MW102 1/6/98 TPF	MW102 5/28/98 TPF	MW102 2/17/99 TPF	MW102 11/11/99 TPF	MW102 5/10/00 TPF	MW102 6/6/01 TPF	MW102 6/14/02 TPF
CS (mg/L)								
Trichloroethene	ND	ND	0.00066J	0.0007 J	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND
1,1,-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	0.022	ND	ND	ND	ND	ND	ND	ND
Acetone	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	0.006J	ND	ND	.0033 J	ND	ND	ND	ND
Toluene	0.015	ND	0.0009	0.0009 J	ND	ND	ND	ND
Xylenes	0.004J	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane (total)[1]	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethenes (total[2]	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	.0016 J	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND
etals (mg/L)					NA	NA	NA	NA
Arsenic	ND	ND	ND	ND				
Barium	0.0844B	ND	ND	ND				
Cadmium	ND	ND	ND	ND				
Chromium	ND	0.009	ND	0.024				
Lead	0.0011B	ND	ND	ND				
Mercury	ND	ND	ND	NA				
Selenium	ND	ND	ND	NA				
Silver	ND	ND	ND	NA				
eneral Chemistry (mg/L)	NA	NA			NA	NA	NA	NA
Chloride			27.1	40.8				
Nitrate			4.3	7.1				
Nitrogen, as Ammonia			ND	ND				
Sulfate			44.8	50.1				
Total Alkalinity			350	280				
Total Organic Compound			ND	1				
Methane			ND	0.0007				
Ethane			ND	ND				
Ethene			ND	ND				
Iron (Dissolved)			0.32	0.64				

CHEMICAL	MW103 7/9/96 TPF	MW103 1/6/98 TPF	MW103 5/28/98 TPF	MW103 2/17/99 TPF	MW103 11/11/99 TPF	MW103 5/10/00 TPF	MW103 6/6/01 TPF	MW103 6/14/02 TPF
CS (mg/L)								
Trichloroethene	ND	0.0032	0.0051	0.004	0.008	0.005	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND
1,1,-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ND	ND	ND	.0022 J	ND	ND	ND	ND
Toluene	ND	0.00036J	0.0067	0.0007 J	ND	ND	ND	ND
Xylenes	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane (total)[1]	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethenes (total[2]	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	0.001J	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	.0005 J	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND
etals (mg/L)					NA	NA	NA	NA
Arsenic	ND	ND	ND	ND				
Barium	0.0925B	ND	ND	ND				
Cadmium	ND	ND	ND	ND				
Chromium	0.0076B	0.017	0.011	0.055				
Lead	0.0028B	ND	ND	ND				
Mercury	ND	ND	ND	NA				
Selenium	ND	ND	ND	NA				
Silver	ND	ND	ND	NA				
eneral Chemistry (mg/L)	NA	NA			NA	NA	NA	NA
Chloride			32	32.7				
Nitrate			4.6	8.9				
Nitrogen, as Ammonia			ND	ND				
Sulfate			41.9	45.4				
Total Alkalinity			290	220				
Total Organic Compound			ND	2				
Methane			ND	0.0006				
Ethane			ND	ND				
Ethene			ND	ND				
Iron (Dissolved)			1	1.9				

CL = US EPA Maximum Contaminant Level for Drinking Water
ld = Exceeds US EPA Maximum Contaminant Level for Drinking Water
A = Not analyzed
D = Not detected at or above laboratory reporting limits
L = Not listed
= Estimated value: Result is less than the reporting limit
= Estimated result: Result concentration exceeds the calibration range
= Result was obtained from the analysis of a dilution
= Method blank contamination: The associated method blank contains one target analyte at a reportable level
2 Dichloroethene (total) consists of two isomers (Cis and trans). The most conservative MCL is listed

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Coolidge, Wall, Womsley & Lombard
South Dayton Landfill
Project No. 0279.44.08

The Payne Firm, Inc.
Environmental Consultants

TABLE 1: Summary of Ground Water Analytical Results (mg/L)

CHEMICAL	US EPA MCL (mg/L)	MW201						MW202						MW203					
		05/28/98 TPF	02/16/99 TPF	11/11/99 TPF	05/10/00 TPF	06/06/01 TPF	06/14/02 TPF	05/28/98 TPF	02/17/99 TPF	11/11/99 TPF	05/10/00 TPF	06/06/01 TPF	06/14/02 TPF	05/28/98 TPF	02/17/99 TPF	11/11/99 TPF	05/10/00 TPF	06/06/01 TPF	06/14/02 TPF
VOCs (mg/L)																			
Trichloroethene	0.005	**0.018**	**0.017**	**0.021**	**0.022**	**0.021**	**0.017**	**0.038**	**0.039**	**0.039**	**0.035**	**0.041**	**0.031**	ND	ND	ND	ND	ND	ND
Vinyl Chloride	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	.002 J	ND	ND	ND	ND
1,1,-Dichloroethane	NL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	.001 J	**0.013**	ND	ND	ND
Chloroethane	NL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	.003 J	ND	ND	ND	ND
Acetone	NL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	0.005	ND	0.003 J	ND	ND	ND	ND	ND	0.003 J	ND	ND	ND	ND	ND	.003 J	ND	ND	ND	ND
Toluene	1	0.0035J	0.002 J	ND	ND	ND	ND	0.0083	0.009	ND	0.0062	ND	ND	.0049J	0.005	0.0084	ND	ND	ND
Xylenes	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethene (total)	0.07	ND	ND	ND	ND	ND	ND	ND	0.003	ND	ND	ND	ND	ND	0.008	0.025	ND	ND	ND
1,2-Dichloroethane (total)	0.005	ND	ND	ND	ND	ND	ND	.0026J	ND	ND	ND	ND	ND	0.005	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.2	0.0073	0.006	0.0084	0.0089	0.0069	0.0052	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	NL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	NL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	NL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0007	ND	ND	ND	ND
Chlorobenzene	NL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.026	0.024	0.019	0.027	0.029	0.029
Metals (mg/L)				NA	NA	NA	NA			NA	NA	NA	NA			NA	NA	NA	NA
Arsenic	0.05	ND	ND					ND	ND					0.019	0.027				
Barium	2	0.2	ND					ND	ND					ND	ND				
Cadmium	0.005	ND	ND					ND	ND					ND	ND				
Chromium	0.1	ND	ND					ND	0.01					ND	ND				
Lead		ND	ND					ND	ND					ND	ND				
Mercury	0.002	ND	NA					ND	NA					ND	NA				
Selenium	0.05	ND	NA					0.015	NA					ND	NA				
Silver	NL	ND	NA					ND	NA					ND	NA				
General Chemistry (mg/L)				NA	NA	NA	NA			NA	NA	NA	NA			NA	NA	NA	NA
Chloride	NL	95.1	80.5					145	121					75.5	67.1				
Nitrate	10	0.65	1.1					2.1	2.3					ND	ND				
Nitrogen, as Ammonia	NL	ND	ND					ND	ND					3.3	2.9				
Sulfate	500	50.2	47					72.2	66.5					34.5	33.6				
Total Alkalinity	NL	460	310					380	270					540	430				
Total Organic Compound	NL	ND	1					ND	2					7	11				
Methane	NL	0.0014	0.0006					0.0005	0.004					.28E,0.91E	.33E,1.5D				
Ethane	NL	ND	ND					ND	ND					0.02E,0.018D	0.023				
Ethene	NL	ND	ND					ND	ND					0.00058	ND				
Iron (Dissolved)	NL	1	0.69					1.1	0.84					2.1	4.2				

MCL = US EPA Maximum Contaminant Level for Drinking Water
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NA = Not analyzed
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NL = Not listed
J = Estimated value. Result is less than the reporting limit
E = Estimated result. Result concentration exceeds the calibration range
D = Result was obtained from the analysis of a dilution
B = Method blank contamination. The associated method blank contains one target analyte at a reportable level
1,2-Dichloroethene (total) consists of two isomers (Cis and trans). The most conservative MCL is listed

02-5025XLS/mp
7/26/2002

DRAFT

TABLE 1: **Summary of Ground Water Analytical Results (mg/L)**

CHEMICAL	MW284						MW286					MW287					MW288				
	05/28/98 TPF	02/17/99 TPF	11/11/99 TPF	05/09/00 TPF	06/06/01 TPF	06/14/02 TPF	02/18/99 TPF	11/11/99 TPF	05/09/00 TPF	06/06/01 TPF	06/14/02 TPF	02/18/99 TPF	11/11/99 TPF	05/09/00 TPF	06/06/01 TPF	06/14/02 TPF	02/18/99 TPF	11/11/99 TPF	05/09/00 TPF	06/06/01 TPF	06/14/02 TPF
OCs (mg/L)																					
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	.002 J	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	.001 J	ND	ND	ND	ND
1,1,-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	0.0029J	.002 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ND	.002 J	**0.0058B**	ND	ND	ND	.0005 J	ND	ND	ND	ND	.003 J	ND	ND	ND	ND	.0008 J	ND	ND	ND	ND
Toluene	.0043J	0.006	ND	ND	ND	ND	.0006 J	ND	ND	ND	ND	.004 J	ND	ND	ND	ND	.002 J	ND	ND	ND	ND
Xylenes	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethene (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	.002 J	ND	ND	ND	ND
1,2-Dichloroethane (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (mg/L)			NA	NA	NA	NA		NA	NA	NA	NA		NA	NA	NA	NA		NA	NA	NA	NA
Arsenic	0.033	0.028					ND					0.012					ND				
Barium	0.85	0.7					ND					ND					0.23				
Cadmium	ND	ND					ND					ND					ND				
Chromium	ND	ND					0.024					ND					ND				
Lead	0.0049	ND					ND					ND					ND				
Mercury	ND	NA					NA					NA					NA				
Selenium	ND	NA					NA					NA					NA				
Silver	ND	NA					NA					NA					NA				
General Chemistry (mg/L)			NA	NA	NA	NA		NA	NA	NA	NA		NA	NA	NA	NA		NA	NA	NA	NA
Chloride	56.2	59.2					28					19.5					111				
Nitrate	ND	ND					10					8.4					0.3				
Nitrogen, as Ammonia	5.4	4.4					ND					ND					0.3				
Sulfate	1.3	1.5					54.4					46.1					59.6				
Total Alkalinity	800	470					350					350					500				
Total Organic Compound	8	9					2					5					3				
Methane	0.037E,5.7D	.54E,2.2D					0.0018					0.0047					0.059				
Ethane	0.016	0.021					ND					0.0014					0.002				
Ethene	ND	ND					ND					ND					ND				
Iron (Dissolved)	3.1	3.1					2.5					2.5					1.3				

MCL = US EPA Maximum Contaminant Level for Drinking Water
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NA = Not analyzed
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E = Estimated value. Result is less than the reporting limit
E = Estimated result. Result concentration exceeds the calibration range
D = Result was obtained from the analysis of a dilution
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1,2-Dichloroethene (total) consists of two isomers (Cis and trans). The most conservative MCL is listed

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Coolidge, Wall, Womsley & Lombard
South Dayton Landfill
Project No. 0279.44.08

The Payne Firm, Inc.
Environmental Consultants

TABLE 1: Summary of Ground Water Analytical Results (mg/L)

CHEMICAL	US EPA MCL (mg/L)	MW209					MW210					MW212				
		02/22/99 TPF	11/11/99 TPF	05/09/00 TPF	06/06/01 TPF	06/14/02 TPF	02/18/99 TPF	11/11/99 TPF	05/10/00 TPF	06/06/01 TPF	06/14/02 TPF	02/18/99 TPF	11/11/99 TPF	05/10/00 TPF	06/06/01 TPF	06/14/02 TPF
VOCs (mg/L)																
Trichloroethene	0.005	ND	ND	ND	ND	ND	0.087	**0.26**	**0.058**	**0.03**	**0.076**	ND	ND	ND	ND	ND
Vinyl Chloride	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,-Dichloroethane	NL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	NL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	NL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	0.005	.008 B	**0.051B**	ND	ND	ND	.0007 J	**0.014B**	ND	ND	ND	ND	**0.0054B**	ND	ND	ND
Toluene	1	0.007	ND	ND	ND	ND	.0017 J	ND	ND	ND	ND	.002 J	0.0058	0.0066	ND	ND
Xylenes	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethene (total)	0.07	ND	ND	ND	ND	ND	0.016	0.045	0.014	ND	0.013	ND	ND	ND	ND	ND
1,2-Dichloroethane (total)	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	NL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	NL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	NL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	NL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (mg/L)			NA	NA	NA	NA		NA	NA	NA	NA		NA	NA	NA	NA
Arsenic	0.05	0.032					ND					ND				
Barium	2	0.63					ND					ND				
Cadmium	0.005	ND					ND					ND				
Chromium	0.1	0.065					0.034					0.013				
Lead		0.1					ND					ND				
Mercury	0.002	NA					NA					NA				
Selenium	0.05	NA					NA					NA				
Silver	NL	NA					NA					NA				
General Chemistry (mg/L)			NA	NA	NA	NA		NA	NA	NA	NA		NA	NA	NA	NA
Chloride	NL	39.1					198					96.3				
Nitrate	10	ND					0.9					ND				
Nitrogen, as Ammonia	NL	1					ND					1.7				
Sulfate	500	78					58.9					94.5				
Total Alkalinity	NL	340					510					270				
Total Organic Compound	NL	4					2					4				
Methane	NL	.28E,.59D					.088E,.082D					.3E,1.3D				
Ethane	NL	0.004					0.001					0.001				
Ethene	NL	ND					ND					ND				
Iron (Dissolved)	NL	3					2.7					1.2				

MCL = US EPA Maximum Contaminant Level for Drinking Water
Bold = Exceeds US EPA Maximum Contaminant Level for Drinking Water
NA = Not analyzed
ND = Not detected at or above laboratory reporting limits
NL = Not listed
J = Estimated value. Result is less than the reporting limit
E = Estimated result. Result concentration exceeds the calibration range
D = Result was obtained from the analysis of a dilution
B = Method blank contamination. The associated method blank contains one target analyte at a reportable level
1,2-Dichloroethene (total) consists of two isomers (Cis and trans). The most conservative MCL is listed

02-5025XLS.XLS/mp
7/26/2002

DRAFT

TABLE 2: Surface Water and Sediment Sampling Results from the Gravel Pit Lake

Chemical	SW-1	SW-2	SW-3	Sediment-1	Sediment-2	Sediment-3
	5/12/00					
VOCs[1]	ND	ND	ND	ND	ND	ND

ND = Not detected above the laboratory reporting limit.
[1] US EPA Method SW-846 8260B

TABLE 3: Ground Wat

Well ID	W-203	MW-204	MW-206	MW-207	MW-208	MW-209	MW-210	MW-212	Lake	Small Pond	Large Pond
Installation	PF)		February 1999 (TPF)								
Screen I		10									
Scre		689-699	686-696		692-702	688-698	691-701	673-683			
	06.27	709.04							2.38	D	2.14
	07.75	710.47							0.46	2.1	0.75
	06.43	709.28							2.25	D	3.75
	05.55	708.43							3.25	D	D
	05.91	707.75							3.92	D	D
	04.91	707.79							3.82	D	D
	04.48	707.26							4.15	D	SC
	04.83	707.59							SC	SC	AG
	07.61	710.41							0.3	1.32	0.2
	07.99	710.64	713.25	713.52	711.63	710.45	710.65	710.4	0.5	2.0	1.65
	06.68	709.37	709.82	710.09	710.02	708.97	709.57	708.99	2.22	3.25	1.34
	06.78	709.52	710.3	710.57	710.27	709.19	709.7	709.13	1.52	3.02	3.14
	05.63	708.4	708.82	709.09	709.04	708.07	708.58	708.04	3.33	D	3.26
	5.12	707.96	709.52	709.79	708.53	707.73	708.11	707.69	3.61	D	D
	4.52	707.37	707.91	708.18	707.93	707.19	707.52	707.12	4.2	D	D
	3.86	706.77	707.21	707.48	707.25	706.62	706.89	706.55	4.9	D	D
	3.55	706.47	706.99	707.26	706.95	706.33	706.56	706.3	DC	D	D

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APPENDIX I

APPENDIX I

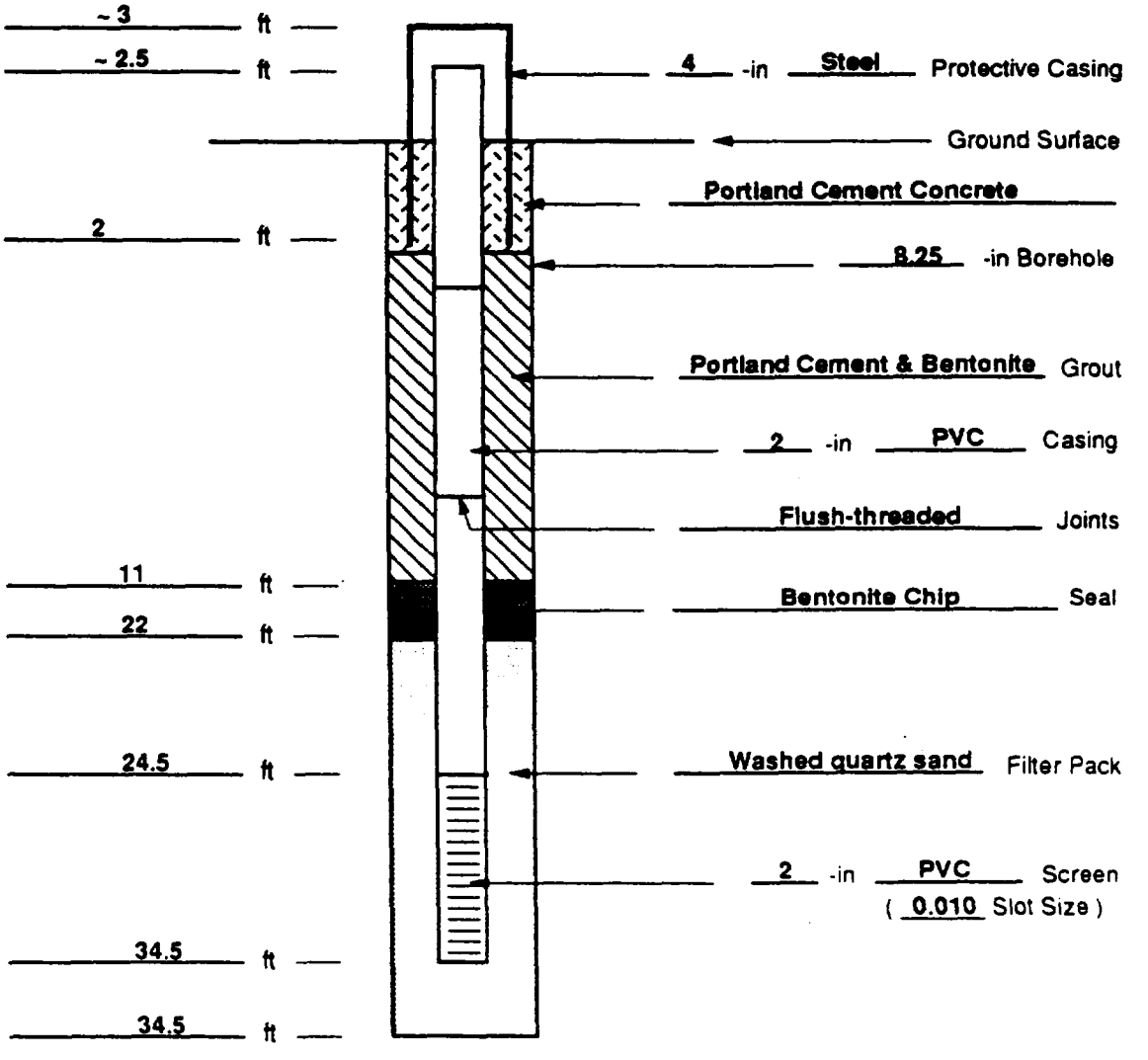
BORING LOGS

PSARA TECHNOLOGIES, INC.	Well Construction Diagram	Project No 60003.06 Well No. MW-101

General Information

Client: **Ohio EPA**	Well No.: **MW-101**
Site Location: **South Dayton Dump, Dayton, Ohio**	Date Completed: **April 5, 1996**
PSARA Geologist: **R. Stuck**	Drilling Method: **4.25-in. I.D. HSA/8.25 in.**
Drilling Contractor: **JEDI**	Depth to Static Water (ft): **15.10 (4/23/96)**

Construction Details



NOT TO SCALE

Ent'd by: SLW
Ck'd by: HES
Date: 6/4/96

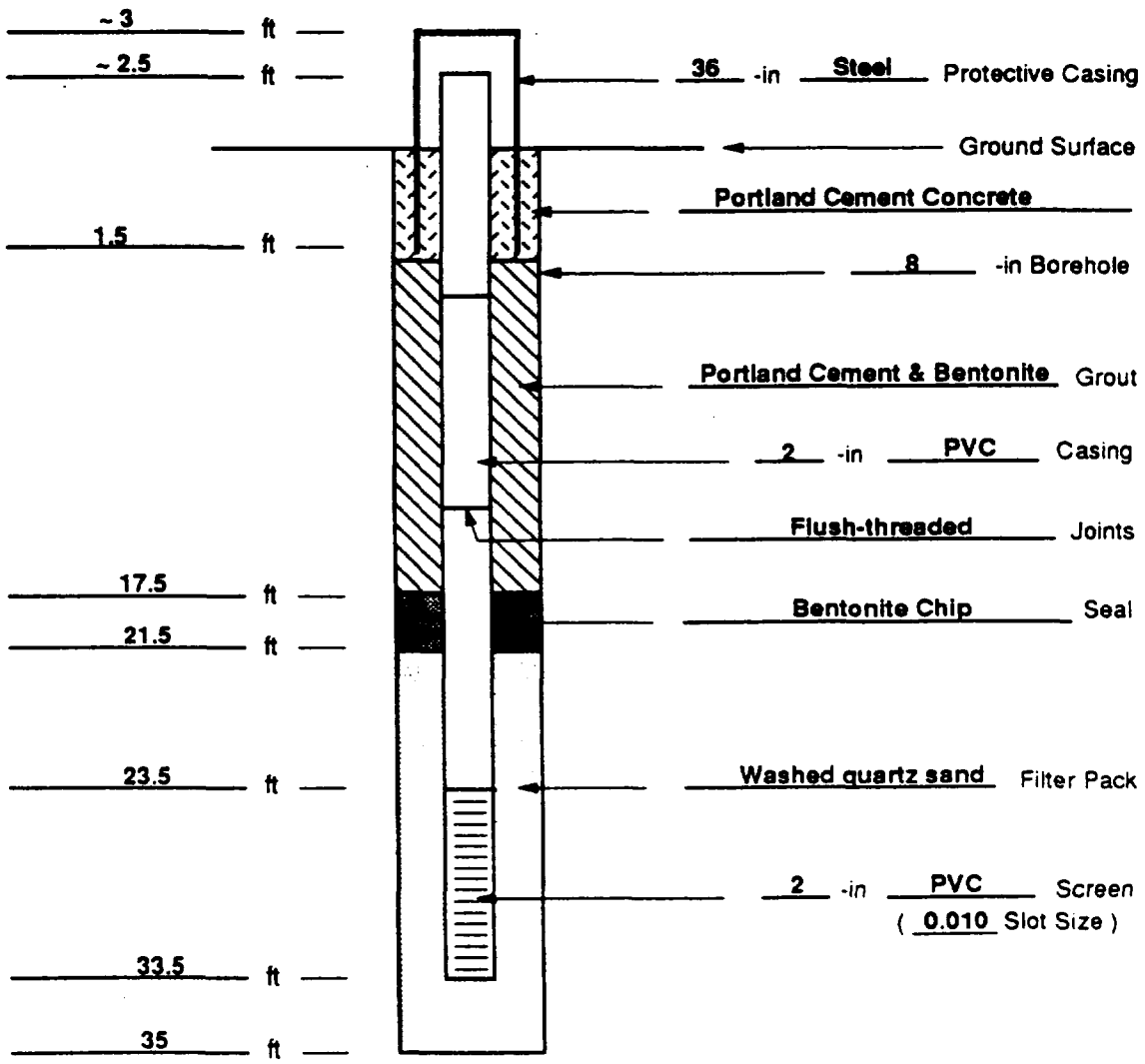
FORM NO. 005.0

PSARA TECHNOLOGIES, INC.	Well Construction Diagram	Project No 60003.06 Well No. MW-101A

General Information

Client: **Ohio EPA**	Well No.: **MW-101A**
Site Location: **South Dayton Dump, Dayton, Ohio**	Date Completed: **May 7, 1996**
PSARA Geologist: **R. Stuck**	Drilling Method: **4.25-in. I.D. HSA/8.25 in.**
Drilling Contractor: **JEDI**	Depth to Static Water (ft): **16**

Construction Details



NOT TO SCALE

Ent'd by: SLW
Ck'd by: MES
Date: 6/4/96

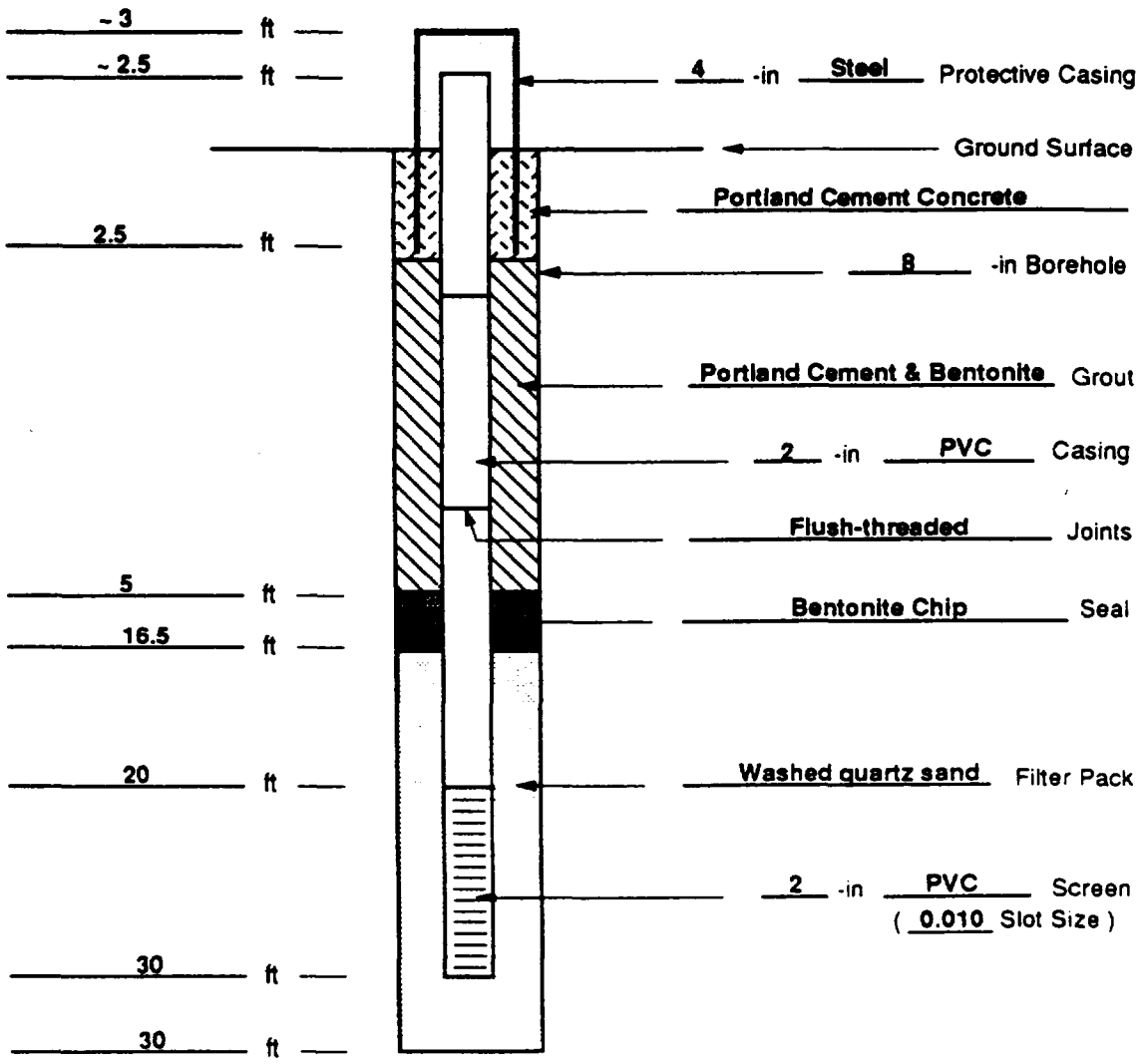
FORM NO. 005.0

PSARA TECHNOLOGIES, INC.	Well Construction Diagram	Project No 60003.06 Well No. MW-102

General Information

Client: **Ohio EPA**	Well No.: **MW-102**
Site Location: **South Dayton Dump, Dayton, Ohio**	Date Completed: **April 8, 1996**
PSARA Geologist: **R. Stuck**	Drilling Method: **4.25-in. I.D. HSA/8.25 in.**
Drilling Contractor: **JEDI**	Depth to Static Water (ft): **6.97 (4/23/96)**

Construction Details



NOT TO SCALE

Ent'd by: SLW
Ck'd by: MES
Date: 6/4/96

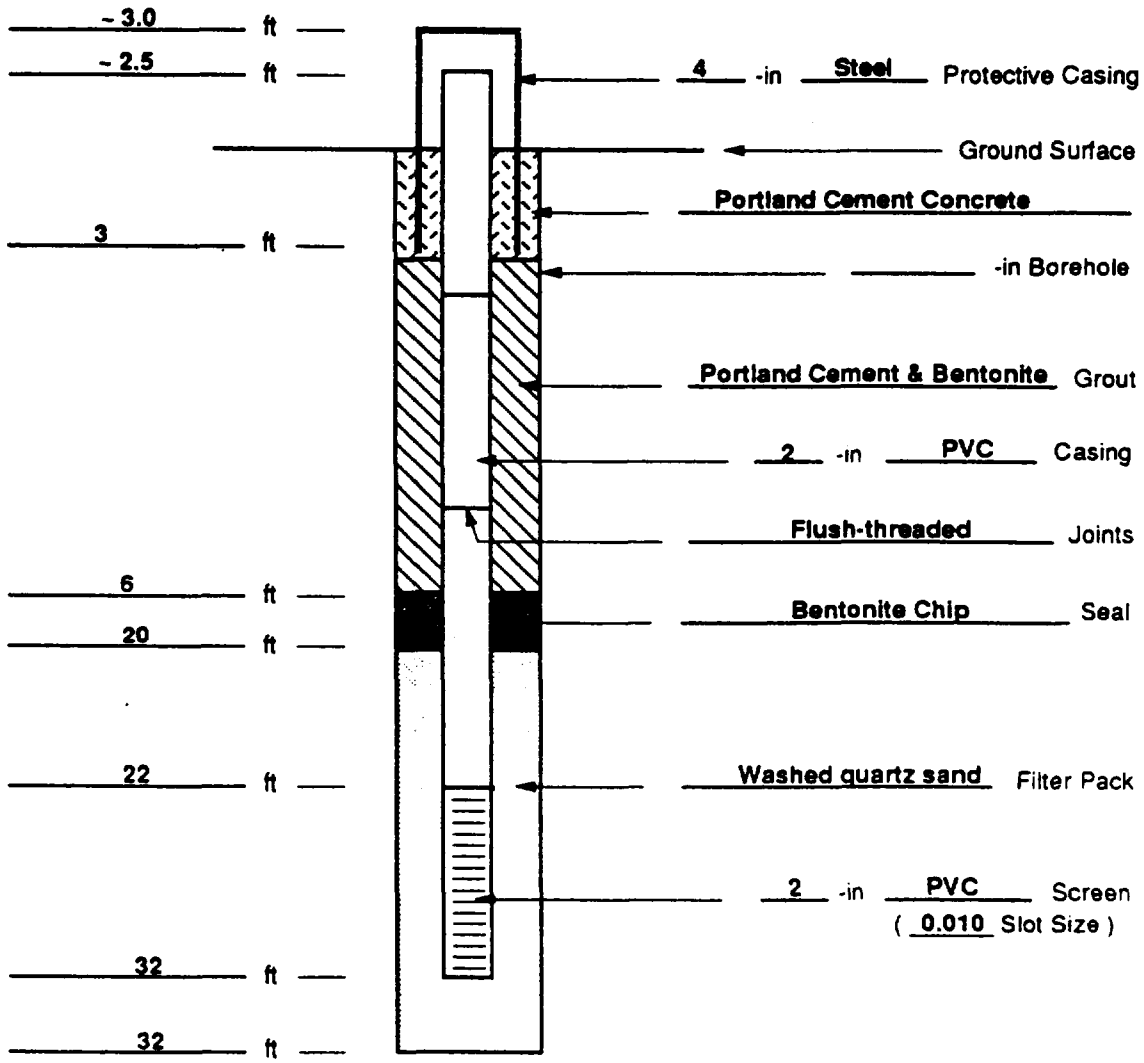
FORM NO 005.0

PSARA TECHNOLOGIES, INC.	Well Construction Diagram	Project No 60003.06 Well No. MW-103

General Information

Client: **Ohio EPA**	Well No.: **MW-103**
Site Location: **South Dayton Dump, Dayton, Ohio**	Date Completed: **April 9, 1996**
PSARA Geologist: **R. Stuck**	Drilling Method: **4.25-in. I.D. HSA/8.25 in.**
Drilling Contractor: **JEDI**	Depth to Static Water (ft): **5.80 (4/23/96)**

Construction Details



NOT TO SCALE

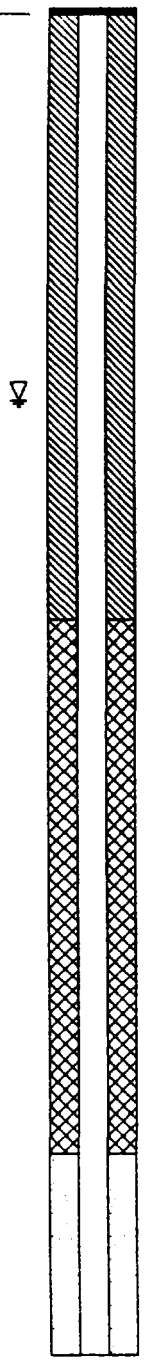
Ent'd by: SLW
Ck'd by: MES
Date: 6/4/96

FORM NO. 005.0

LOG OF BORING .W-201

COOLIDGE, WALL, WOMSLEY & LOMBARD
Grillot/Moraine, Ohio

WELL DIAGRAM



DEPTH (ft.)	ELEVATION	BLOWS/6 in.	HSO (ppm)	RECOVERY (in.)	SAMPLES	GRAPHIC LOG	LITHOLOGY DESCRIPTION
0							CLAY AND SILT; dark brown; moist
5	708.3	13					- brown; moist
		21		13			
		21					SAND (coarse) AND GRAVEL (fine); brown; wet
		18					
		14					CLAY AND SILT; brown; wet
		12		12			
		10					SAND (coarse) AND GRAVEL (fine); brown; wet; trace of cobbles
		12					
		7					
10	703.3	7		8			
		10					
		10					- medium and fine sand; brown; wet
		7					
		14		9			
		10					- course gravel and cobbles; brown; wet
		12					
		9					- medium and fine sand; brown; wet
		9		10			
		11					
		10					
15	698.3	7					
		58		13			- fine gravel
		12					
		12		15			
		13					
		12					
		5					- fine sand; brown; wet
20	693.3	8		15			

▽ - initial ground-water level
▼ - stabilized ground-water level

TOTAL DEPTH (Ft.): *32.0*
DATE STARTED: *05/21/98*
DATE FINISHED: *05/21/98*
GEOLOGIST: *Mark E. Berkich*
PROJECT NO: *0279.44.07*

GS ELEVATION (MSL): *713.3*
TOP OF CASING (MSL): *715.27*
WELL DEVELOPED: *05/21/98*

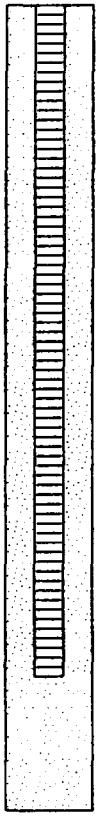
DATE PRINTED: *06/25/1998*

The Payne Firm, Inc.
Environmental Consultants
Cincinnati, Ohio

LOG OF BORING .W-201

COOLIDGE, WALL, WOMSLEY & LOMBARD
Grillot/Moraine, Ohio

WELL DIAGRAM



DEPTH (ft.)	ELEVATION	BLOWS/6 in.	HSO (ppm)	RECOVERY (in.)	SAMPLES	GRAPHIC LOG	DESCRIPTION
20		11					- medium and course sand, fine gravel and cobbles; wet
		13					
		5					
		12		15			
		17					
		13					
		10					
		20		17			
		14					
		17					
25	688.3	6					
		10		18			
		15					
		17					
		8					
		11		17			
		13					
		17					
30	683.3	8					
		12		20			
		16					
		18					
35	678.3						
40	673.3						

LITHOLOGY

Boring terminated at 32.0 feet

▽ - initial ground-water level
▼ - stabilized ground-water level

TOTAL DEPTH (Ft.): *32.0*
DATE STARTED: *05/21/98*
DATE FINISHED: *05/21/98*
GEOLOGIST: *Mark E. Berkich*
PROJECT NO: *0279.44.07*

GS ELEVATION (MSL): *713.3*
TOP OF CASING (MSL): *715.27*
WELL DEVELOPED: *05/21/98*

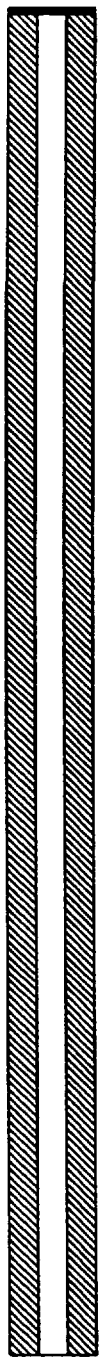
DATE PRINTED: *06/25/1998*

The Payne Firm, Inc.
Environmental Consultants
Cincinnati, Ohio

LOG OF BORING MW-202

COOLIDGE, WALL, WOMSLEY & LOMBARD
Grillot/Moraine, Ohio

WELL DIAGRAM



DEPTH (ft.)	ELEVATION	BLOWS/6 in.	HSO (ppm)	RECOVERY (in.)	SAMPLES	GRAPHIC LOG	LITHOLOGY DESCRIPTION
0							SILT, ROCK FRAGMENTS AND GLASS (FILL)
5	726.3	5					CLAY AND SILT; rock fragments; brown; moist
		13		18			
		22					
		22					
		14					SAND (medium) AND GRAVEL; light brown; slightly moist
		20		13			
		25					
		25					
		33					
10	721.3	45		14			
		29					
		38					
		10					
		16		10			
		14					
		19					
		18					
		20		11			
		22					
		24					
15	716.3	18					
		24		13			- medium and course sand; trace of fine gravel; light brown; moist
		24					
		23					
		24					
		16		12			- medium sand; light brown; moist
		20					
		39					
		35					
20	711.3	68		7			

▽ - initial ground-water level
▼ - stabilized ground-water level

TOTAL DEPTH (Ft.): *41.0*
DATE STARTED: *05/21/98*
DATE FINISHED: *05/21/98*
GEOLOGIST: *Mark E. Berkich*
PROJECT NO: *0279.44.07*

GS ELEVATION (MSL): *731.3*
TOP OF CASING (MSL): *733.39*
WELL DEVELOPED: *05/21/98*

DATE PRINTED: *06/25/1998*

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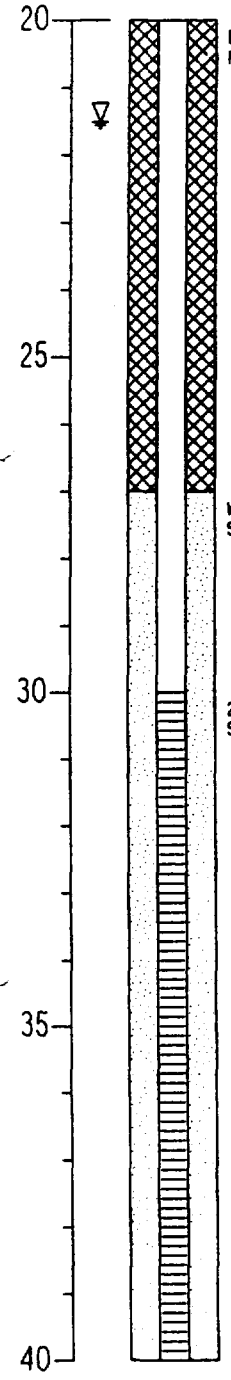
Environmental Consultants
Cincinnati, Ohio

LOG OF BORING MW-202

COOLIDGE, WALL, WOMSLEY & LOMBARD
Grillot/Moraine, Ohio

WELL DIAGRAM



DEPTH (ft.)	ELEVATION	BLOWS/6 in.	HSO (ppm)	RECOVERY (in.)	SAMPLES	GRAPHIC LOG	LITHOLOGY DESCRIPTION
20		33					- medium sand and fine gravel; trace of cobbles; light brown; moist
		22					
		7					
		17		0			
		10					- spoon wet
		7					
		8					- course sand and gravel; trace of cobbles; gray; wet; some black
		16		20			
		18					- medium sand; trace of gravel; reddish-orange; wet
		21					
25	706.3	28					- course and medium sand; reddish-orange; wet
		34		17			
		20					
		19					
		6					
		10					
		12					
		11		15			
		12					
		46					
30	701.3	24					- course sand and fine gravel; trace of cobbles; light gray; wet
		26		20			
		11					
		18					- course and medium sand; reddish-orange; wet
		42					
		26		14			- course sand and fine gravel; trace of cobbles; gray; wet
		6					
		16					- course and medium sand; reddish-orange; wet
		19					
35	696.3	10		16			
		11					
		20					
		30					
		45		10			
		5					
		7					
		25					
		50					
		17					
40	691.3	9					

LITHOLOGY

▽ - initial ground-water level
▼ - stabilized ground-water level

TOTAL DEPTH (Ft.): *41.0*
DATE STARTED: *05/21/98*
DATE FINISHED: *05/21/98*
GEOLOGIST: *Mark E. Berkich*
PROJECT NO: *0279.44.07*

GS ELEVATION (MSL): *731.3*
TOP OF CASING (MSL): *733.39*
WELL DEVELOPED: *05/21/98*

DATE PRINTED: *06/25/1998*

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Cincinnati, Ohio

LOG OF BORING MW-202

COOLIDGE, WALL, WOMSLEY & LOMBARD
Grillot/Moraine, Ohio

WELL DIAGRAM

LITHOLOGY

DEPTH (ft.)	ELEVATION	BLOWS/6 in.	HSO (ppm)	RECOVERY (in.)	SAMPLES	GRAPHIC LOG	DESCRIPTION
40		14					
		28					
							Boring terminated at 41.0 feet
45	688.3						
50	681.3						
55	676.3						
60	671.3						

▽ - initial ground-water level
▼ - stabilized ground-water level

TOTAL DEPTH (Ft.): *41.0*
DATE STARTED: *05/21/98*
DATE FINISHED: *05/21/98*
GEOLOGIST: *Mark E. Berkich*
PROJECT NO: *0279.44.07*

GS ELEVATION (MSL): *731.3*
TOP OF CASING (MSL): *733.39*
WELL DEVELOPED: *05/21/98*

DATE PRINTED: *06/25/1998*

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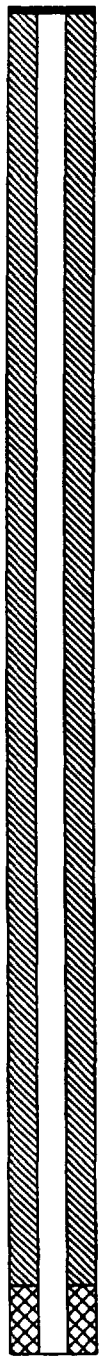
Environmental Consultants
Cincinnati, Ohio

LOG OF BORING MW-203

COOLIDGE, WALL, WOMSLEY & LOMBARD
Grillot/Moraine, Ohio

WELL DIAGRAM



DEPTH (ft.)	ELEVATION	BLOWS/6 in.	HSO (ppm)	RECOVERY (in.)	SAMPLES	GRAPHIC LOG	LITHOLOGY DESCRIPTION
0							SILT AND CLAY; brown; dry (FILL)
							- concrete fragments
5	723.5						
		4					- no recovery; augered to 10.0 feet
		3					
		8					
		2					
10	718.5	5					- medium sand and gravel; brown; dry-moist
		7		14			
		12					
		10					
		7					- red brick and wood fragments mixed with black clay and medium sand; slight petroleum odor
		8		23			
		5					SAND; fine; light brown; moist
		8					
		7					
15	713.5	10		17			- medium sand and gravel; light brown; moist
		25					
		16					
		15					
		21		13			
		26					
		17					
		29					- course sand and gravel; brown; very moist
		20		14			
		28					
20	708.5	24					

▽ - initial ground-water level
▼ - stabilized ground-water level

TOTAL DEPTH (Ft.): *38.0*
DATE STARTED: *05/21/98*
DATE FINISHED: *05/21/98*
GEOLOGIST: *Mark E. Berkich*
PROJECT NO: *0279.44.07*

GS ELEVATION (MSL): *728.5*
TOP OF CASING (MSL): *730.33*
WELL DEVELOPED: *05/21/98*

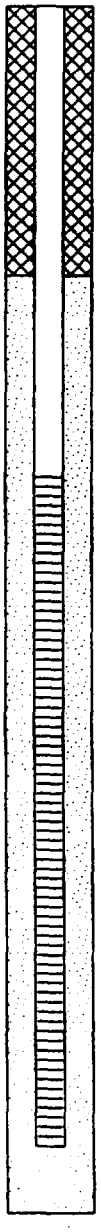
DATE PRINTED: *06/25/1998*

The Payne Firm, Inc.
Environmental Consultants
Cincinnati, Ohio

LOG OF BORING MW-203

COOLIDGE, WALL, WOMSLEY & LOMBARD
Grillot/Moraine, Ohio

WELL DIAGRAM



LITHOLOGY

DEPTH (ft.)	ELEVATION	BLOWS/6 in.	HSO (ppm)	RECOVERY (in.)	SAMPLES	GRAPHIC LOG	DESCRIPTION
20		20					- wet
		25		15			
		29					
		19					
		15					
		37		12			
		34					- clay lamanations; wet
		24					
		20					
25	703.5	10		14			
		40					- yellowish orange
		75					
		6					- course sand and gravel; tellowish orange; wet
		12		15			
		23					
		24					
		11					- medium sand; trace of gravel; yellowish orange
		11		18			- course sand and gravel; gray; wet
		10					
		12					
30	698.5	11					
		17		13			
		16					
		15					
		11					
		13		14			
		12					- black course sand and gravel; slight petroleum odor
		14					
		14					- medium sand and gravel; gray; wet
35	693.5	13		17			
		16					
		25					
		17					
		23					
		27					
		25					
40	688.5						Boring terminated at 38.0 feet

▽ - initial ground-water level
▼ - stabilized ground-water level

TOTAL DEPTH (Ft.): *38.0*
DATE STARTED: *05/21/98*
DATE FINISHED: *05/21/98*
GEOLOGIST: *Mark E. Berkich*
PROJECT NO: *0279.44.07*

GS ELEVATION (MSL): *728.5*
TOP OF CASING (MSL): *730.33*
WELL DEVELOPED: *05/21/98*

DATE PRINTED: *06/25/1998*

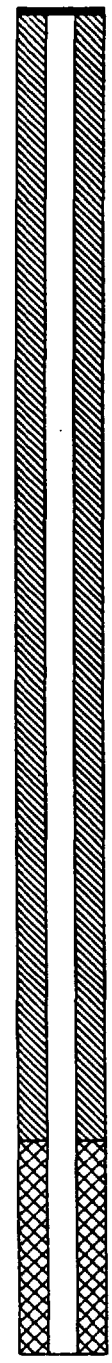
The Payne Firm, Inc.
Environmental Consultants
Cincinnati, Ohio

LOG OF BORING MW-204

COOLIDGE, WALL, WOMSLEY & LOMBARD

Grillot/Moraine, Ohio

WELL DIAGRAM



DEPTH (ft.)	ELEVATION	BLOWS/6 in.	HSO (ppm)	RECOVERY (in.)	SAMPLES	GRAPHIC LOG	LITHOLOGY DESCRIPTION
0							- FINE SAND AND CLAY; brown; concrete fragments; dry (FILL)
5	715.8	1					- sand; foundry; moist
		2		5			
		2					- fine grained; trace of foundry; little clay; brown; dry; stiff
		2					
		4					
		4		1			
		3					
		3					- clay; brown; some fine sand; several cobbles; moist
		3					
		2		18			
10	710.8	3					
		4					
		4					
		5		12			
		5					
		4					
		4					
		3		24			
		5					
		5					
15	705.8	5					
		5		5			
		4					
		4					
		5					- coarse sand and clay
		4		17			- clay and fine sand
		5					- clay and black foundry sand; wet
		14					
		13					
20	700.8	4		16			

▽ - initial ground-water level
▼ - stabilized ground-water level

TOTAL DEPTH (Ft.): *33.0*
DATE STARTED: *05/19/98*
DATE FINISHED: *05/19/98*
GEOLOGIST: *Mark E. Berkich*
PROJECT NO: *0279.44.07*

GS ELEVATION (MSL): *720.8*
TOP OF CASING (MSL): *722.89*
WELL DEVELOPED: *05/19/98*

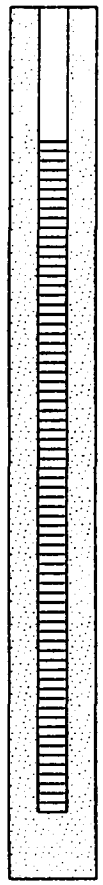
DATE PRINTED: *06/25/1998*

The Payne Firm, Inc.
Environmental Consultants
Cincinnati, Ohio

LOG OF BORING MW-204

COOLIDGE, WALL, WOMSLEY & LOMBARD
Grillot/Moraine, Ohio

WELL DIAGRAM



LITHOLOGY

DEPTH (ft.)	ELEVATION	BLOWS/6 in.	HSO (ppm)	RECOVERY (in.)	SAMPLES	GRAPHIC LOG	DESCRIPTION
20		7					~~coarse sand and gravel; brown; little~~ clay; wet
		7					- little course foundry sand; odor
		5					
		4		4			- brown clay and fine sand
		4					
		3		21			
		3					- course sand and gravel
		4					CLAY AND SILT; brown; trace of gravel
		2					
25	695.8	3		0			
		1					
		1					
		2					
		1		1			
		1					
		3					SAND (course) AND GRAVEL
		2					
		7		23			
		23					
		33					
30	690.8	48					- gray silty clay; moist
		12					- course sand and gravel; gray; wet
		25					
		34					
		55					
		3					
							Boring terminated at 33.0 feet
35	685.8						
40	680.8						

▽ - initial ground-water level
▼ - stabilized ground-water level

TOTAL DEPTH (Ft.): *33.0*
DATE STARTED: *05/19/98*
DATE FINISHED: *05/19/98*
GEOLOGIST: *Mark E. Berkich*
PROJECT NO: *0279.44.07*

GS ELEVATION (MSL): *720.8*
TOP OF CASING (MSL): *722.89*
WELL DEVELOPED: *05/19/98*

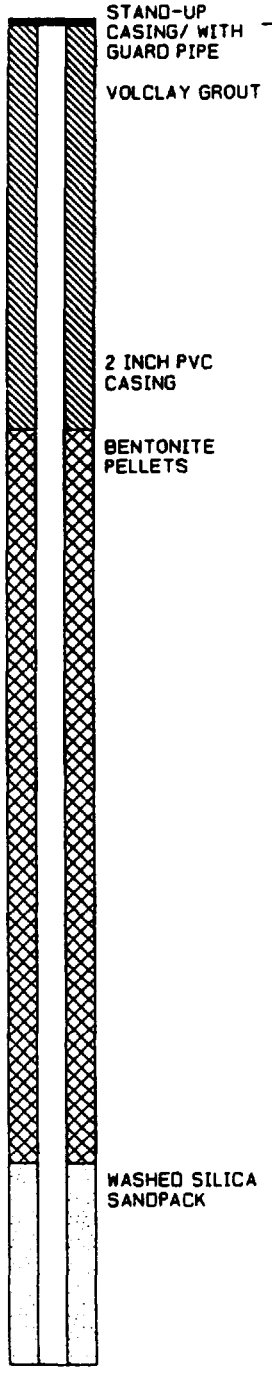
DATE PRINTED: *06/25/1998*

The Payne Firm, Inc.
Environmental Consultants
Cincinnati, Ohio

LOG OF BORING MW-206

COOLIDGE, WALL, WOMSLEY & LOMBARD
Grillot/Moraine, Ohio

WELL DIAGRAM



DEPTH (ft.)	ELEVATION	BLOWS/6 in.	HSO (ppm)	RECOVERY (in.)	SAMPLES	GRAPHIC LOG	DESCRIPTION
0							CLAY AND SILT; brown; moist; some fine sand
		5		18			
		8					- some fine gravel; light brown; wet
5		18					
		25					
		7		20			- mottled brown gray; wet
		13					
		12					- grades coarse sand and gravel; light brown; wet
		15					
		16		22			SAND AND GRAVEL; coarse sand; light brown; wet
		12					
		10					
		10					
10		13		24			SAND; coarse; little silt; light brown; wet
		11					- grades to silt; light brown; changing to gray; very moist
		19					
		36					
		2		24			
		4					- medium grained; little silt and clay
		6					- grades to fine sand and silt; light brown; wet
		15					
		2		24			
		15					- medium sand; little silt; light brown to gray; wet
15		26					
		16					
		7		24			SAND AND SILT; fine grained sand; trace of clay; light gray; moist
		15					
		32					
		26					
		7		20			- light gray; wet
		15					
		19					
20		27					

LITHOLOGY

▽ - initial ground-water level
▼ - stabilized ground-water level

TOTAL DEPTH (Ft.): *33.0*
DATE STARTED: *02/11/99*
DATE FINISHED: *02/11/99*
GEOLOGIST: *Mark E. Berkich*
PROJECT NO: *0279.44.05*

GS ELEVATION (MSL):
TOP OF CASING (MSL):
WELL DEVELOPED:

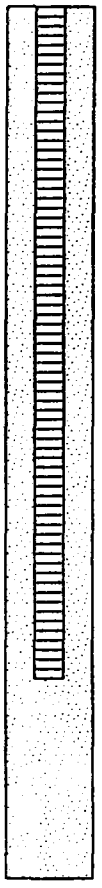
DATE PRINTED: *03/03/1999*

The Payne Firm, Inc.
Environmental Consultants
Cincinnati, Ohio

LOG OF BORING MW-206

COOLIDGE, WALL, WOMSLEY & LOMBARD
Grillot/Moraine, Ohio

WELL DIAGRAM



DEPTH (ft.)	ELEVATION	BLOWS/6 in.	HSO (ppm)	RECOVERY (in.)	SAMPLES	GRAPHIC LOG	DESCRIPTION
20		6		20			- light brown; moist
		12					- 3 inches of silt; light brown; moist
		24					- medium grained sand; light brown
		28					
		3		24			SAND; medium grained; grades to coarse; light brown; wet
		3					
		9					
		22					
		15		24			- fine and coarse sand; light brown; wet
25		18					
		28					
		26					
		15		24			
		26					
		36					
		34					
30							
35							
40							

Boring terminated at 33.0 feet

LITHOLOGY

▽ - initial ground-water level
▼ - stabilized ground-water level

TOTAL DEPTH (Ft.): *33.0*
DATE STARTED: *02/11/99*
DATE FINISHED: *02/11/99*
GEOLOGIST: *Mark E. Berkich*
PROJECT NO: *0279.44.05*

GS ELEVATION (MSL):
TOP OF CASING (MSL):
WELL DEVELOPED:

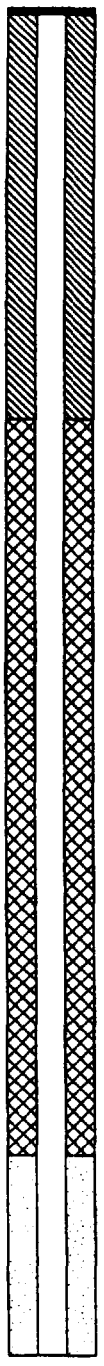
DATE PRINTED: *03/03/1999*

The Payne Firm, Inc.
Environmental Consultants
Cincinnati, Ohio

LOG OF BORING MW-207

COOLIDGE, WALL, WOMSLEY & LOMBARD
Grillot/Moraine, Ohio

WELL DIAGRAM



DEPTH (ft.)	ELEVATION	BLOWS/6 in.	HSO (ppm)	RECOVERY (in.)	SAMPLES	GRAPHIC LOG	LITHOLOGY DESCRIPTION
0							CLAY AND SILT; dark brown; moist
		7		8			SAND; coarse; some fine gravel; trace of silt; light brown; wet
		13					
5		13					
		21					
		20		11			SAND AND GRAVEL; coarse sand; light brown; trace of silt; wet
		20					
		50/3					
		8		24			- gray; moist to wet
		27					
		27					- grades yellow orange
		24					
10		10		24			SAND; mecdium; some silt; trace of fine gravel; light brown; wet
		15					
		11					
		15					- no samples taken from 12.0 - 18.0 feet
15							
		10		24			- coarse sand; little coarse gravel; light brown; wet
		14					
		18					
20		25					

▽ - initial ground-water level
▼ - stabilized ground-water level

TOTAL DEPTH (Ft.): *34.0*
DATE STARTED: *02/11/99*
DATE FINISHED: *02/11/99*
GEOLOGIST: *Mark E. Berkich*
PROJECT NO: *0279.44.05*

GS ELEVATION (MSL):
TOP OF CASING (MSL):
WELL DEVELOPED:

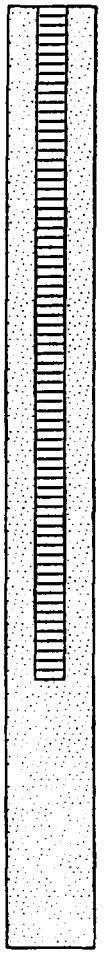
DATE PRINTED: *03/03/1999*

The Payne Firm, Inc.
Environmental Consultants
Cincinnati, Ohio

LOG OF BORING MW-207

COOLIDGE, WALL, WOMSLEY & LOMBARD
Grillot/Moraine, Ohio

WELL DIAGRAM



DEPTH (ft.)	ELEVATION	BLOWS/6 in.	HSO (ppm)	RECOVERY (in.)	SAMPLES	GRAPHIC LOG	DESCRIPTION
20							~~- no samples taken from 20.0 - 24.0~~ feet
		20		24			- medium sand; light brown; wet
25		2					
		5					
		17					
		10		24			- grading to coarse sand and fine grained gravel
		6					
		7					
30		17					
35							Boring terminated at 34.0 feet
40							

LITHOLOGY

▽ - initial ground-water level
▼ - stabilized ground-water level

TOTAL DEPTH (Ft.): *34.0*
DATE STARTED: *02/11/99*
DATE FINISHED: *02/11/99*
GEOLOGIST: *Mark E. Berkich*
PROJECT NO: *0279.44.05*

GS ELEVATION (MSL):
TOP OF CASING (MSL):
WELL DEVELOPED:

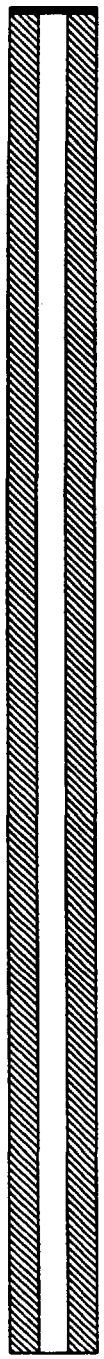
DATE PRINTED: *03/03/1999*

The Payne Firm, Inc.
Environmental Consultants
Cincinnati, Ohio

LOG OF BORING MW-208

COOLIDGE, WALL, WOMSLEY & LOMBARD
Grillot/Moraine, Ohio

WELL DIAGRAM



DEPTH (ft.)	ELEVATION	BLOWS/6 in.	HSO (ppm)	RECOVERY (in.)	SAMPLES	GRAPHIC LOG	DESCRIPTION
0							SILTY SAND; red brick; some cobbles; moist (FILL)
5							
		4		14			- silt and sand; brown; glass fragments
		8					- grades to light brown; rock fragments; moist
		10					
		18					
		50/1		2			- brown
10							
		13		10			SAND; medium; little coarse gravel; light brown; moist
		27					
		27					
		35					
		10		13			SILT AND SAND; brown
		25					
		44					
		50					
		7		14			SAND (medium) AND GRAVEL (coarse); light brown; moist
		25					
15		45					
		50/5					
		22		14			
		32					
		50/5					
		25		20			
		30					
		34					
20		33					

LITHOLOGY

▽ - initial ground-water level
▼ - stabilized ground-water level

TOTAL DEPTH (Ft.): *43.0*
DATE STARTED: *02/09/99*
DATE FINISHED: *02/09/99*
GEOLOGIST: *Mark E. Berkich*
PROJECT NO: *0279.44.05*

GS ELEVATION (MSL):
TOP OF CASING (MSL):
WELL DEVELOPED:

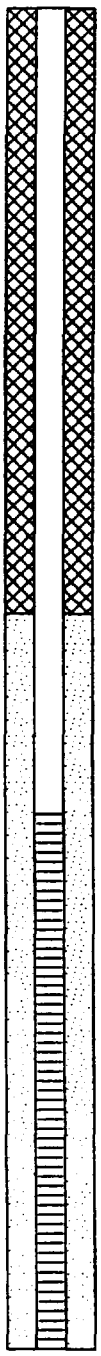
DATE PRINTED: *03/04/1999*

The Payne Firm, Inc.
Environmental Consultants
Cincinnati, Ohio

LOG OF BORING MW-208

COOLIDGE, WALL, WOMSLEY & LOMBARD
Grillot/Moraine, Ohio

WELL DIAGRAM



DEPTH (ft.)	ELEVATION	BLOWS/6 in.	HSO (ppm)	RECOVERY (in.)	SAMPLES	GRAPHIC LOG	LITHOLOGY DESCRIPTION
20		11		17			
		19					
		16					- coarse sand; light brown; wet
		25					
		24		12			
		26					
		50/4					
		8		13			- medium sand and fine gravel; light brown; wet
		7					
25		5					
		6					
		6		24			- grades fine sand; light brown; wet
		6					
		10					
		12					
		16		24			SAND; fine grained; little silt; light brown; wet
		14					
		17					
		18					
30		6		24			
		20					
		19					
		18					
		12		24			- trace of coarse gravel and silt; wet
		16					
		23					
		19					
		7		24			
		40					
35		50/5					
		5		24			- trace of silt
		20					
		30					
		32					
		5		24			
		27					
		50/5					SAND (coarse) AND GRAVEL (fine); gray; wet
		33					
40							

▽ - initial ground-water level
▼ - stabilized ground-water level

TOTAL DEPTH (Ft.): *43.0*
DATE STARTED: *02/09/99*
DATE FINISHED: *02/09/99*
GEOLOGIST: *Mark E. Berkich*
PROJECT NO: *0279.44.05*

GS ELEVATION (MSL):
TOP OF CASING (MSL):
WELL DEVELOPED:

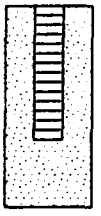
DATE PRINTED: *03/04/1999*

The Payne Firm, Inc.
Environmental Consultants
Cincinnati, Ohio

LOG OF BORING MW-208

COOLIDGE, WALL, WOMSLEY & LOMBARD
Grillot/Moraine, Ohio

WELL DIAGRAM



DEPTH (ft.)	ELEVATION	BLOWS/6 in.	HSO (ppm)	RECOVERY (in.)	SAMPLES	GRAPHIC LOG	LITHOLOGY DESCRIPTION
40		50/3		24			SAND; fine grained; light brown;
							Boring terminated at 43.0 feet
45							
50							
55							
60							

▽ - initial ground-water level
▼ - stabilized ground-water level

TOTAL DEPTH (Ft.): *43.0*
DATE STARTED: *02/09/99*
DATE FINISHED: *02/09/99*
GEOLOGIST: *Mark E. Berkich*
PROJECT NO: *0279.44.05*

GS ELEVATION (MSL):
TOP OF CASING (MSL):
WELL DEVELOPED:

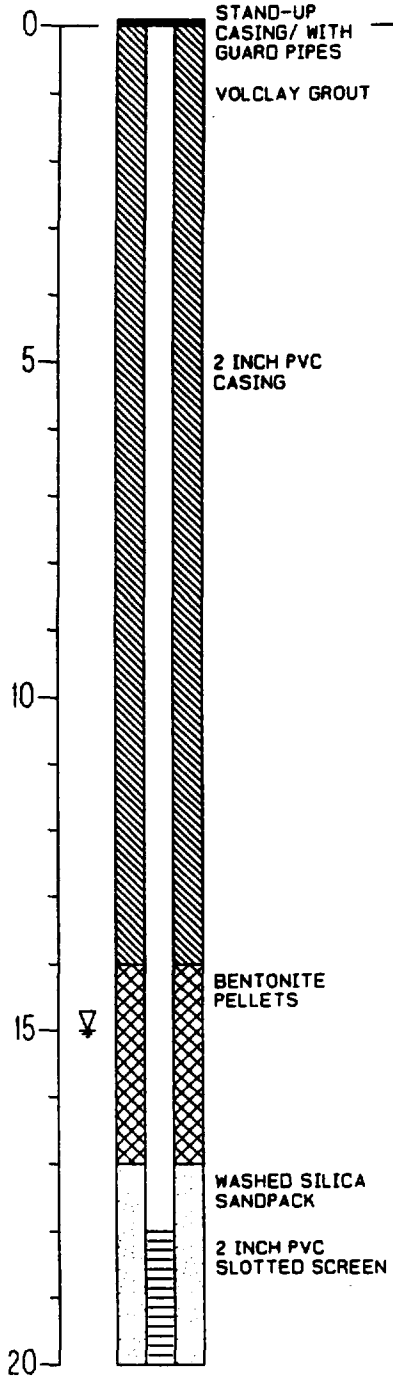
DATE PRINTED: *03/04/1999*

The Payne Firm, Inc.
Environmental Consultants
Cincinnati, Ohio

LOG OF BORING MW-209

COOLIDGE, WALL, WOMSLEY & LOMBARD
Grillot/Moraine, Ohio

WELL DIAGRAM



ELEVATION	BLOWS/6 in.	HSO (ppm)	RECOVERY (in.)	SAMPLES	GRAPHIC LOG	LITHOLOGY DESCRIPTION
						CLAY AND SILT; brown; very moist
	15		13			- sand (fine) and silt; some clay; trace of rock and red brick fragments; brown; moist
	4					
	6					
	13					
	7		12			- grades to brown clay; rock fragments; moist
	6					
	7					
	8					
	4		14			- silty sand; some fine gravel; trace of red brick fragments; brown; moist
	2					
	2					
	4					
	7		12			- silty sand, red brick and black asphalt; moist
	30					
	9					
	14					
	3		0			NO RECOVERY
	3					
	7					
	7					
	1		24			SAND (FINE) AND SILT; trace of clay; gray
	2					- wet
	2					
	1					
	7		13			SAND (coarse) AND GRAVEL; gray; wet
	12					
	17					
	30					
	50/5/2		6			

▽ - initial ground-water level
▼ - stabilized ground-water level

TOTAL DEPTH (Ft.): *26.0*
DATE STARTED: *02/15/99*
DATE FINISHED: *02/15/99*
GEOLOGIST: *Mark E. Berkich*
PROJECT NO: *0279.44.05*

GS ELEVATION (MSL):
TOP OF CASING (MSL):
WELL DEVELOPED:

DATE PRINTED: *03/03/1999*

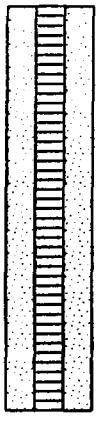
The Payne Firm, Inc.
Environmental Consultants
Cincinnati, Ohio

LOG OF BORING MW-209

COOLIDGE, WALL, WOMSLEY & LOMBARD

Grillot/Moraine, Ohio

WELL DIAGRAM



DEPTH (ft.)	ELEVATION	BLOWS/6 in.	HSO (ppm)	RECOVERY (in.)	SAMPLES	GRAPHIC LOG	LITHOLOGY DESCRIPTION
20		50/2		5			
		7		20			- light gray - some silt
		6					
		12					
		27					
		17		24			- light gray; wet
		15					
25		24					
		24					

Boring terminated at 26.0 feet

30

35

40

▼ - initial ground-water level
▼ - stabilized ground-water level

TOTAL DEPTH (Ft.): *26.0*
DATE STARTED: *02/15/99*
DATE FINISHED: *02/15/99*
GEOLOGIST: *Mark E. Berkich*
PROJECT NO: *0279.44.05*

GS ELEVATION (MSL):
TOP OF CASING (MSL):
WELL DEVELOPED:

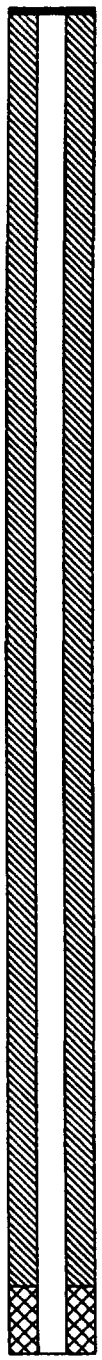
DATE PRINTED: *03/03/1999*

The Payne Firm, Inc.
Environmental Consultants
Cincinnati, Ohio

LOG OF BORING MW-210

COOLIDGE, WALL, WOMSLEY & LOMBARD
Grillot/Moraine, Ohio

WELL DIAGRAM



DEPTH (ft.)	ELEVATION	BLOWS/6 in.	HSO (ppm)	RECOVERY (in.)	SAMPLES	GRAPHIC LOG	DESCRIPTION
0							FILL MATERIAL
5							
		2		1			- sand and gravel; brown; dry
		3					- gray clay on tip
		3					
		7					
		3		8			- black slag; dry
		10					CLAY AND SAND; dark brown
		19					
		25					
10		5		10			SAND AND GRAVEL; brown; rock fragments
		15					
		13					
		7					
		9		15			
		23					
		19					
		19					
		23		16			
		21					
15		20					- light brown; rock fragments; dry
		15					
		12		14			
		17					
		12					
		11					
		11					NO RECOVERY
		30					
		35					
20		35					

LITHOLOGY

▽ - initial ground-water level
▼ - stabilized ground-water level

TOTAL DEPTH (Ft.): *36.5*
DATE STARTED: *02/08/99*
DATE FINISHED: *02/08/99*
GEOLOGIST: *Mark E. Berkich*
PROJECT NO: *0279.44.05*

GS ELEVATION (MSL):
TOP OF CASING (MSL):
WELL DEVELOPED:

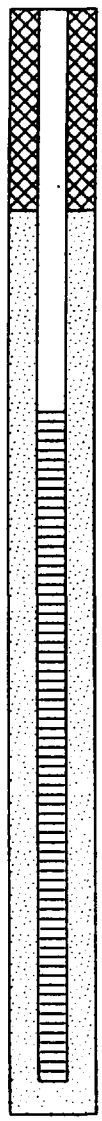
DATE PRINTED: *03/03/1999*

The Payne Firm, Inc.
Environmental Consultants
Cincinnati, Ohio

LOG OF BORING MW-210

COOLIDGE, WALL, WOMSLEY & LOMBARD
Grillot/Moraine, Ohio

WELL DIAGRAM



LITHOLOGY

DEPTH (ft.)	ELEVATION	BLOWS/6 in.	HSO (ppm)	RECOVERY (in.)	SAMPLES	GRAPHIC LOG	DESCRIPTION
20		13		10			SAND (coarse) AND GRAVEL; grading to a medium to fine sand; brown; wet
		14					
		10					
		10					
		11		17			SAND; medium; brown; grades to coarse sand and gravel; wet
		18					
		37					
		28					
		15		18			SAND (coarse) AND GRAVEL; brown; wet
		10					
25		12					
		9					
		13		20			SAND; medium; some fine gravel; brown; wet
		14					
		17					
		9					
		12		12			
		50/1					
30		17		24			- rock fragments at bottom of spoon
		35					
		25					
		22					
		17		20			- fine sand; brown; grades coarse sand and gravel
		35					
		24					- medium sand; gray; some clay; wet
		24					
		22		18			- medium sand; brown; wet
		15					
35		35					TILL; gray; moist
		25					
		20					
40							Boring terminated at 36.5 feet

▽ - initial ground-water level
▼ - stabilized ground-water level

TOTAL DEPTH (Ft.): *36.5*
DATE STARTED: *02/08/99*
DATE FINISHED: *02/08/99*
GEOLOGIST: *Mark E. Berkich*
PROJECT NO: *0279.44.05*

GS ELEVATION (MSL):
TOP OF CASING (MSL):
WELL DEVELOPED:

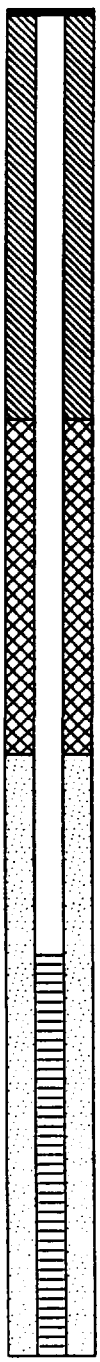
DATE PRINTED: *03/03/1999*

The Payne Firm, Inc.
Environmental Consultants
Cincinnati, Ohio

LOG OF BORING P-211

COOLIDGE, WALL, WOMSLEY & LOMBARD
Grillot/Moraine, Ohio

WELL DIAGRAM



LITHOLOGY

DEPTH (ft.)	ELEVATION	BLOWS/6 in.	HSO (ppm)	RECOVERY (in.)	SAMPLES	GRAPHIC LOG	DESCRIPTION
0							CLAY AND SILT; black; some gravel; moist (FILL)
		20		6			- black cinder, recd brick and fine gravel
		12					
5		16					
		13					
		5		2			CLAY AND SILT; light brown; wet
		2					- fine gravel; black
		2					
		2					
		1		8			- dark gray; roots; wet
		2					
		2					
		10					
10		5		10			SAND; some clay and fine gravel; dark gray; wet
		17					
		7					
		8					
		3		1			SAND (fine) AND SILT; dark gray; wet
		2					
		3					
		4					
		2		2			
		1					
15		2					
		8					
		5		12			- trace of fine gravel; light gray; wet
		7					
		10					
		13					
		14		18			SAND; fine; light gray; wet
		13					- grades to silt; trace of clay and fine gravel; moist
		17					
20		24					

▽ - initial ground-water level
▼ - stabilized ground-water level

TOTAL DEPTH (Ft.): *24.0*
DATE STARTED: *02/12/99*
DATE FINISHED: *02/12/99*
GEOLOGIST: *Mark E. Berkich*
PROJECT NO: *0279.44.05*

GS ELEVATION (MSL):
TOP OF CASING (MSL):
WELL DEVELOPED:

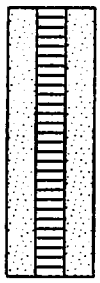
DATE PRINTED: *03/03/1999*

The Payne Firm, Inc.
Environmental Consultants
Cincinnati, Ohio

LOG OF BORING P-211

COOLIDGE, WALL, WOMSLEY & LOMBARD
Grillot/Moraine, Ohio

WELL DIAGRAM



DEPTH (ft.)	ELEVATION	BLOWS/6 in.	HSO (ppm)	RECOVERY (in.)	SAMPLES	GRAPHIC LOG	LITHOLOGY DESCRIPTION
20		18					SILT; trace of clay and fine gravel; light gray; moist
		28					
		24					
		40					
		18					SAND; fine; trace of silt and clay; light gray; wet (TILL)
		50/5					
							Boring terminated at 24.0 feet
25							
30							
35							
40							

▽ - initial ground-water level
▼ - stabilized ground-water level

TOTAL DEPTH (Ft.): *24.0*
DATE STARTED: *02/12/99*
DATE FINISHED: *02/12/99*
GEOLOGIST: *Mark E. Berkich*
PROJECT NO: *0279.44.05*

GS ELEVATION (MSL):
TOP OF CASING (MSL):
WELL DEVELOPED:

DATE PRINTED: *03/03/1999*

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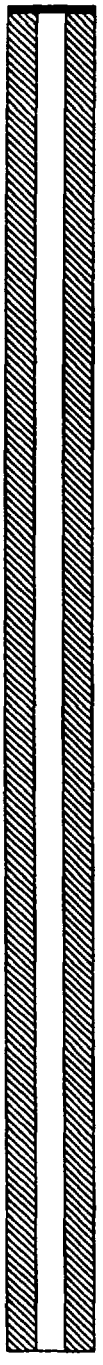
Cincinnati, Ohio

LOG OF BORING MW-212

COOLIDGE, WALL, WOMSLEY & LOMBARD
Grillot/Moraine, Ohio

WELL DIAGRAM



DEPTH (ft.)	ELEVATION	BLOWS/6 in.	HSO (ppm)	RECOVERY (in.)	SAMPLES	GRAPHIC LOG	LITHOLOGY DESCRIPTION
0							FILL MATERIAL
5							
		16		18			- silt and sand (fine); rock and wood fragments; black; moist
		7					
		11					
		10					
10		11		5			- black silt and brown fine sand; very moist
		9					
		4					
		1					
		1/24		10			- foundary sand; black; very moist
		50/5		12			- red brick fragments; very moist
15							
		11		4			- asphalt, wood fragments and red brick; moist
		10					
		7					
		6					
		16		9			- medium sand, gravel and wood fragments; black; wet
		12					
		6					
20		7					

▽ - initial ground-water level
▼ - stabilized ground-water level

TOTAL DEPTH (Ft.): *58.0*
DATE STARTED: *02/06/99*
DATE FINISHED: *02/06/99*
GEOLOGIST: *Mark E. Berkich*
PROJECT NO: *0279.44.05*

GS ELEVATION (MSL):
TOP OF CASING (MSL):
WELL DEVELOPED:

DATE PRINTED: *03/04/1999*

The Payne Firm, Inc.
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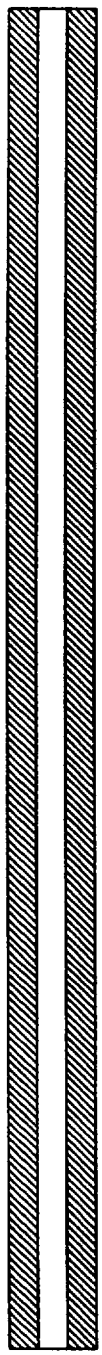
Cincinnati, Ohio

LOG OF BORING MW-212

COOLIDGE, WALL, WOMSLEY & LOMBARD

Grillot/Moraine, Ohio

WELL DIAGRAM



DEPTH (ft.)	ELEVATION	BLOWS/6 in.	HSO (ppm)	RECOVERY (in.)	SAMPLES	GRAPHIC LOG	LITHOLOGY DESCRIPTION
20		16		5			- medium sand and coarse gravel; cobbles and wood fragments; black; wet
		12					
		6					
		7					
		36		20			- coarse sand and gravel; foundary sand and wood fragments; wet
		50/5					- white/gray; chalk/paste; moist
		19		24			- coarse sand; some gravel; black wet
		13					
25		19					
		22					
		6		24			- white/gray chalk; moist
		13					
		14					
		24					
		8		24			- wet
		9					
		7					
		6					
30		19					
		24					
		38					
35		12		18			TILL; moist
		25					
		26					
		31					
		18		20			
		22					
		25					
40		30					

▽ - initial ground-water level
▼ - stabilized ground-water level

TOTAL DEPTH (Ft.): *58.0*
DATE STARTED: *02/06/99*
DATE FINISHED: *02/06/99*
GEOLOGIST: *Mark E. Berkich*
PROJECT NO: *0279.44.05*

GS ELEVATION (MSL):
TOP OF CASING (MSL):
WELL DEVELOPED:

DATE PRINTED: *03/04/1999*

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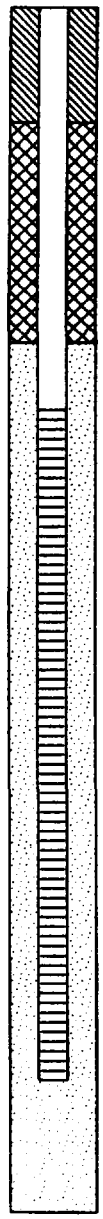
Cincinnati, Ohio

LOG OF BORING MW-212

COOLIDGE, WALL, WOMSLEY & LOMBARD
Grillot/Moraine, Ohio

WELL DIAGRAM



DEPTH (ft.)	ELEVATION	BLOWS/6 in.	HSO (ppm)	RECOVERY (in.)	SAMPLES	GRAPHIC LOG	LITHOLOGY DESCRIPTION
40		8		18			
		22					
		28					
		28					
		11		4			- wet
		34					
		50/4					
		2		17			- fine sand; light gray; wet
		2					
45		4					
		7					
		13		23			- sand; coarse grades fine; light gray; wet
		22					
		21					
		21					
		12		24			
		40					
		50/4					
50		27					
		50/5					
							No sample
		50		24			TILL; moist
		50/4					
55							
							Boring terminated at 58.0 feet
60							

▽ - initial ground-water level
▼ - stabilized ground-water level

TOTAL DEPTH (Ft.): *58.0*
DATE STARTED: *02/06/99*
DATE FINISHED: *02/06/99*
GEOLOGIST: *Mark E. Berkich*
PROJECT NO: *0279.44.05*

GS ELEVATION (MSL):
TOP OF CASING (MSL):
WELL DEVELOPED:

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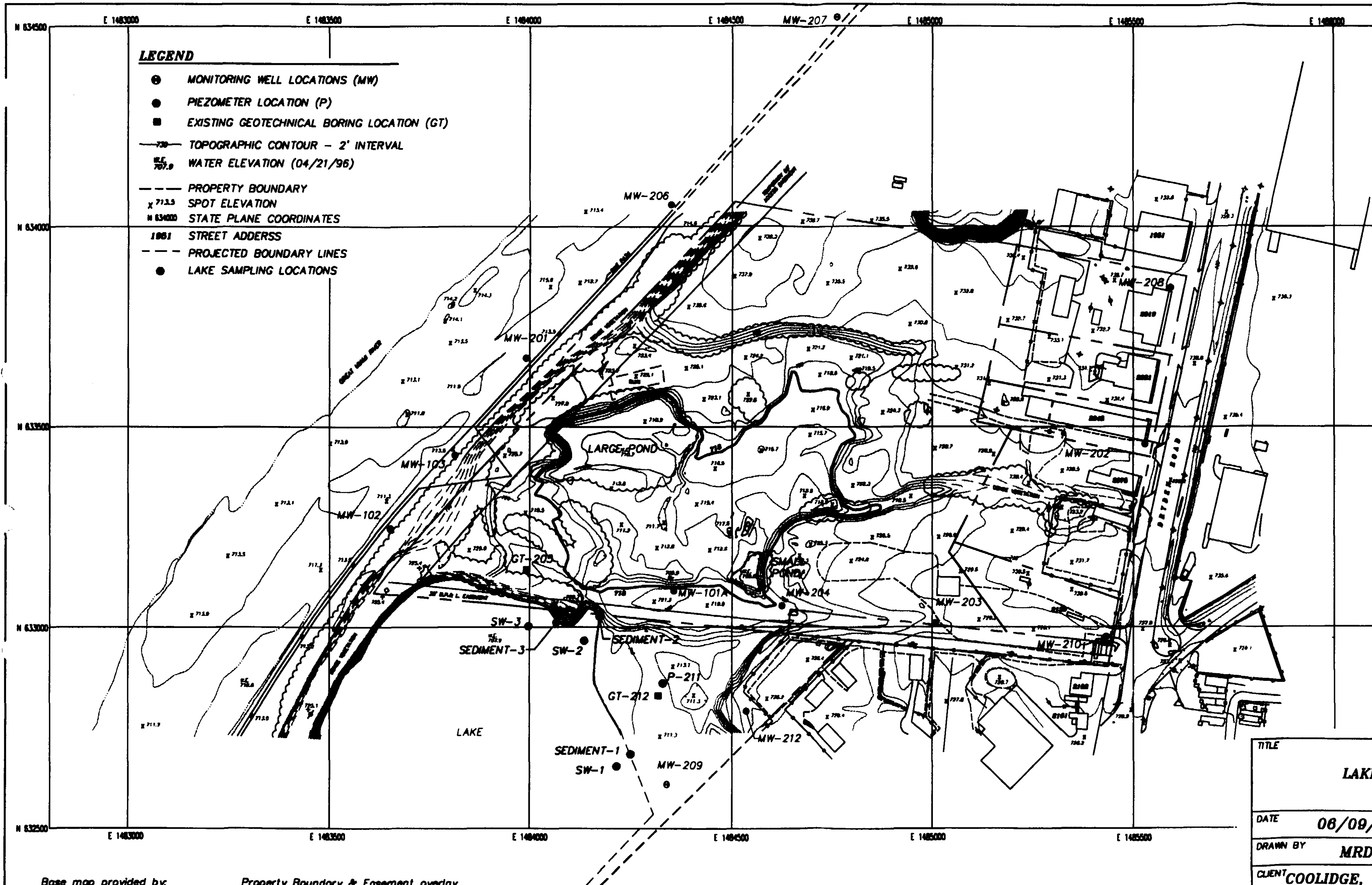
APPENDIX II

APPENDIX II

GROUND WATER FLOW MAPS



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APPROXIMATE SCALE: 1 INCH = 250 FEET

TITLE	LAKE SAMPLE LOCATIONS
DATE 06/09/99	FIGURE 1
DRAWN BY MRD	APPROVED BY MEB
CLIENT COOLIDGE, WALL, WOMSLEY & LOMBARD	
PROJECT NO. 0279.44.05	

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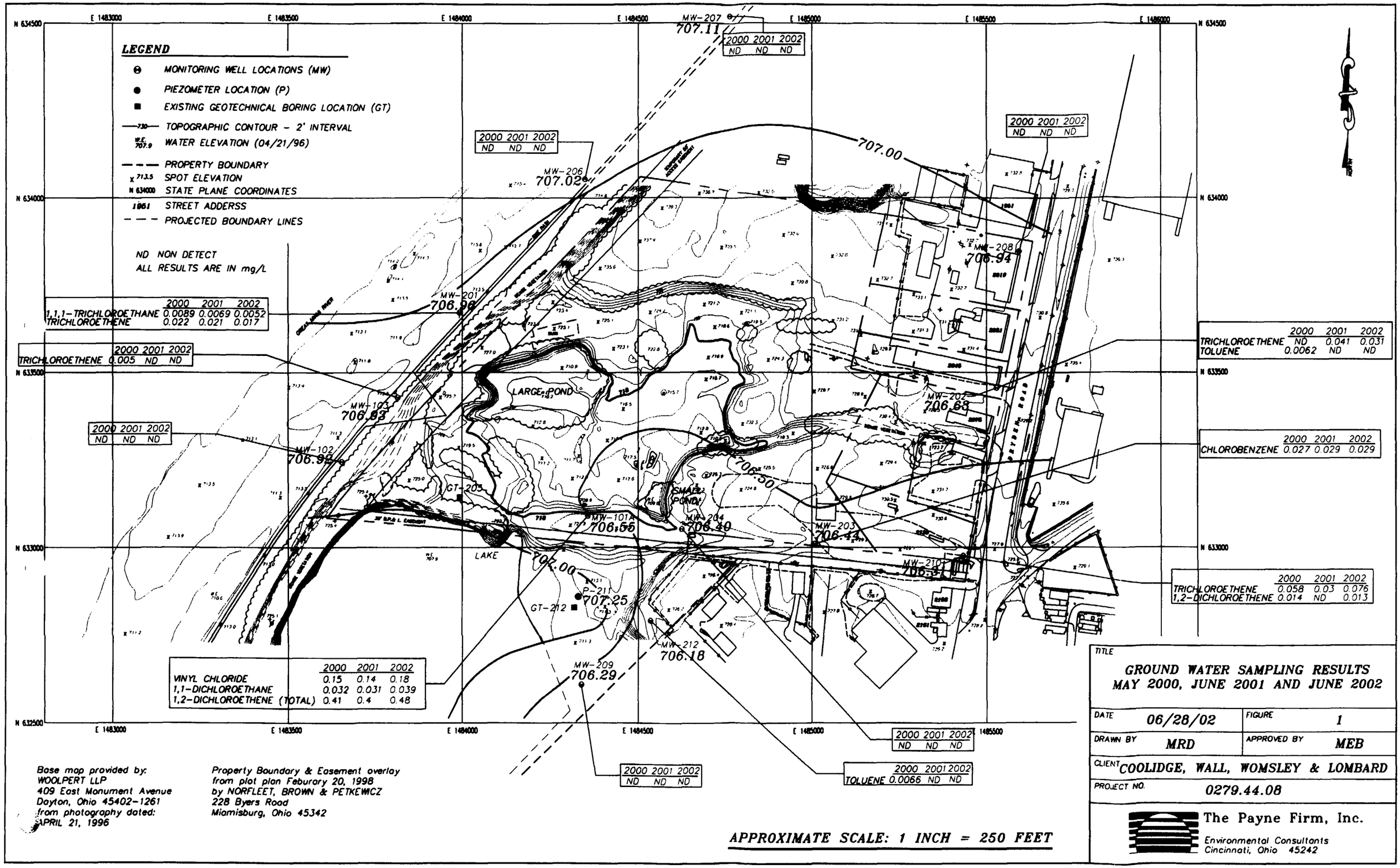

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APPROXIMATE SCALE: 1 INCH = 250 FEET

TITLE
GROUND WATER SAMPLING RESULTS MAY 2000, JUNE 2001 AND JUNE 2002

DATE	06/28/02	FIGURE	1
DRAWN BY	MRD	APPROVED BY	MEB
CLIENT	COOLIDGE, WALL, WOMSLEY & LOMBARD		
PROJECT NO.	0279.44.08		

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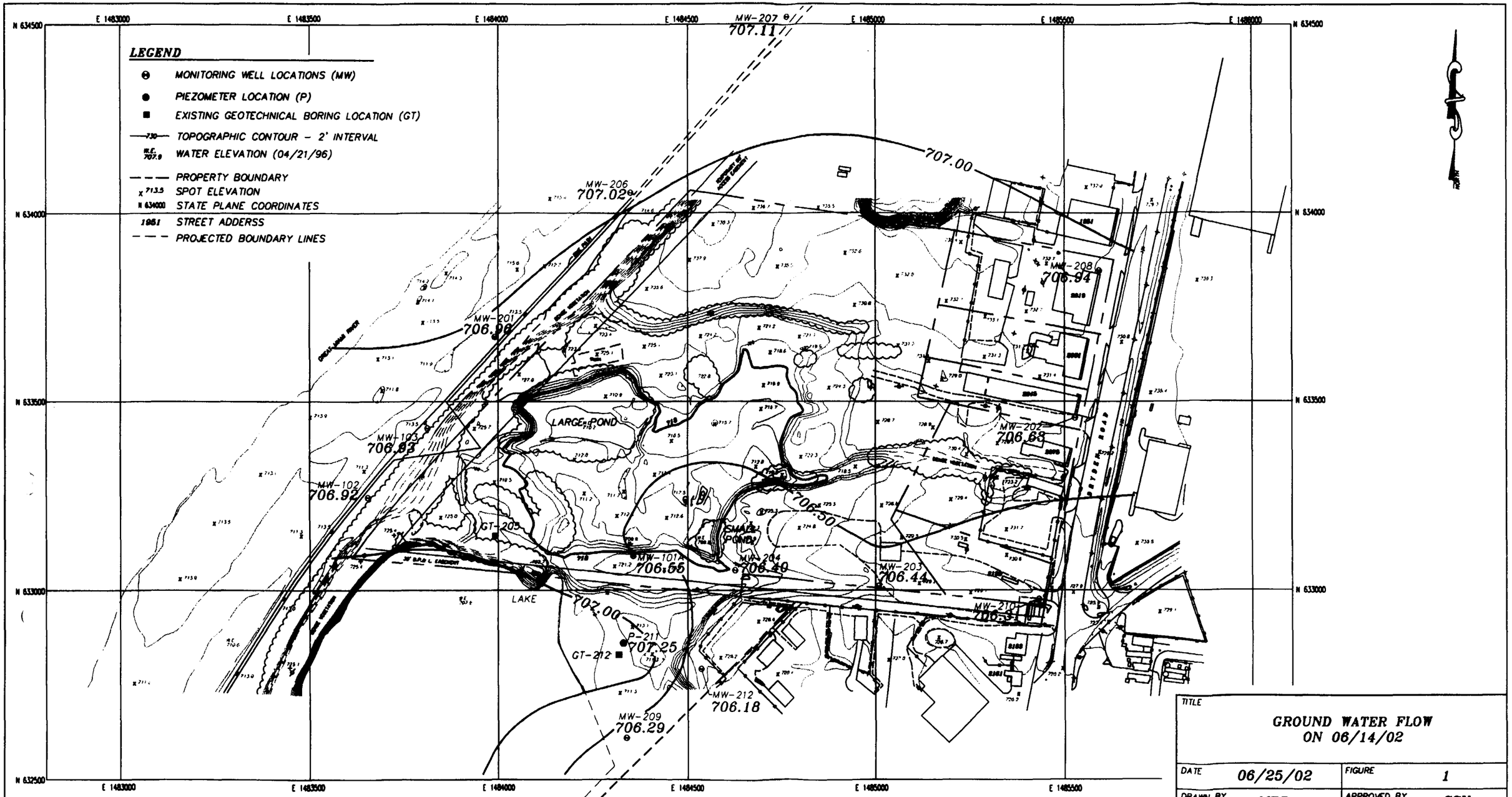

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APPROXIMATE SCALE: 1 INCH = 250 FEET

TITLE	GROUND WATER FLOW ON 06/14/02		
DATE	06/25/02	FIGURE	1
DRAWN BY	MRD	APPROVED BY	CSK
CLIENT	COOLIDGE, WALL, WOMSLEY & LOMBARD		
PROJECT NO.	0279.44.08		

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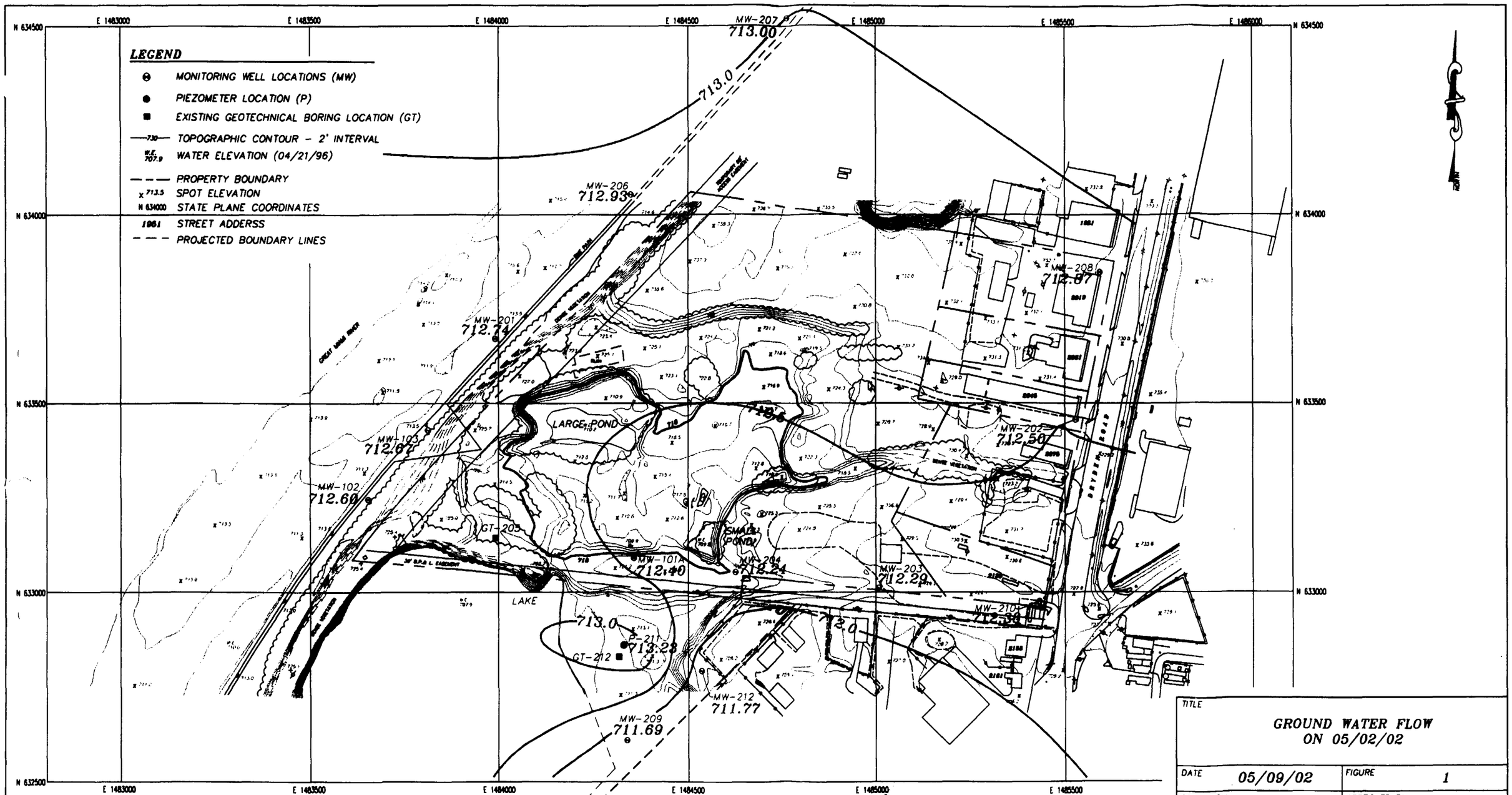

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APPROXIMATE SCALE: 1 INCH = 250 FEET

TITLE	GROUND WATER FLOW ON 05/02/02
DATE 05/09/02	FIGURE 1
DRAWN BY MRD	APPROVED BY CSK
CLIENT COOLIDGE, WALL, WOMSLEY & LOMBARD	
PROJECT NO. 0279.44.08	

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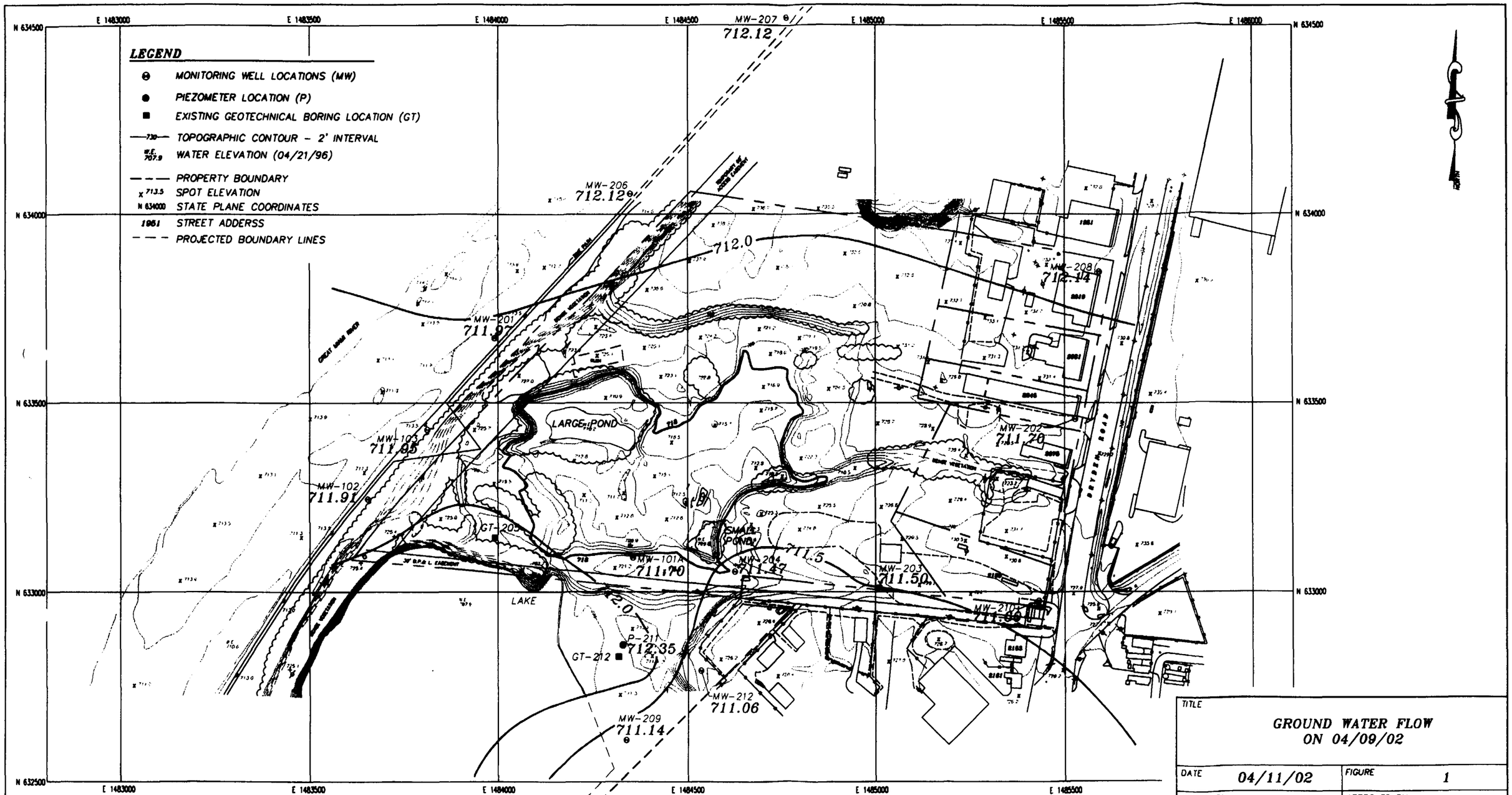

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APPROXIMATE SCALE: 1 INCH = 250 FEET

TITLE	GROUND WATER FLOW ON 04/09/02
DATE 04/11/02	FIGURE 1
DRAWN BY MRD	APPROVED BY CSK
CLIENT COOLIDGE, WALL, WOMSLEY & LOMBARD	
PROJECT NO. 0279.44.08	

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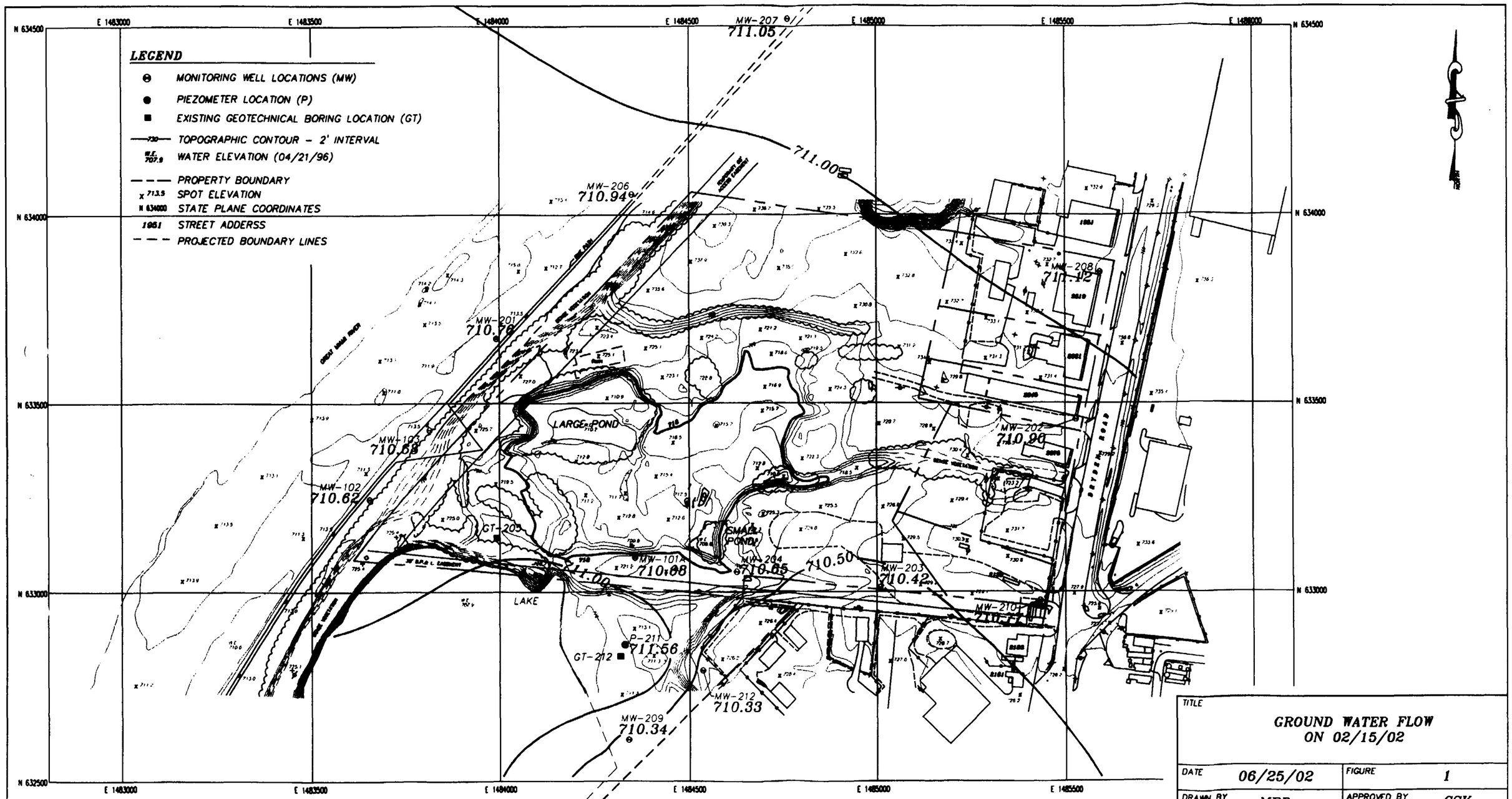

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APPROXIMATE SCALE: 1 INCH = 250 FEET

TITLE	GROUND WATER FLOW ON 02/15/02		
DATE	06/25/02	FIGURE	1
DRAWN BY	MRD	APPROVED BY	CSK
CLIENT	COOLIDGE, WALL, WOMSLEY & LOMBARD		
PROJECT NO.	0279.44.08		

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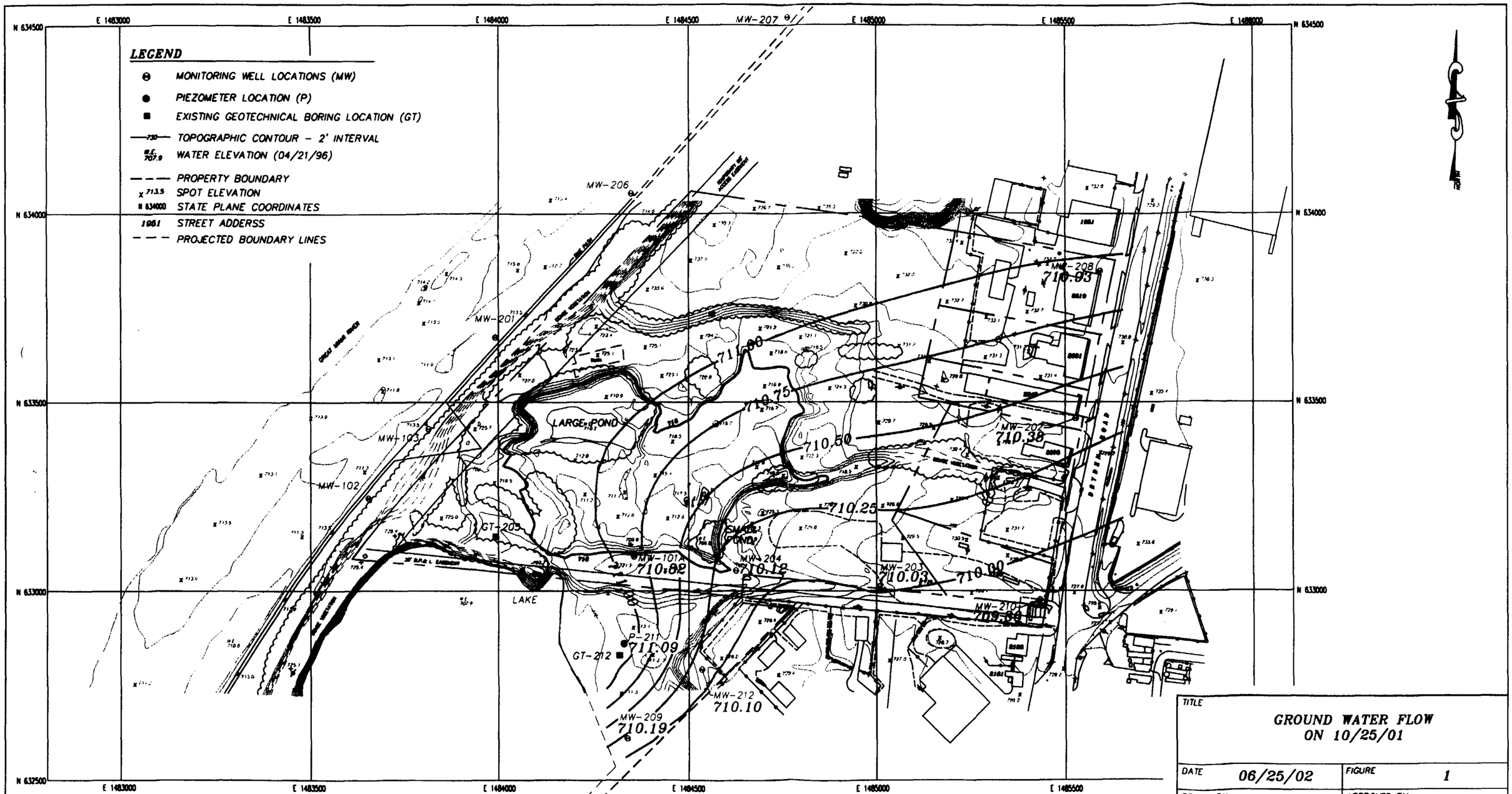

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APPROXIMATE SCALE: 1 INCH = 250 FEET

TITLE	GROUND WATER FLOW ON 10/25/01		
DATE	06/25/02	FIGURE	1
DRAWN BY	MRD	APPROVED BY	CSK
CLIENT	COOLIDGE, WALL, WOMSLEY & LOMBARD		
PROJECT NO.	0279.44.08		

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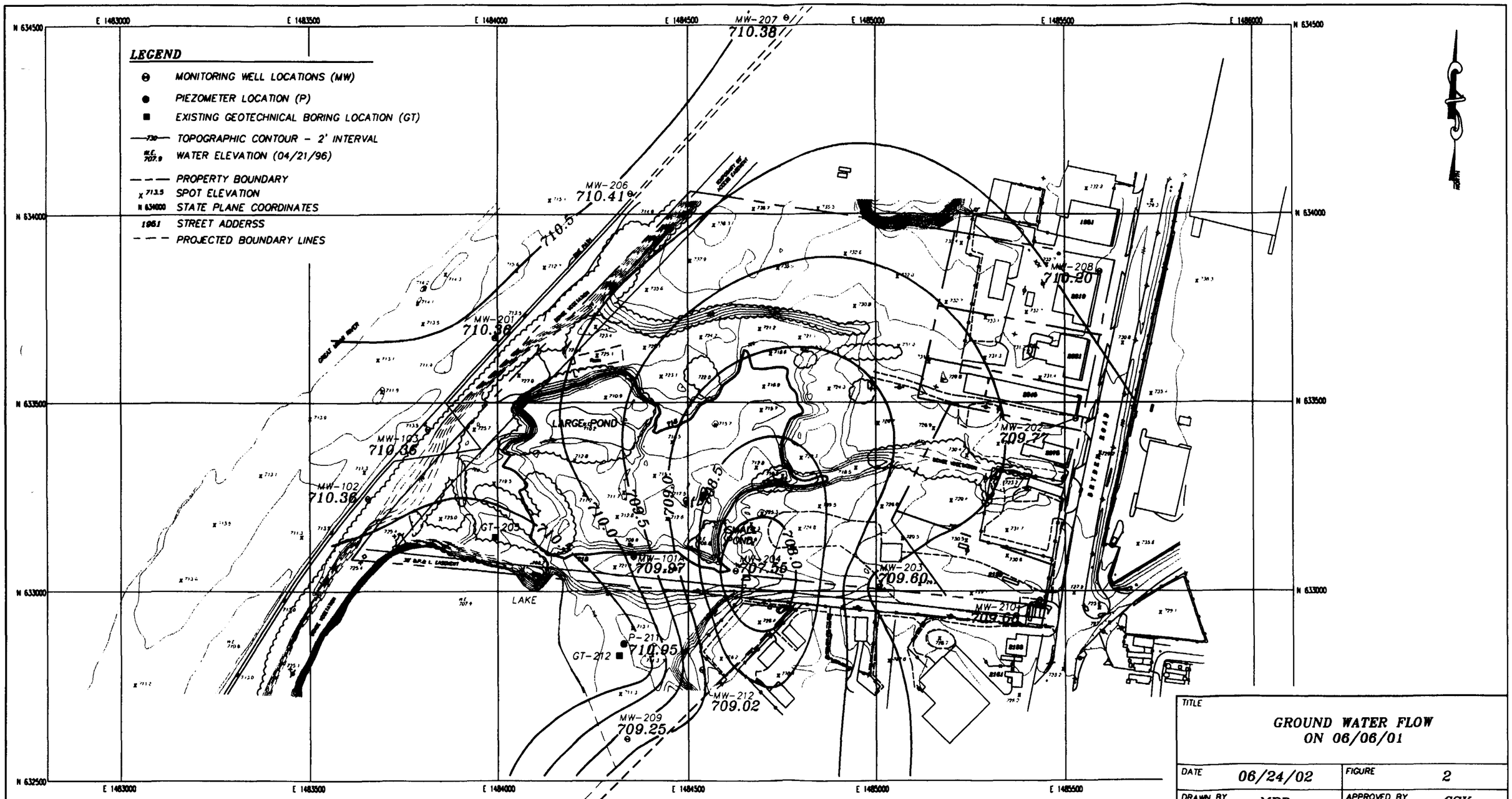

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NOTE: POND READINGS WERE DRY AND LAKE READING GAUGE WAS NOT READABLE.

APPROXIMATE SCALE: 1 INCH = 250 FEET

TITLE	GROUND WATER FLOW ON 06/06/01
DATE 06/24/02	FIGURE 2
DRAWN BY MRD	APPROVED BY CSK
CLIENT COOLIDGE, WALL, WOMSLEY & LOMBARD	
PROJECT NO. 0279.44.08	

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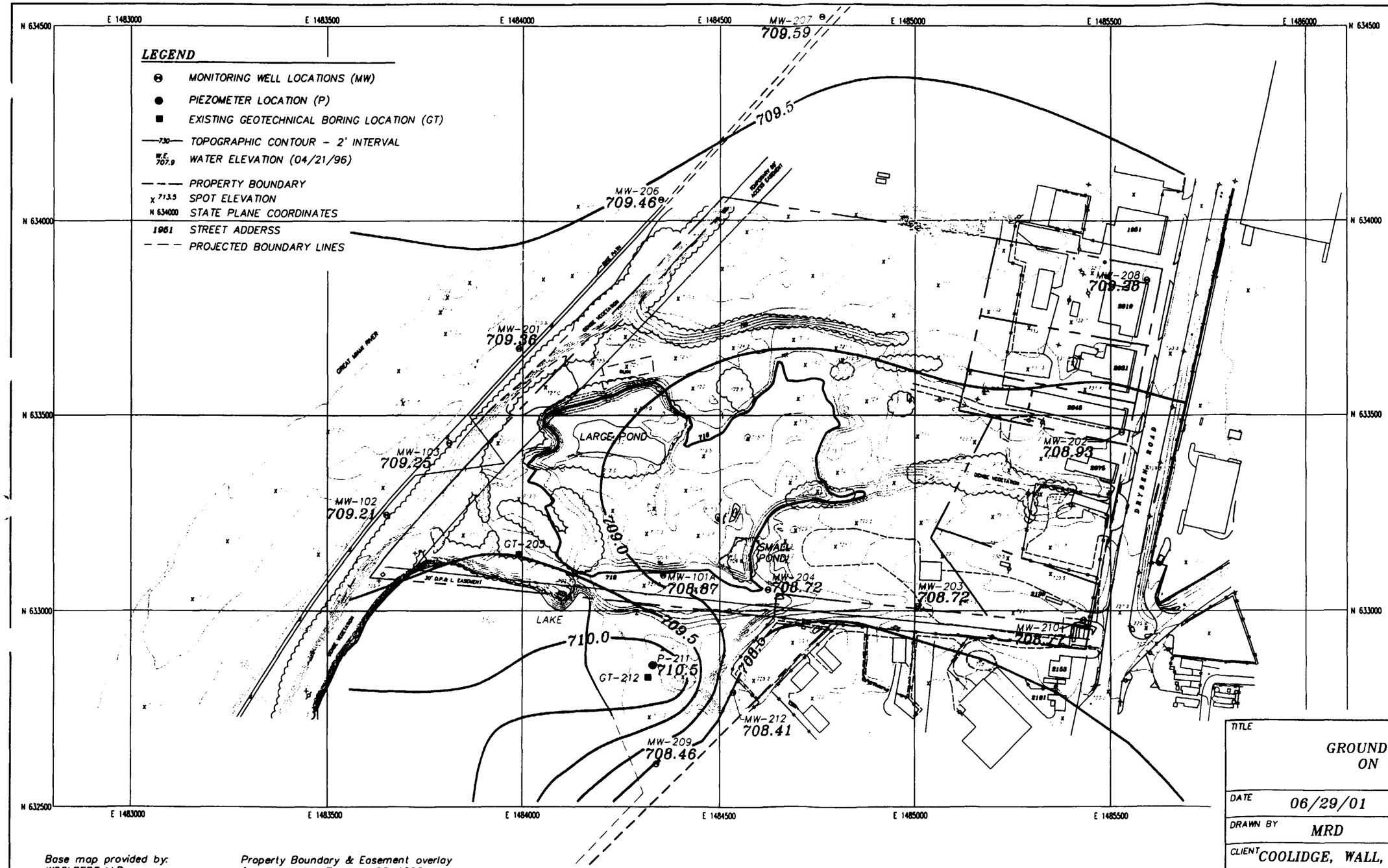

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APPROXIMATE SCALE: 1 INCH = 250 FEET

TITLE	GROUND WATER FLOW ON 02/06/01
DATE 06/29/01	FIGURE 1
DRAWN BY MRD	APPROVED BY MEB
CLIENT COOLIDGE, WALL, WOMSLEY & LOMBARD	
PROJECT NO. 0279.44.05	

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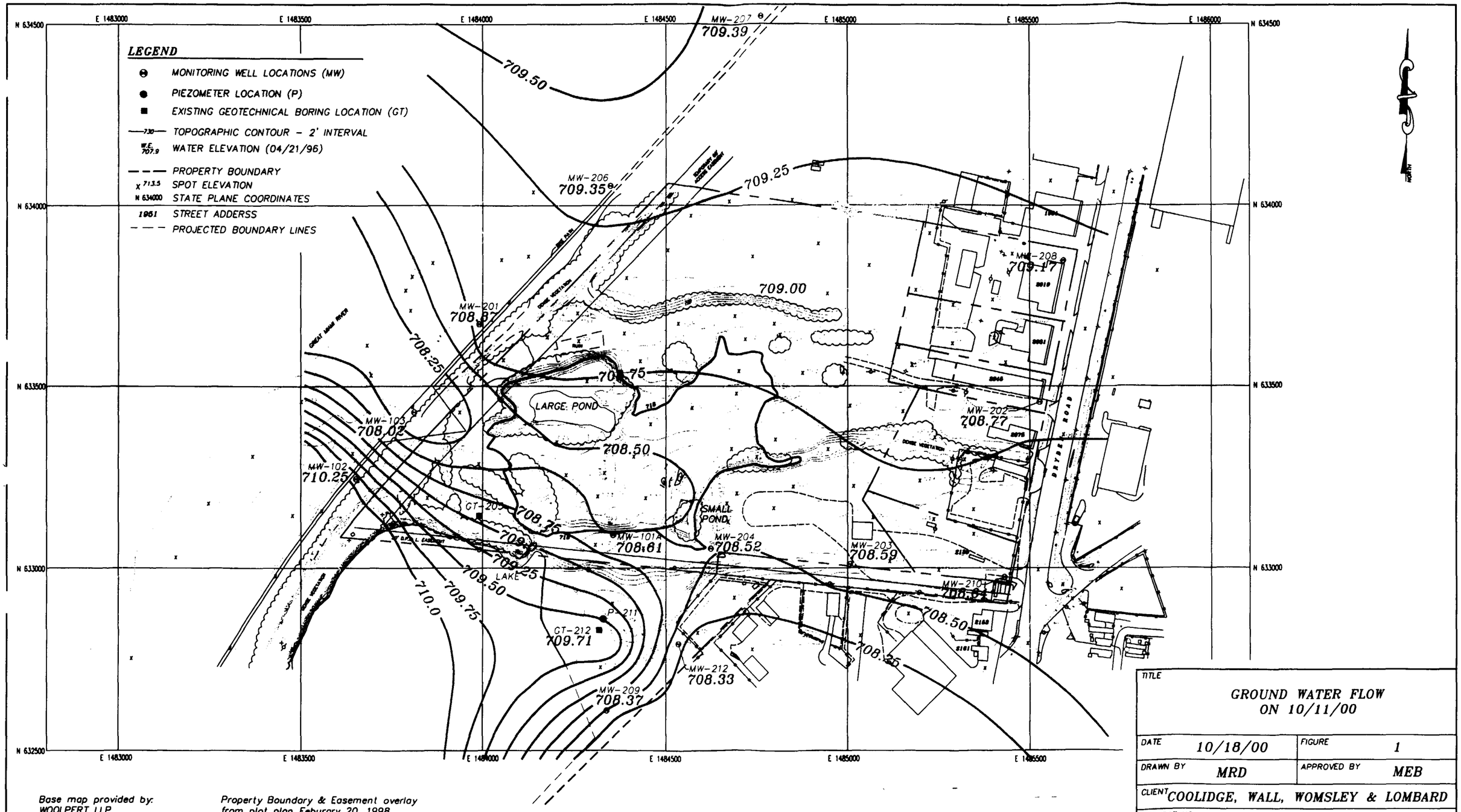

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APPROXIMATE SCALE: 1 INCH = 250 FEET

TITLE	GROUND WATER FLOW ON 10/11/00
DATE 10/18/00	FIGURE 1
DRAWN BY MRD	APPROVED BY MEB
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PROJECT NO. 0279.44.08	

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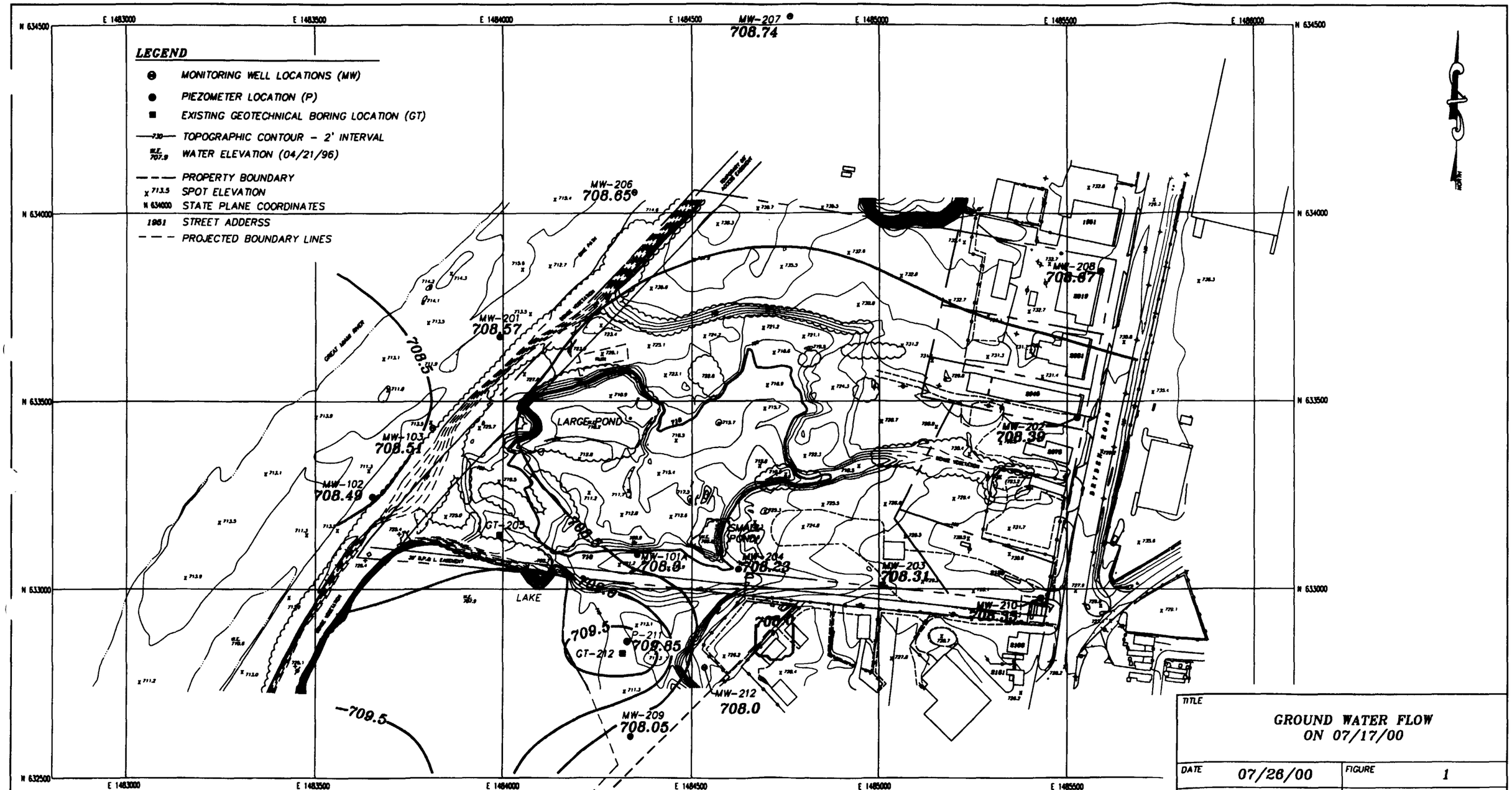

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APPROXIMATE SCALE: 1 INCH = 250 FEET

TITLE	GROUND WATER FLOW ON 07/17/00
DATE 07/26/00	FIGURE 1
DRAWN BY MRD	APPROVED BY MEB
CLIENT COOLIDGE, WALL, WOMSLEY & LOMBARD	
PROJECT NO. 0279.44.05	

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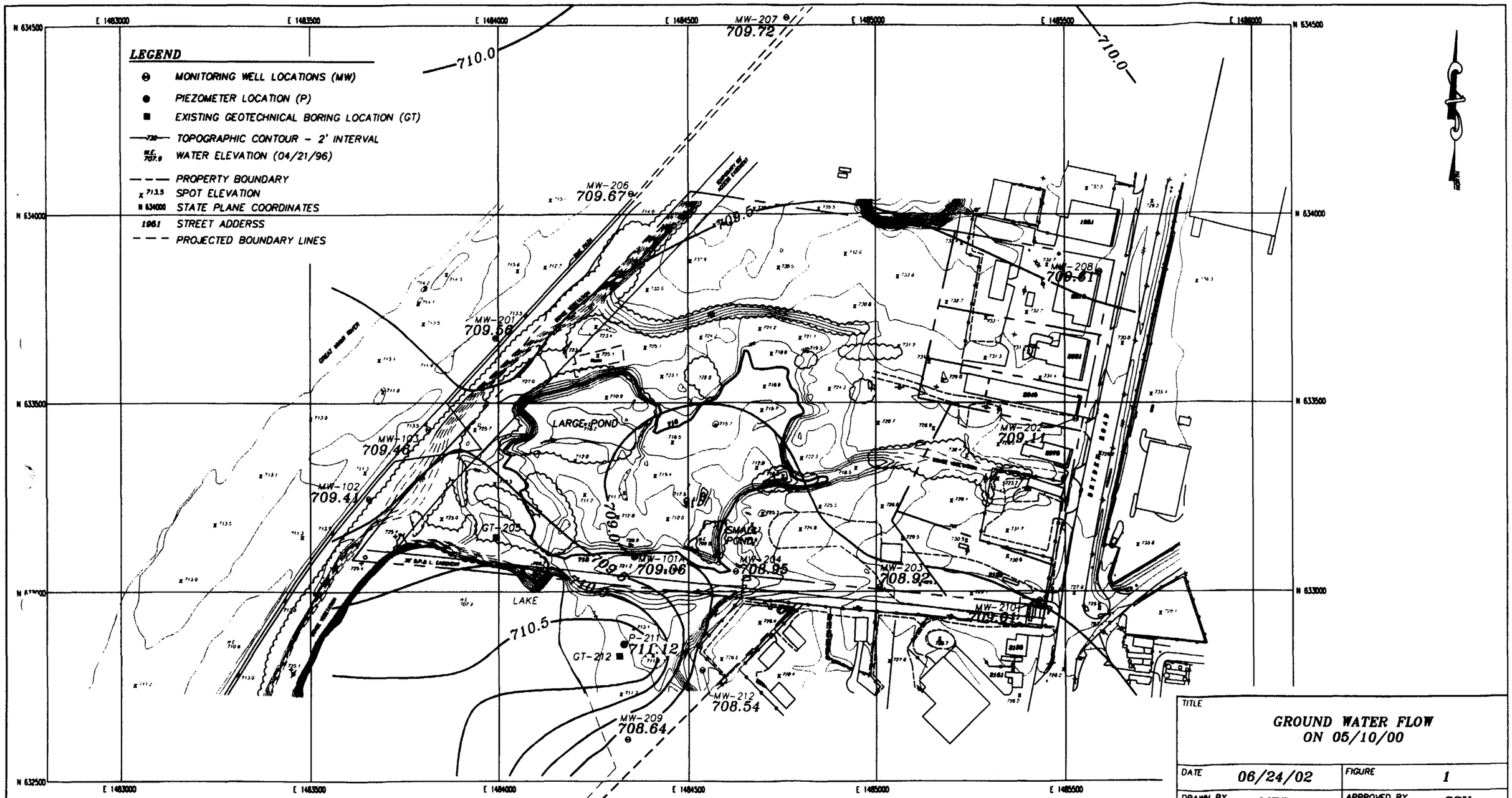

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NOTE: POND READINGS WERE DRY AND LAKE READING GAUGE WAS NOT READABLE.

APPROXIMATE SCALE: 1 INCH = 250 FEET

TITLE	GROUND WATER FLOW ON 05/10/00
DATE 06/24/02	FIGURE 1
DRAWN BY MRD	APPROVED BY CSK
CLIENT COOLIDGE, WALL, WOMSLEY & LOMBARD	
PROJECT NO. 0279.44.08	

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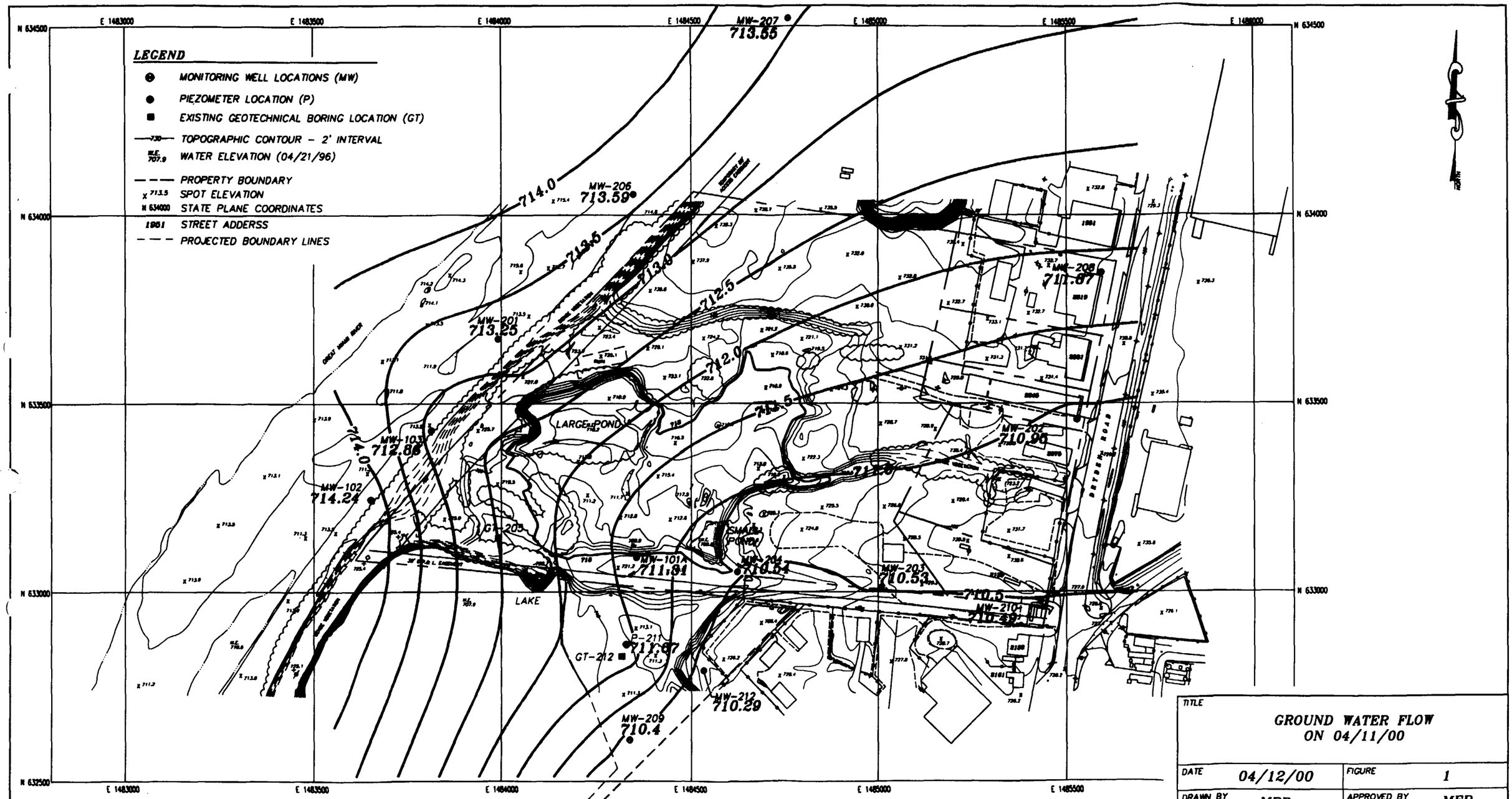

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APPROXIMATE SCALE: 1 INCH = 250 FEET

TITLE	GROUND WATER FLOW ON 04/11/00
DATE 04/12/00	FIGURE 1
DRAWN BY MRD	APPROVED BY MEB
CLIENT COOLIDGE, WALL, WOMSLEY & LOMBARD	
PROJECT NO. 0279.44.05	

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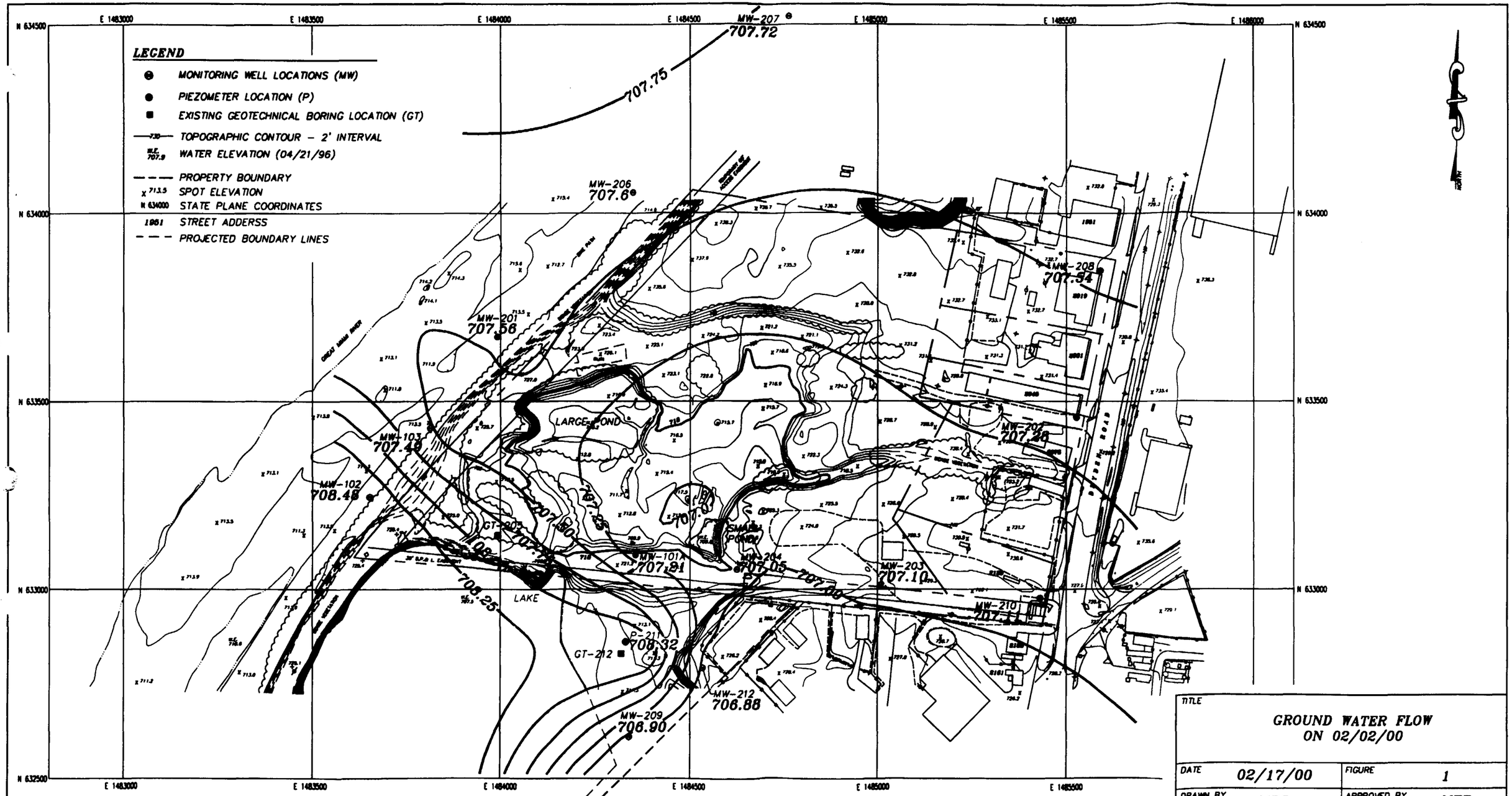

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APPROXIMATE SCALE: 1 INCH = 250 FEET

TITLE	GROUND WATER FLOW ON 02/02/00
DATE 02/17/00	FIGURE 1
DRAWN BY MRD	APPROVED BY MEB
CLIENT COOLIDGE, WALL, WOMSLEY & LOMBARD	
PROJECT NO. 0279.44.05	

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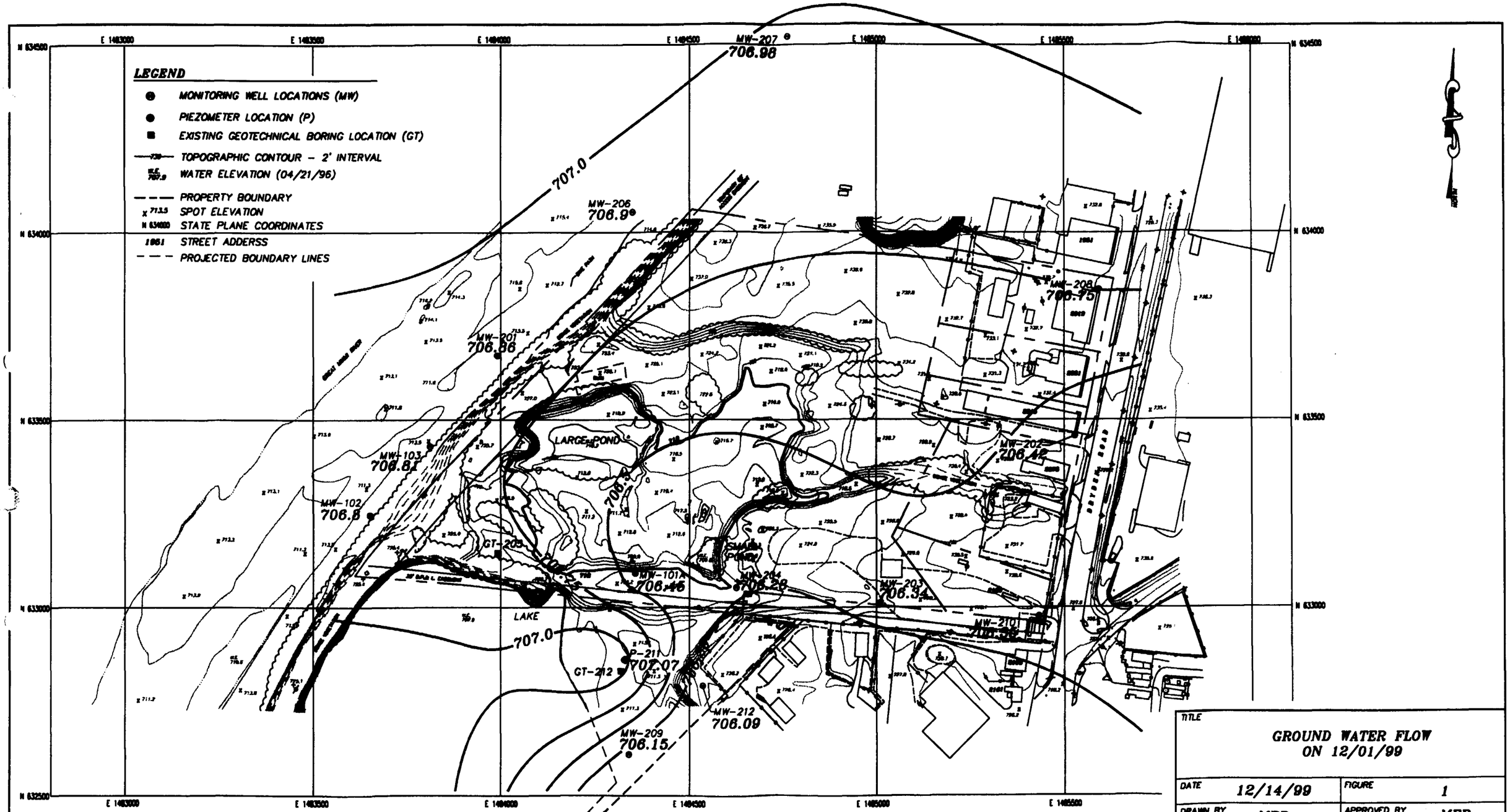

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APPROXIMATE SCALE: 1 INCH = 250 FEET

TITLE	GROUND WATER FLOW ON 12/01/99		
DATE	12/14/99	FIGURE	1
DRAWN BY	MRD	APPROVED BY	MEB
CLIENT	COOLIDGE, WALL, WOMSLEY & LOMBARD		
PROJECT NO.	0279.44.05		

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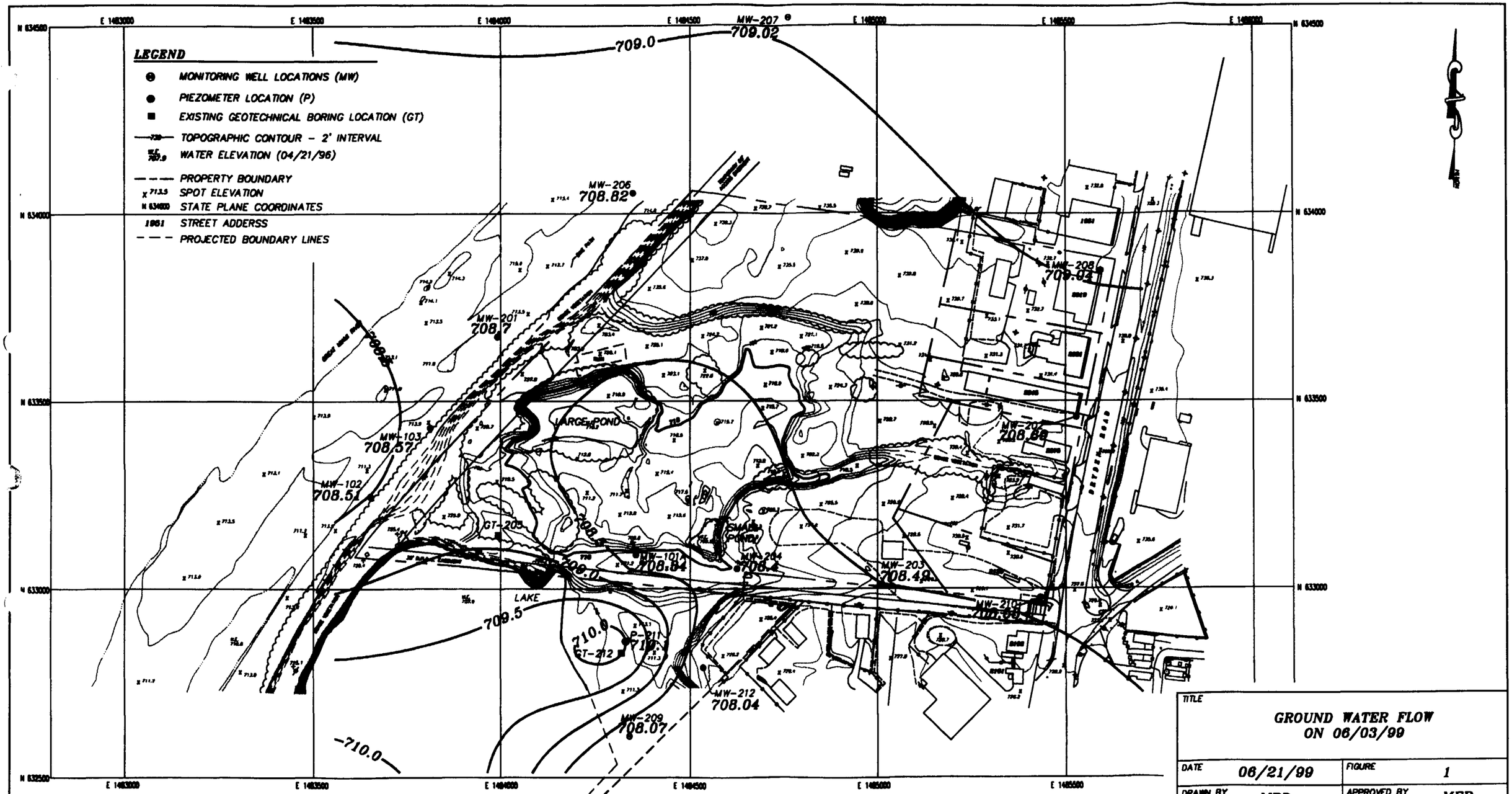

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APPROXIMATE SCALE: 1 INCH = 250 FEET

TITLE	GROUND WATER FLOW ON 06/03/99
DATE 06/21/99	FIGURE 1
DRAWN BY MRD	APPROVED BY MEB
CLIENT COOLIDGE, WALL, WOMSLEY & LOMBARD	
PROJECT NO. 0279.44.05	

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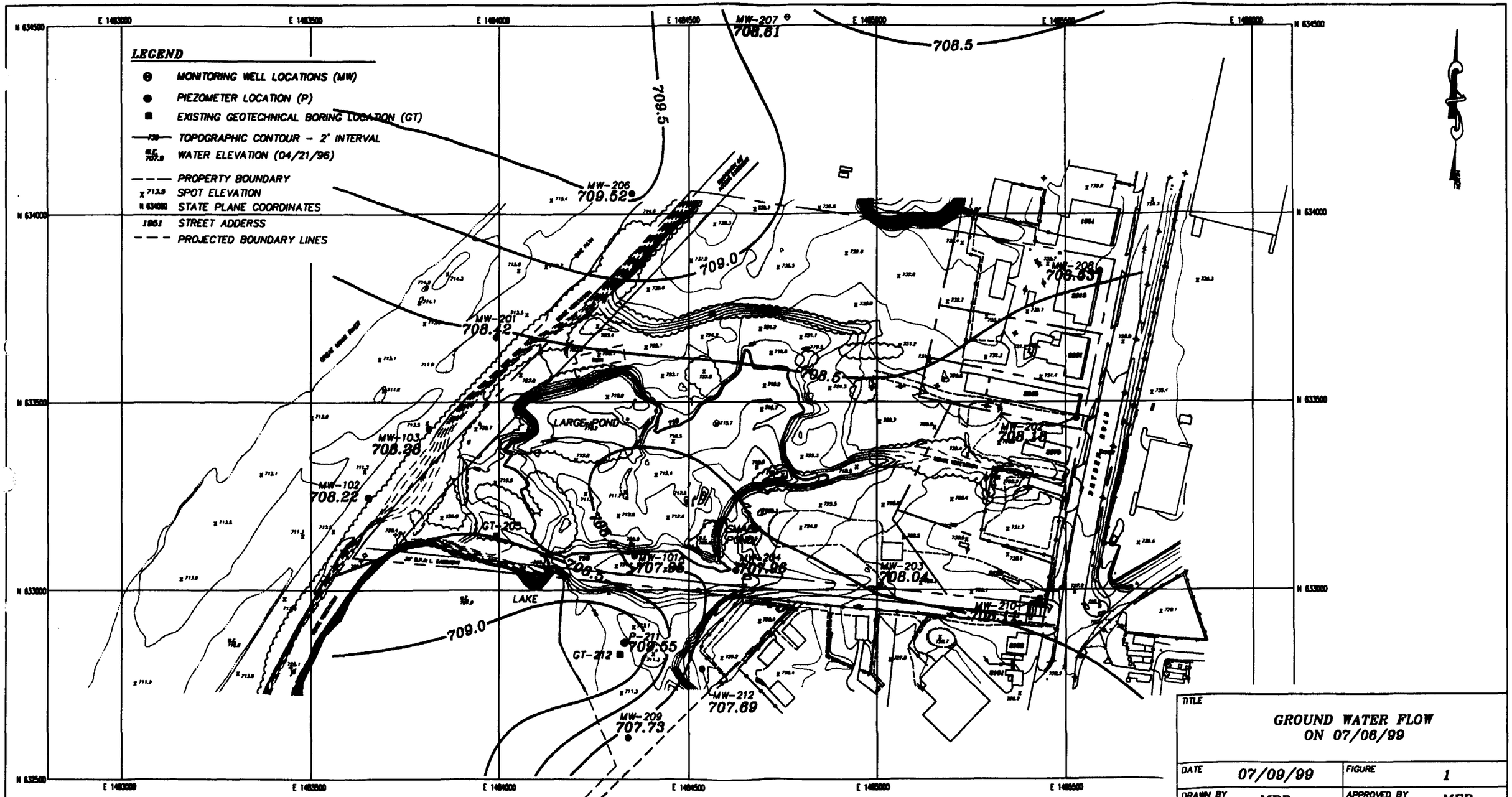

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APPROXIMATE SCALE: 1 INCH = 250 FEET

TITLE	GROUND WATER FLOW ON 07/06/99
DATE 07/09/99	FIGURE 1
DRAWN BY MRD	APPROVED BY MEB
CLIENT COOLIDGE, WALL, WOMSLEY & LOMBARD	
PROJECT NO. 0279.44.05	

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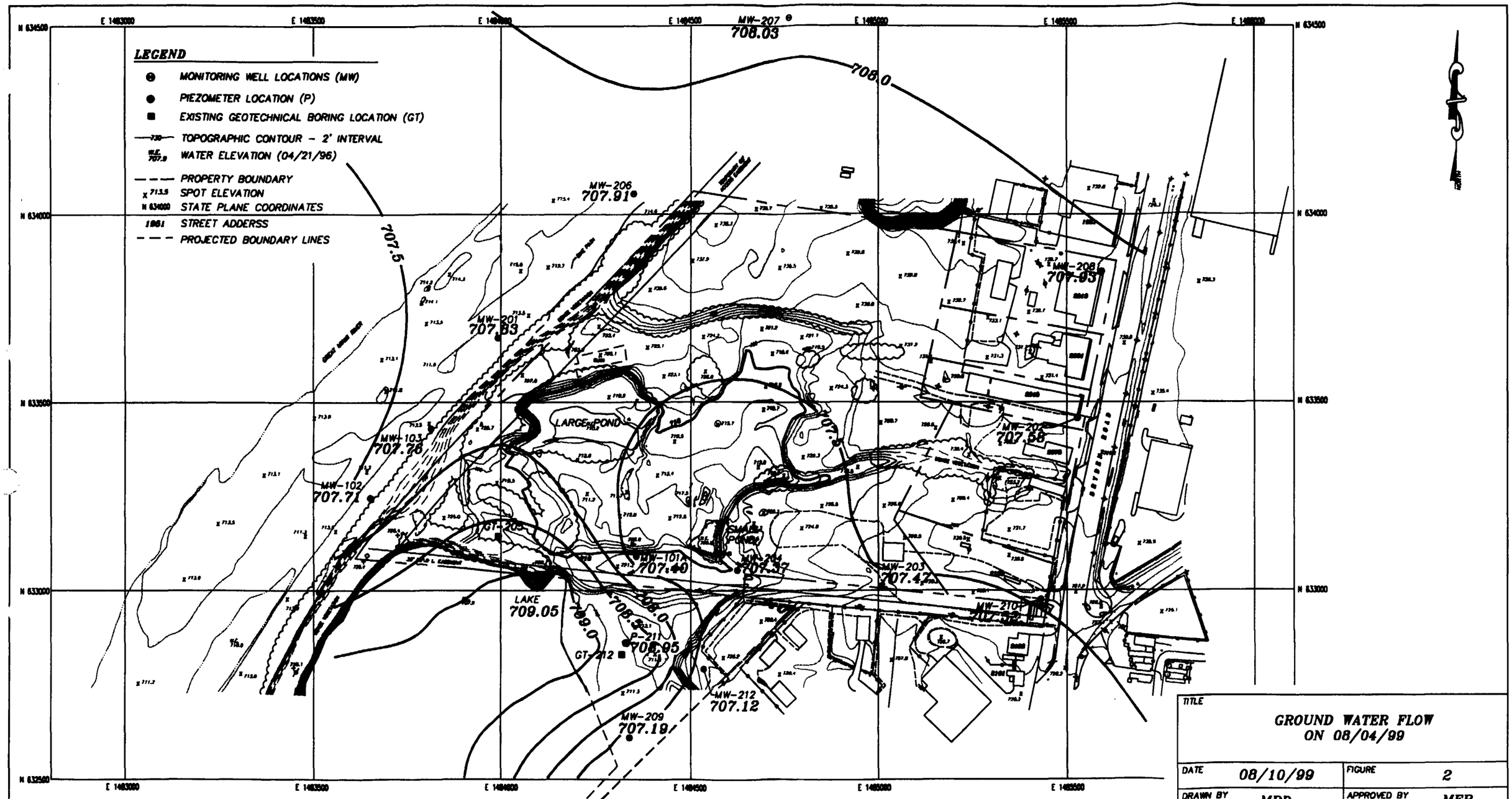

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TITLE	GROUND WATER FLOW ON 08/04/99
DATE 08/10/99	FIGURE 2
DRAWN BY MRD	APPROVED BY MEB
CLIENT COOLIDGE, WALL, WOMSLEY & LOMBARD	
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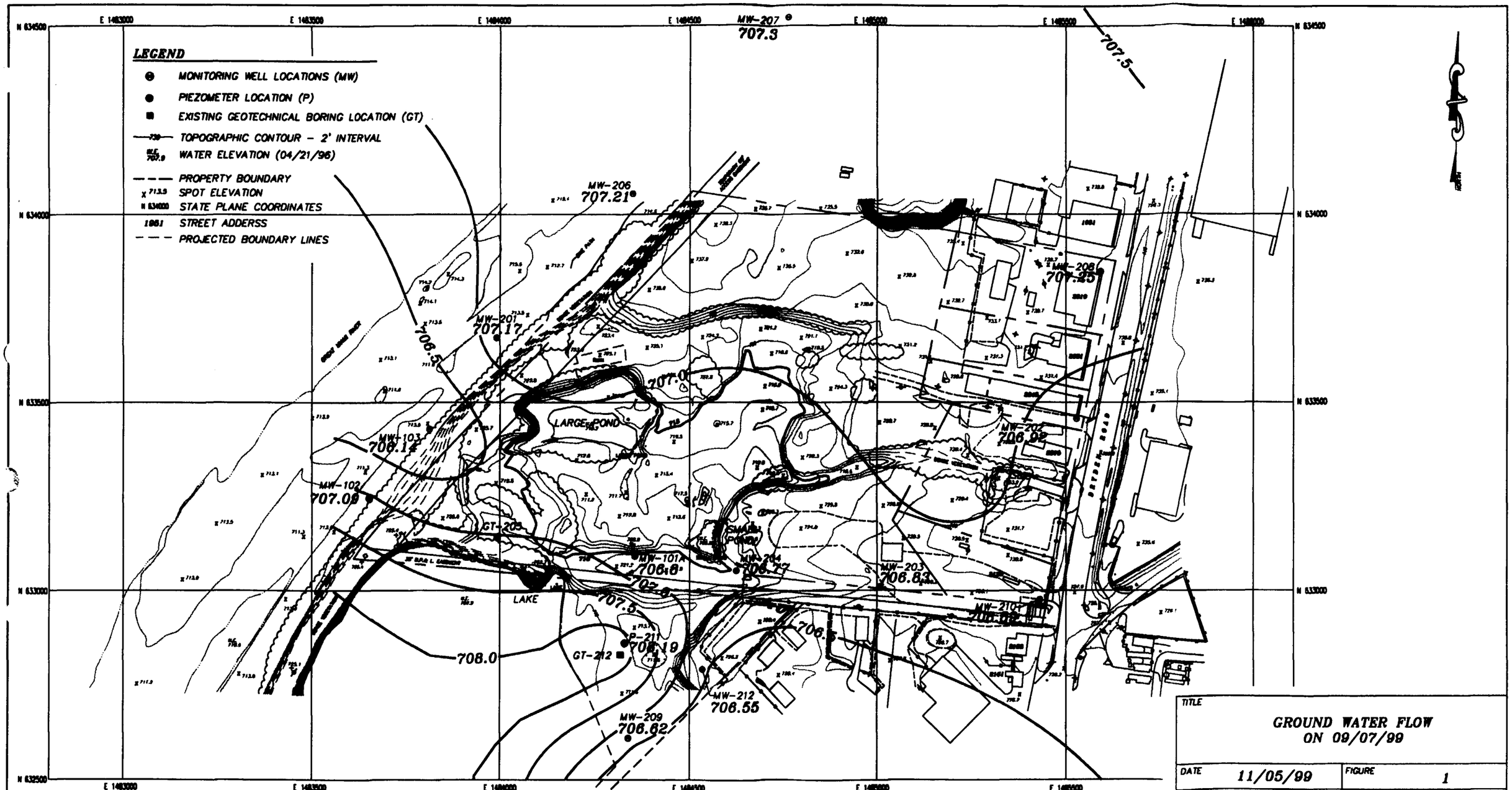

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APPROXIMATE SCALE: 1 INCH = 250 FEET

TITLE	GROUND WATER FLOW ON 09/07/99
DATE 11/05/99	FIGURE 1
DRAWN BY MRD	APPROVED BY MEB
CLIENT COOLIDGE, WALL, WOMSLEY & LOMBARD	
PROJECT NO. 0279.44.05	

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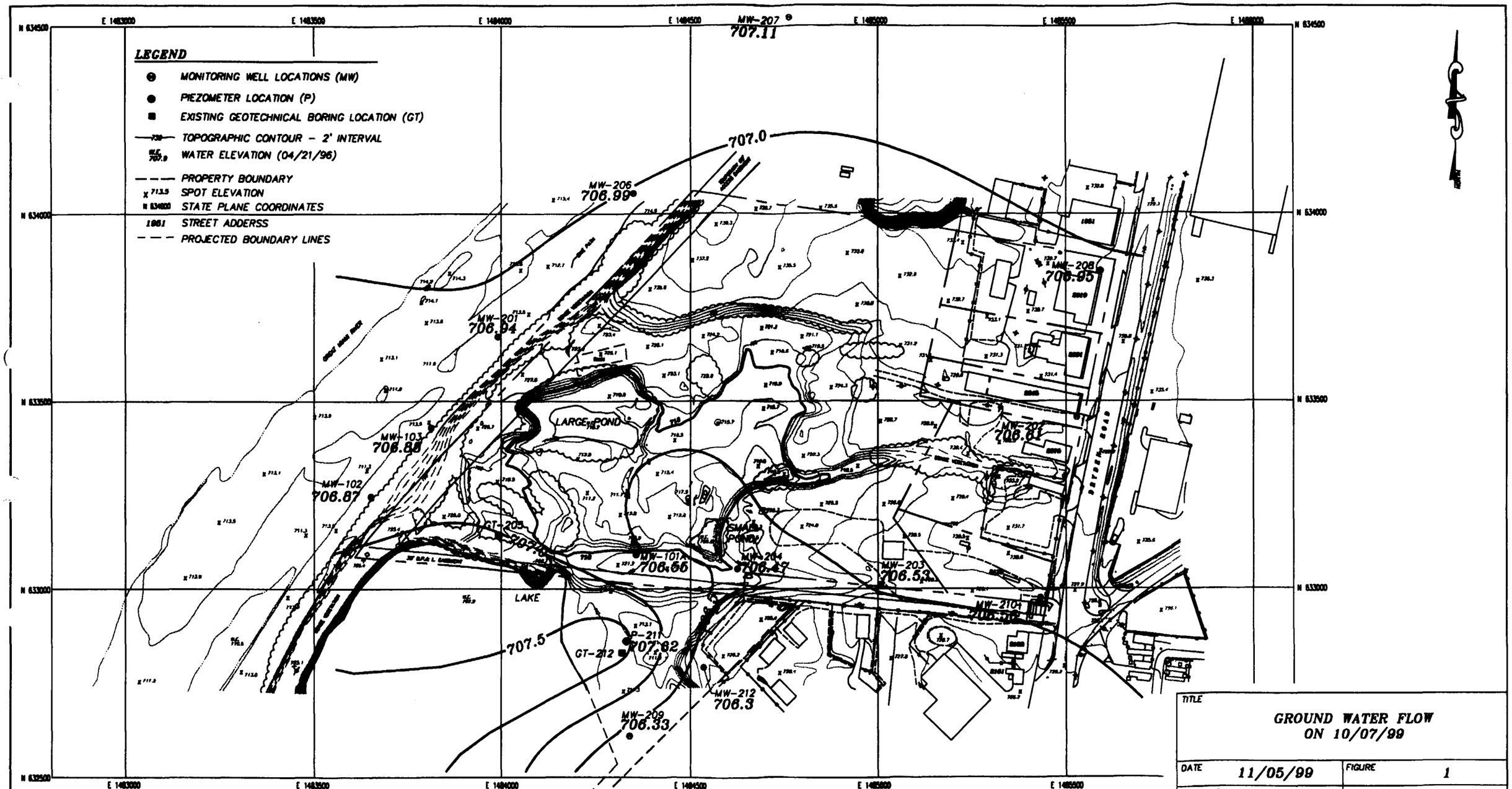

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TITLE	GROUND WATER FLOW ON 10/07/99
DATE 11/05/99	FIGURE 1
DRAWN BY MRD	APPROVED BY MEB
CLIENT COOLIDGE, WALL, WOMSLEY & LOMBARD	
PROJECT NO. 0279.44.05	

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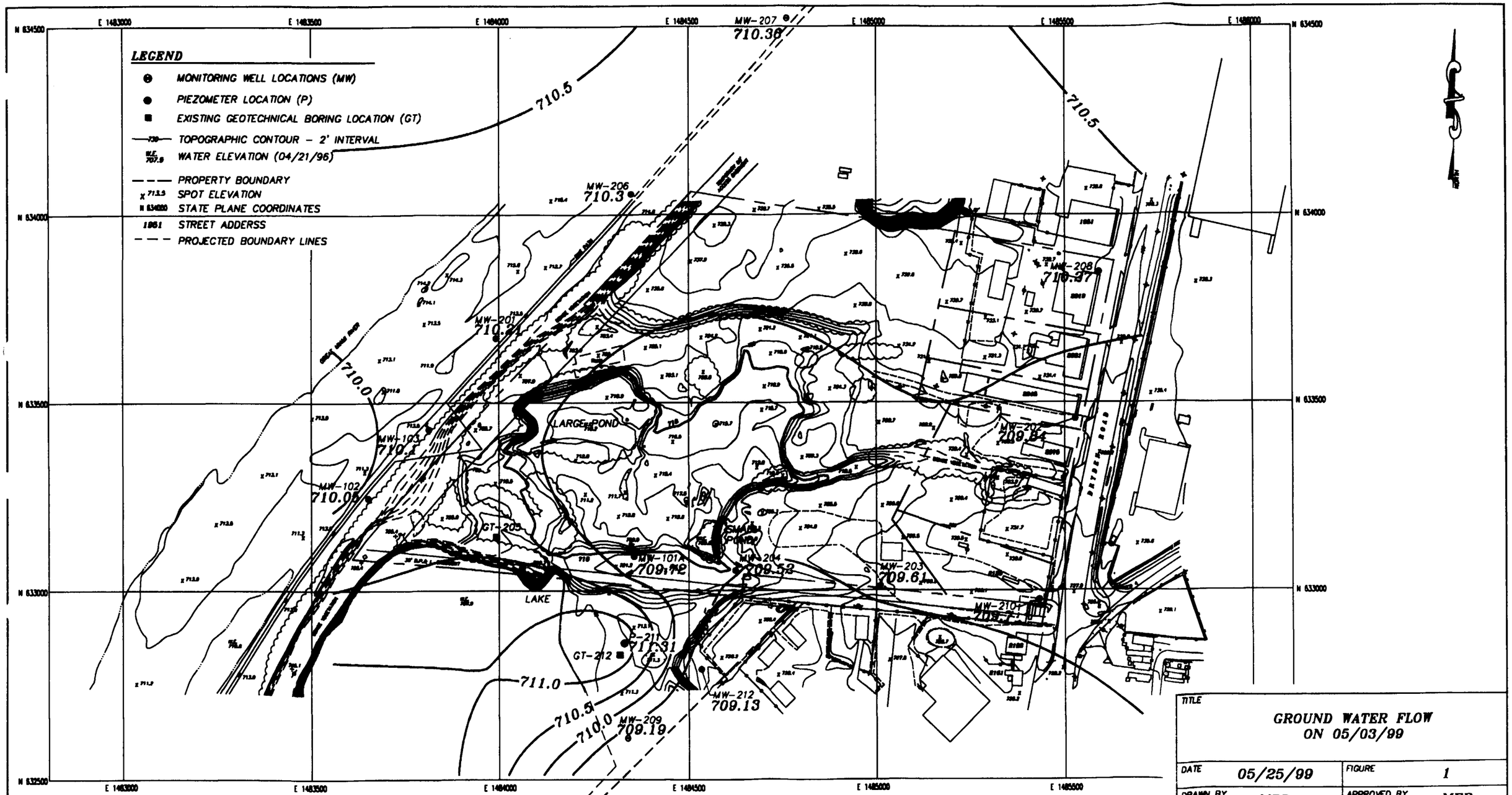

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APPROXIMATE SCALE: 1 INCH = 250 FEET

TITLE	GROUND WATER FLOW ON 05/03/99		
DATE	05/25/99	FIGURE	1
DRAWN BY	MRD	APPROVED BY	MEB
CLIENT	COOLIDGE, WALL, WOMSLEY & LOMBARD		
PROJECT NO.	0279.44.08		

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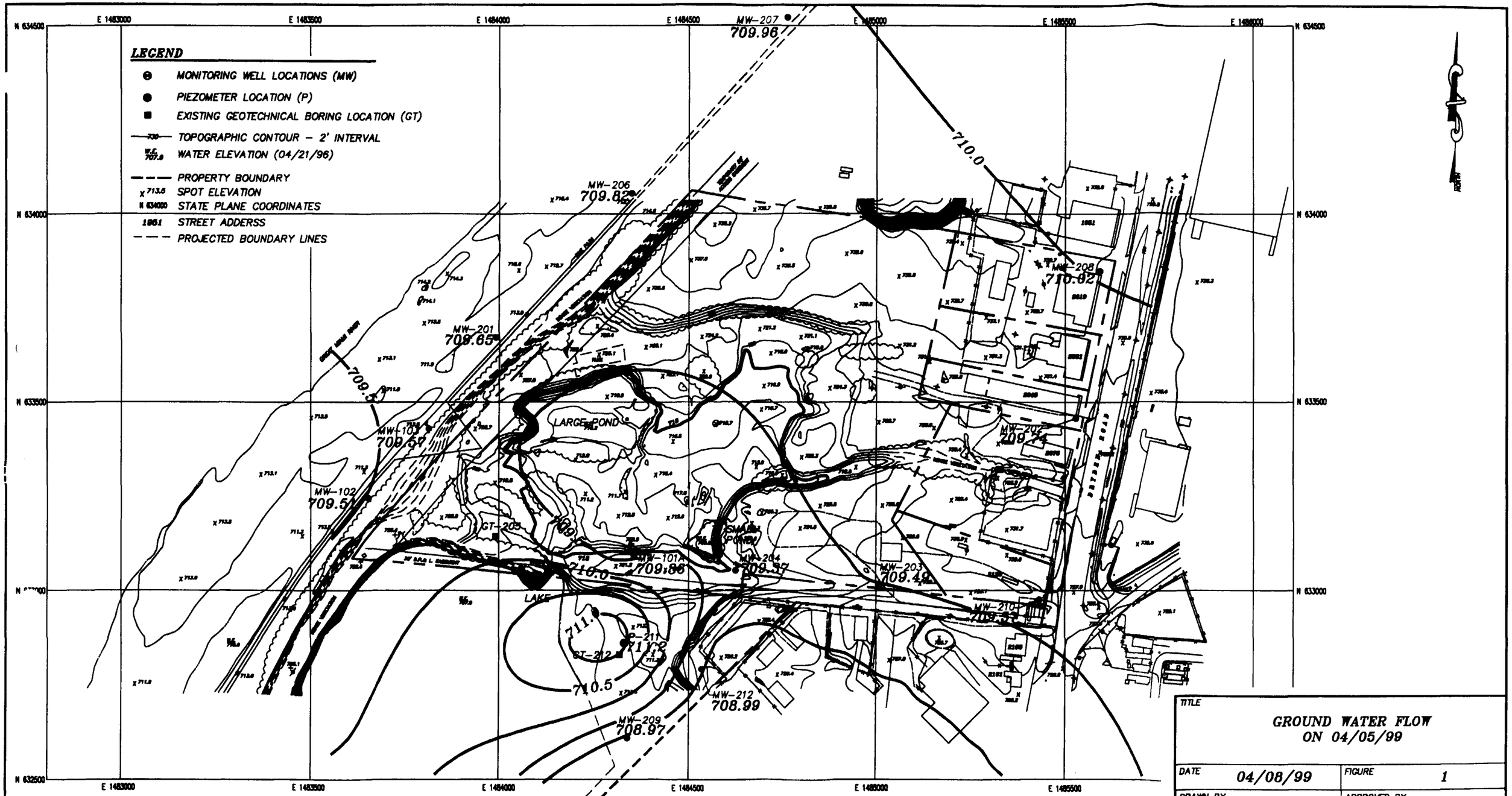

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APPROXIMATE SCALE: 1 INCH = 250 FEET

TITLE	GROUND WATER FLOW ON 04/05/99
DATE 04/08/99	FIGURE 1
DRAWN BY MRD	APPROVED BY MEB
CLIENT COOLIDGE, WALL, WOMSLEY & LOMBARD	
PROJECT NO. 0279.44.08	

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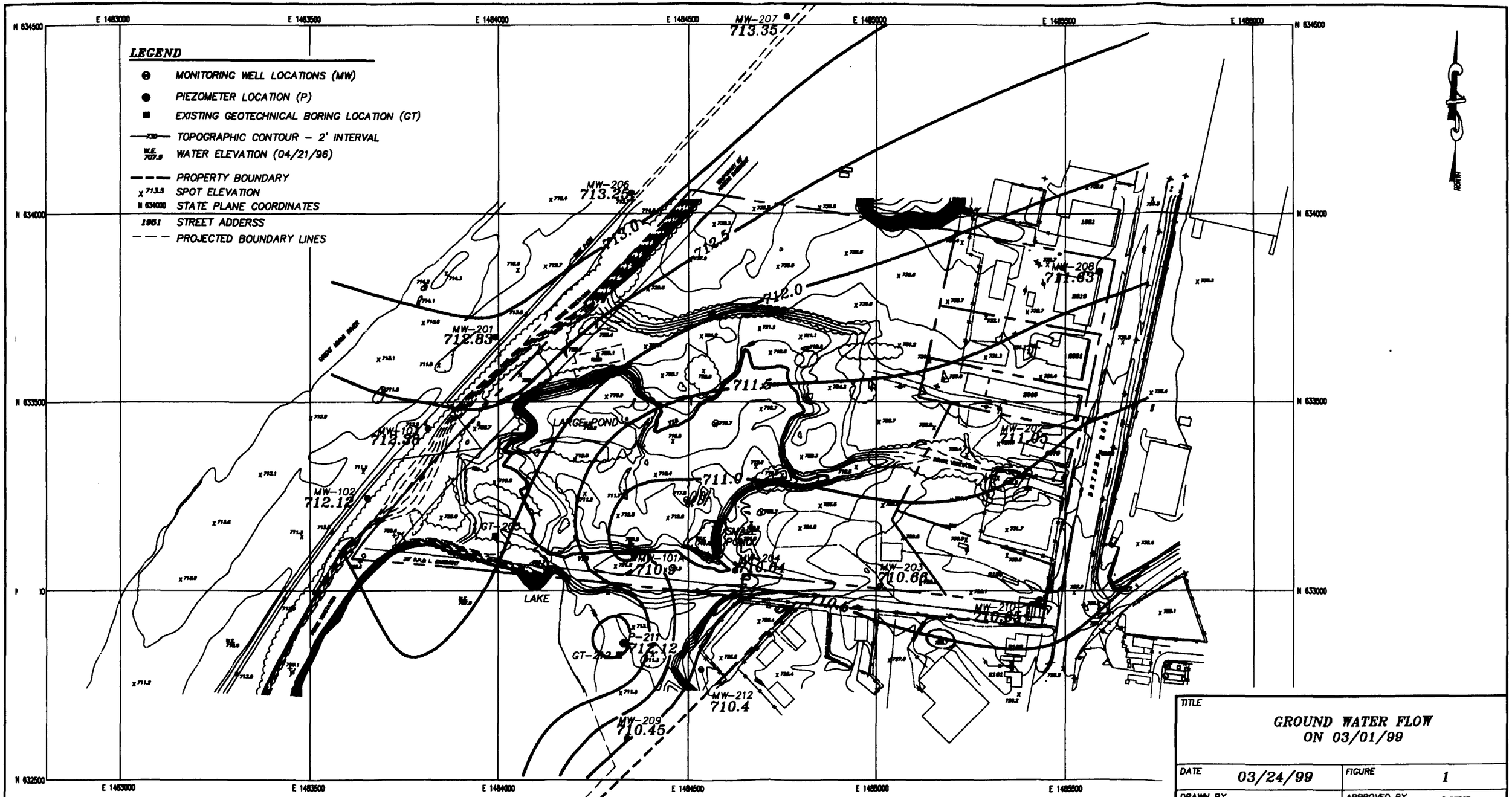

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APPROXIMATE SCALE: 1 INCH = 250 FEET

TITLE	GROUND WATER FLOW ON 03/01/99
DATE 03/24/99	FIGURE 1
DRAWN BY MRD	APPROVED BY MEB
CLIENT COOLIDGE, WALL, WOMSLEY & LOMBARD	
PROJECT NO. 0279.44.08	

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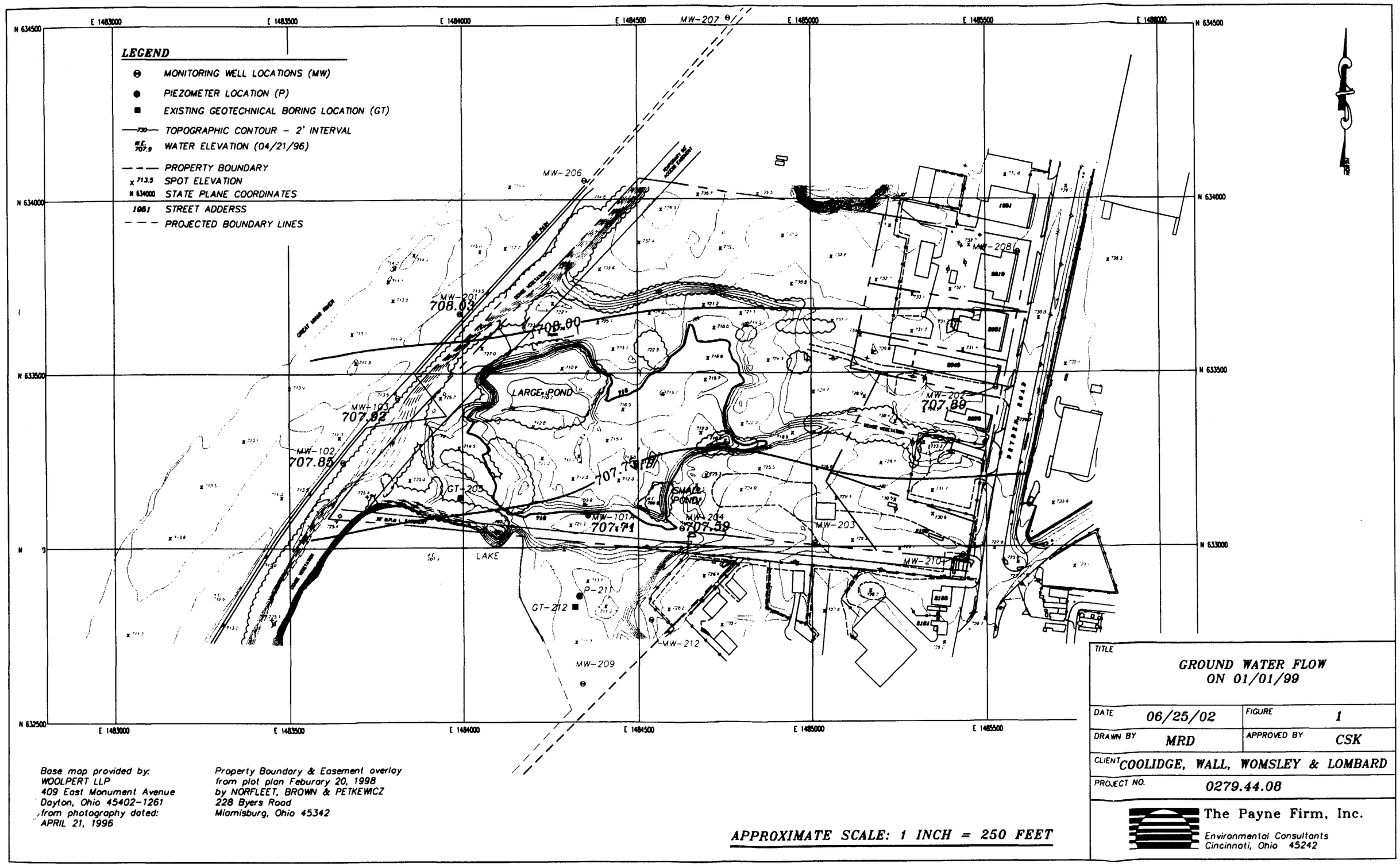

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APPROXIMATE SCALE: 1 INCH = 250 FEET

TITLE	GROUND WATER FLOW ON 01/01/99		
DATE	06/25/02	FIGURE	1
DRAWN BY	MRD	APPROVED BY	CSK
CLIENT	COOLIDGE, WALL, WOMSLEY & LOMBARD		
PROJECT NO.	0279.44.08		

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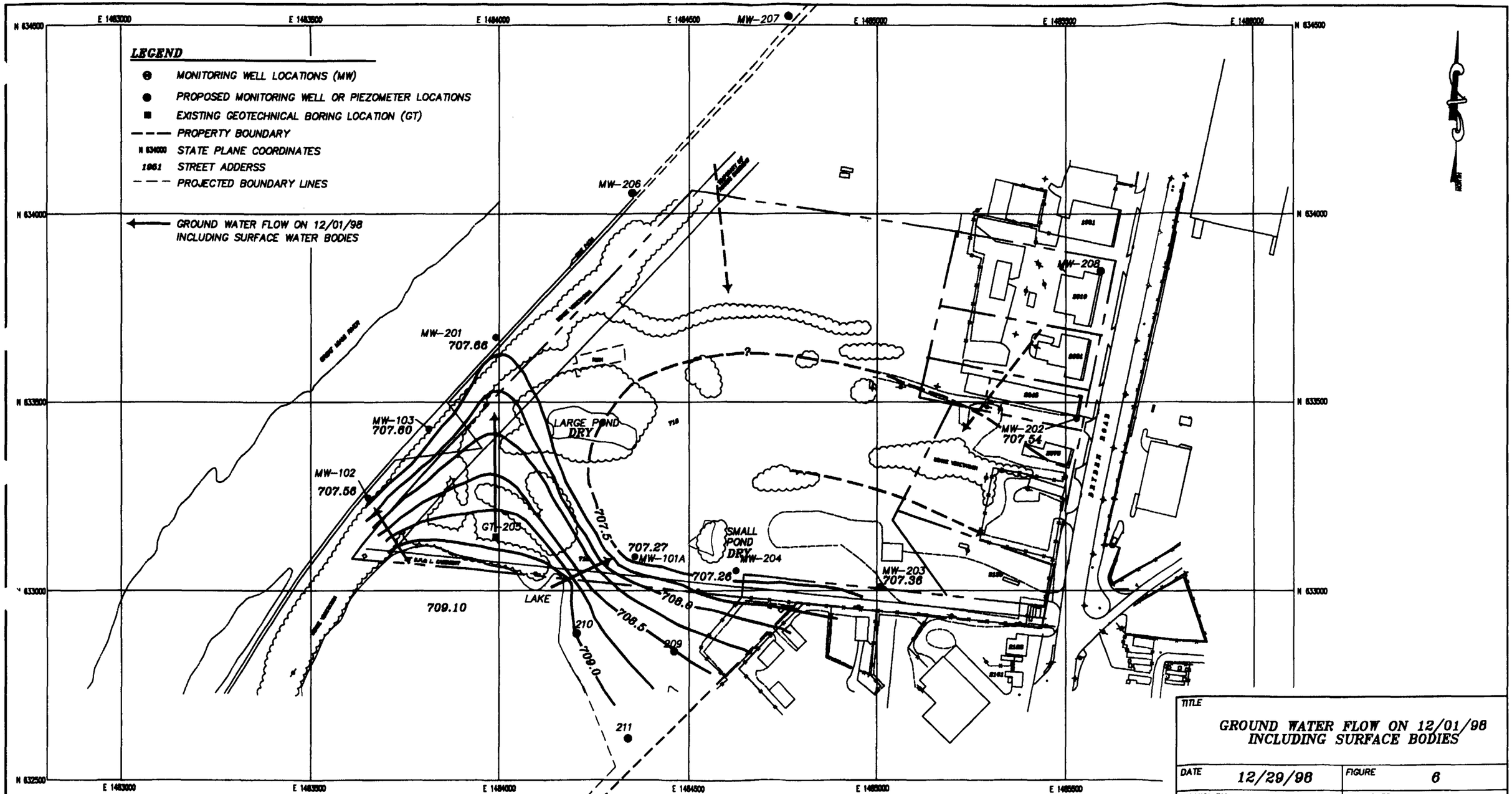

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APPROXIMATE SCALE: 1 INCH = 250 FEET

TITLE	GROUND WATER FLOW ON 12/01/98 INCLUDING SURFACE BODIES
DATE 12/29/98	FIGURE 6
DRAWN BY MRD	APPROVED BY GWY
CLIENT COOLIDGE, WALL, WOMSLEY & LOMBARD	
PROJECT NO. 0279.44.08	

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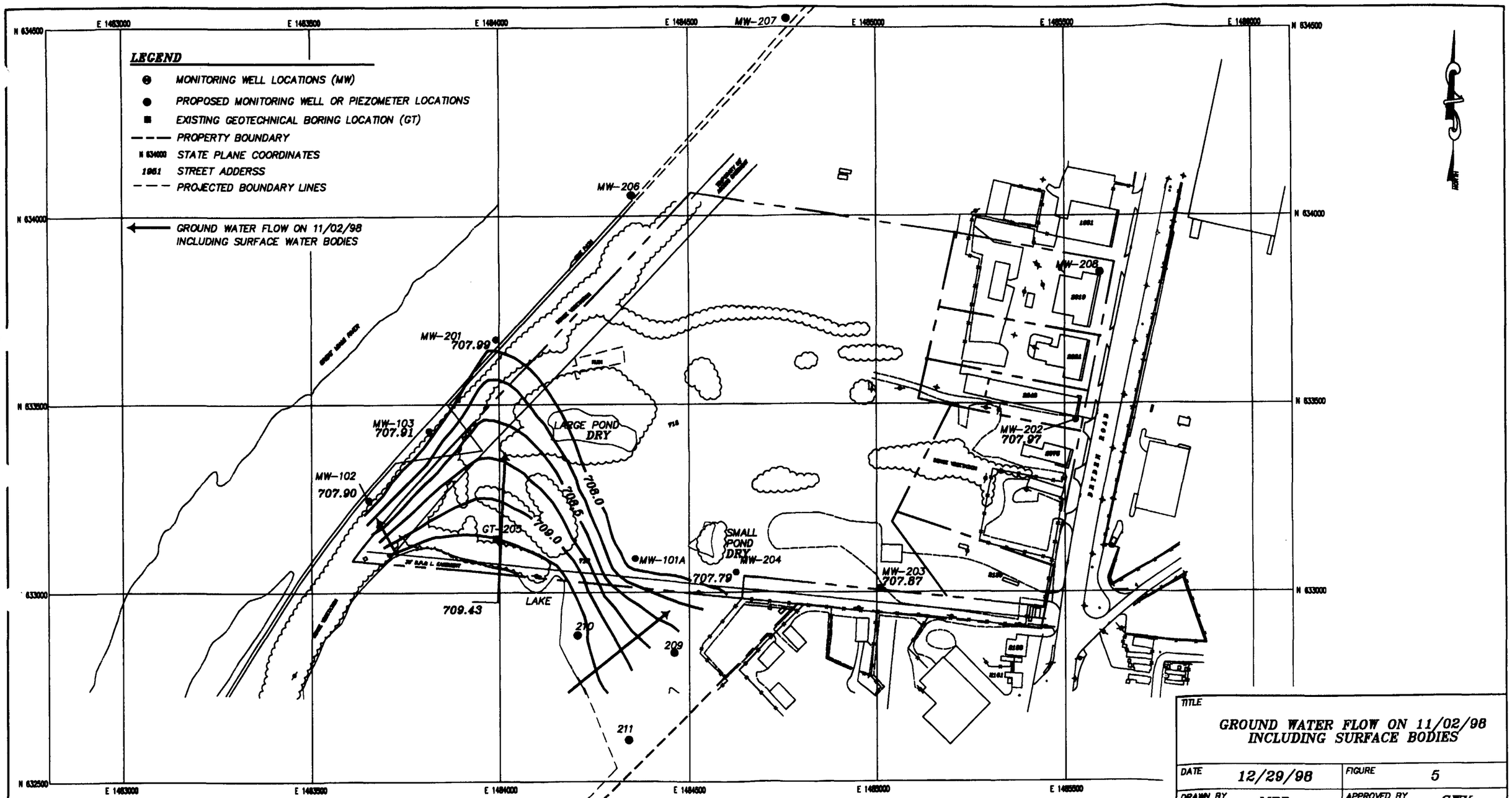

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APPROXIMATE SCALE: 1 INCH = 250 FEET

TITLE	GROUND WATER FLOW ON 11/02/98 INCLUDING SURFACE BODIES
DATE 12/29/98	FIGURE 5
DRAWN BY MRD	APPROVED BY GWY
CLIENT COOLIDGE, WALL, WOMSLEY & LOMBARD	
PROJECT NO. 0279.44.08	

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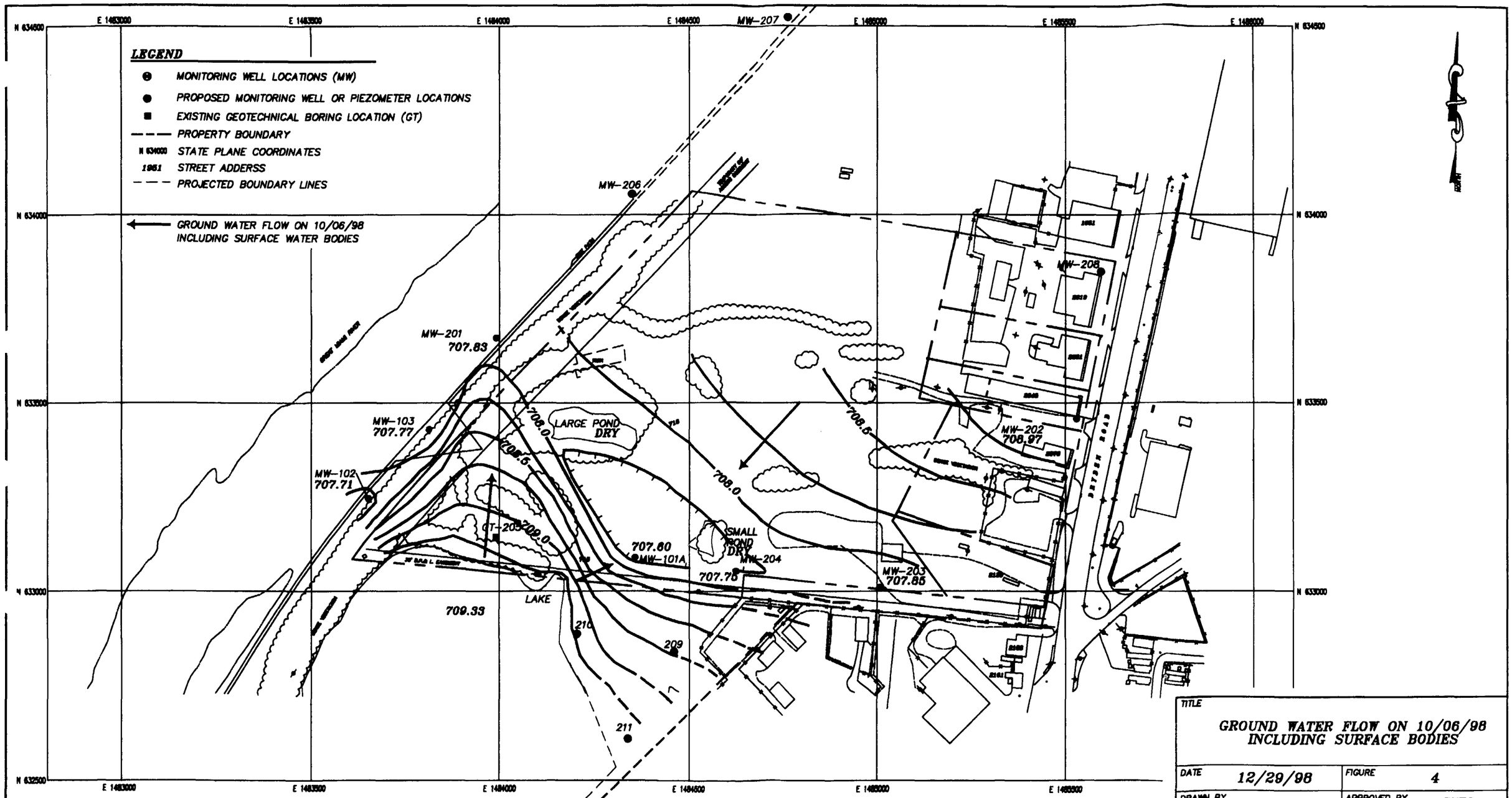

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APPROXIMATE SCALE: 1 INCH = 250 FEET

TITLE	GROUND WATER FLOW ON 10/06/98 INCLUDING SURFACE BODIES
DATE 12/29/98	FIGURE 4
DRAWN BY MRD	APPROVED BY GWY
CLIENT COOLIDGE, WALL, WOMSLEY & LOMBARD	
PROJECT NO. 0279.44.08	

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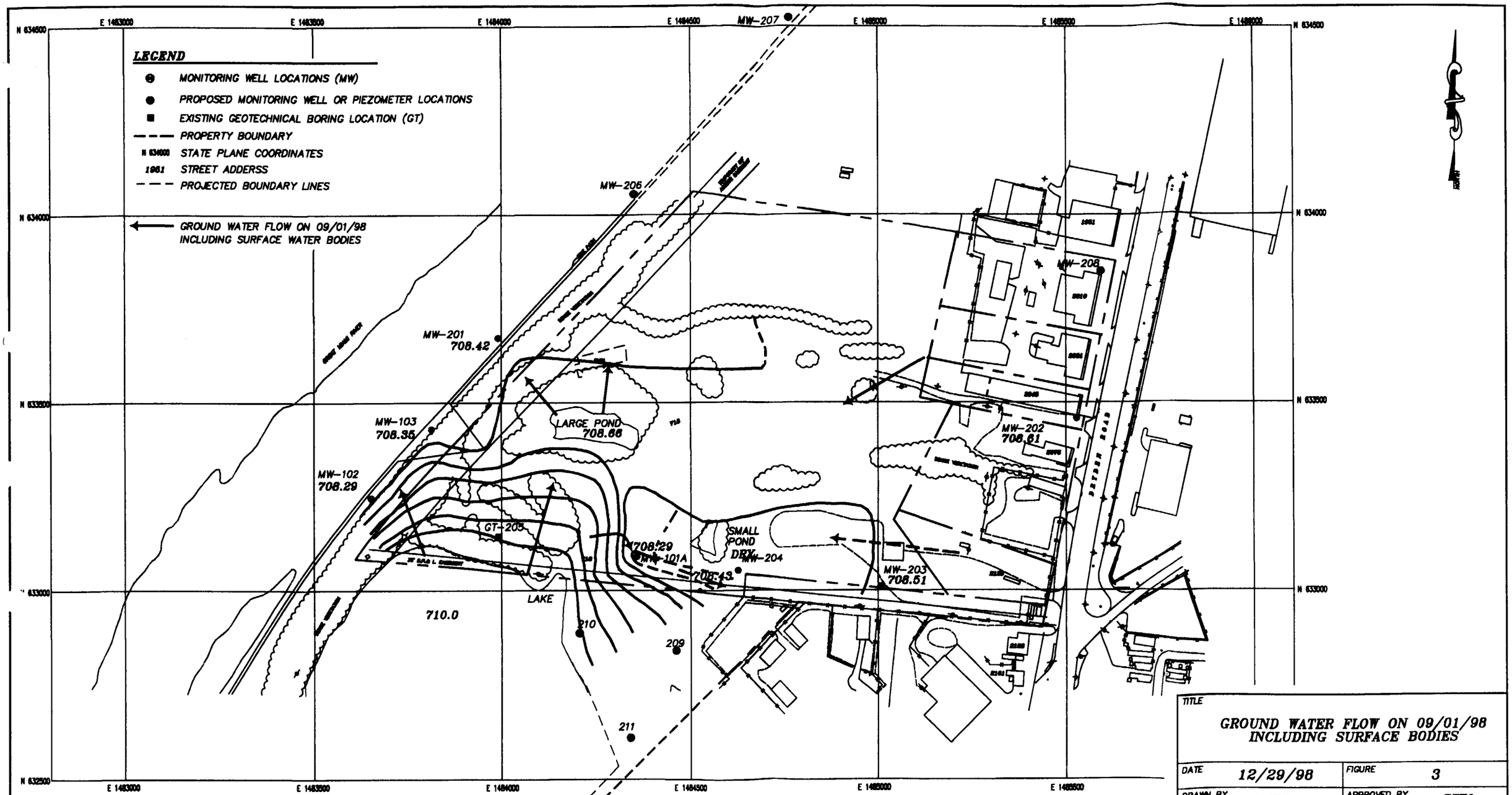

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APPROXIMATE SCALE: 1 INCH = 250 FEET

TITLE	GROUND WATER FLOW ON 09/01/98 INCLUDING SURFACE BODIES
DATE 12/29/98	FIGURE 3
DRAWN BY MRD	APPROVED BY GWY
CLIENT COOLIDGE, WALL, WOMSLEY & LOMBARD	
PROJECT NO. 0279.44.08	

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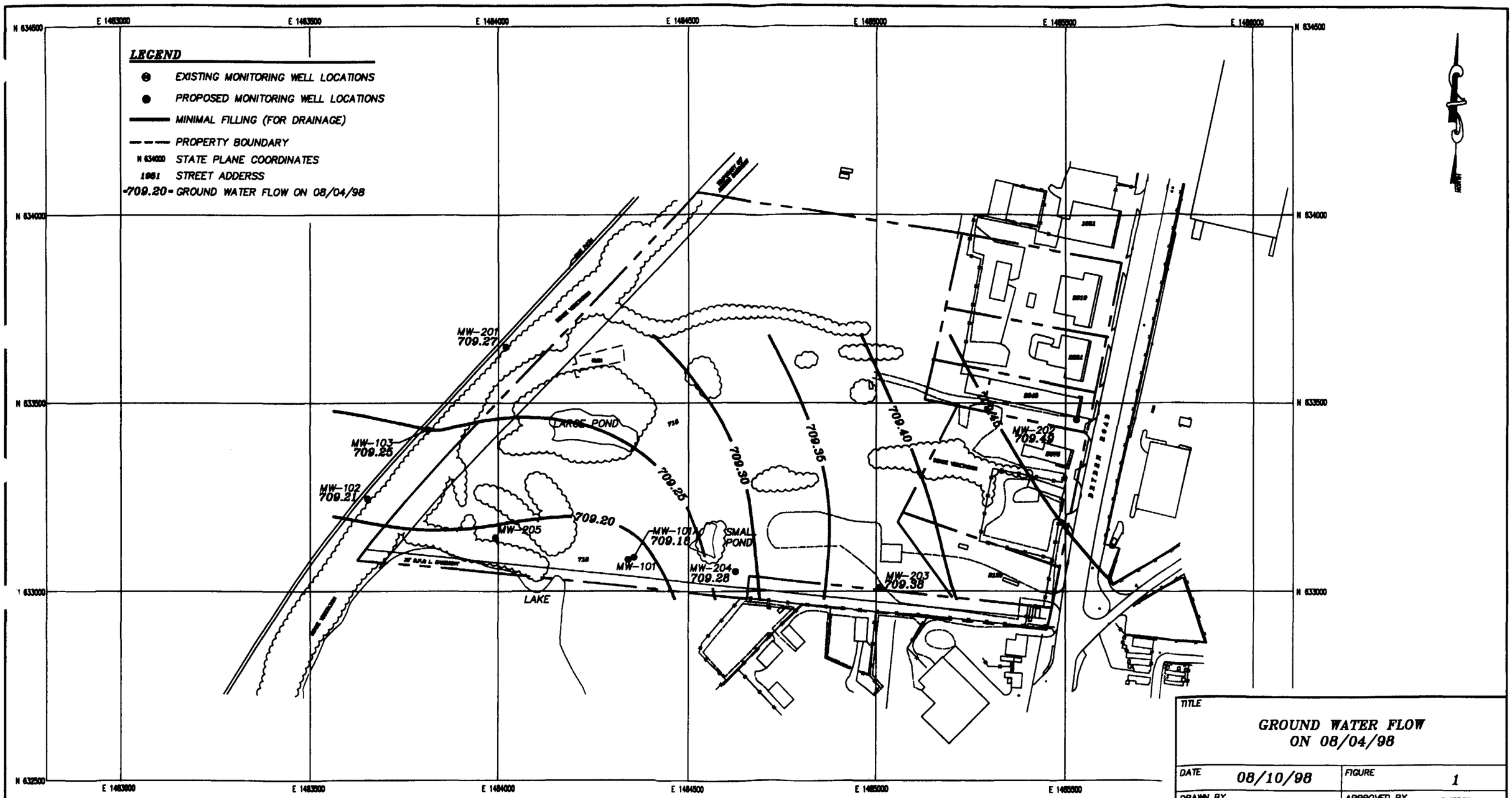

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APPROXIMATE SCALE: 1 INCH = 250 FEET

TITLE	GROUND WATER FLOW ON 08/04/98
DATE 08/10/98	FIGURE 1
DRAWN BY MRD	APPROVED BY MEB
CLIENT COOLIDGE, WALL, WOMSLEY & LOMBARD	
PROJECT NO. 0279.44.07	

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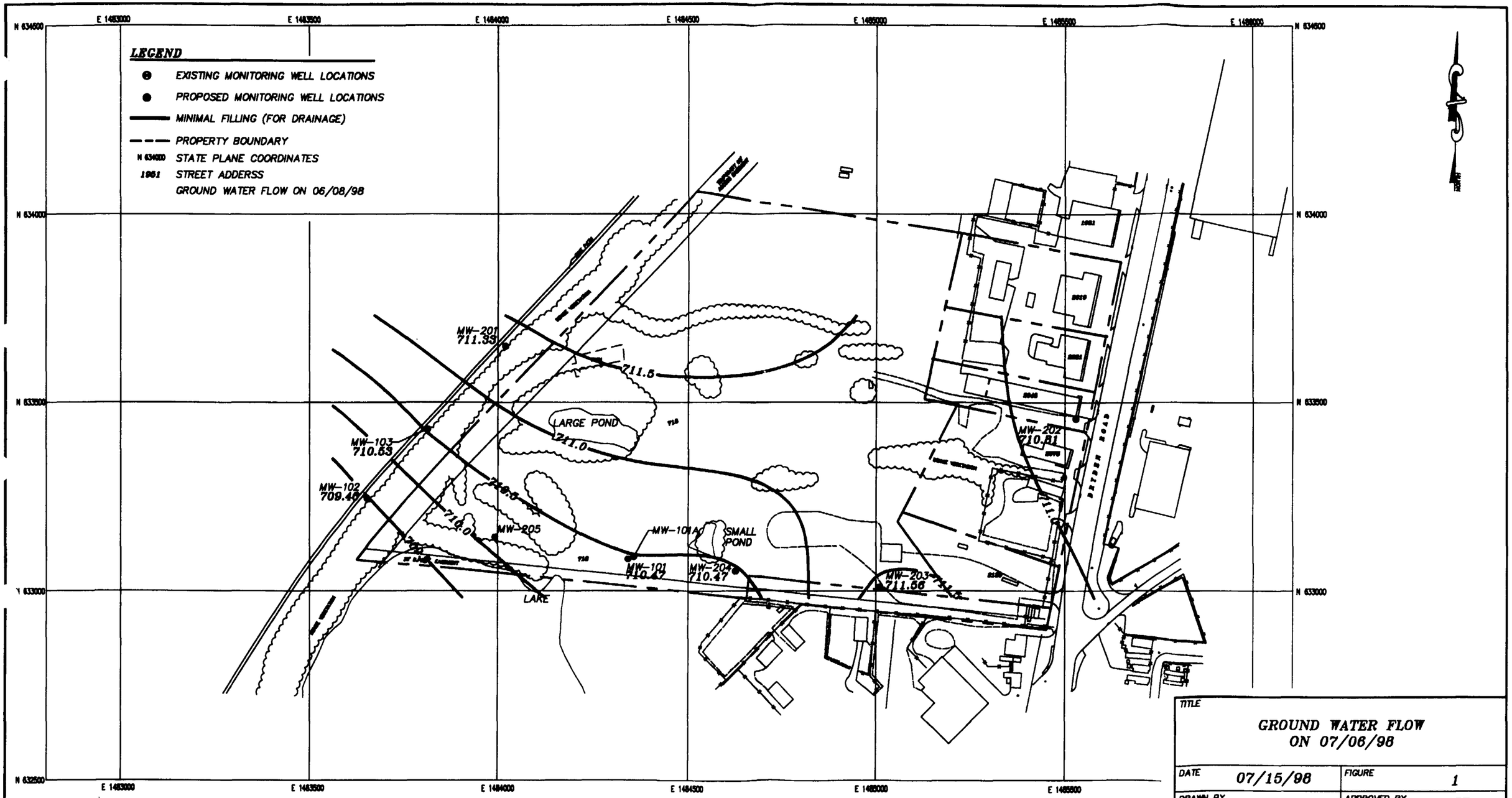

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APPROXIMATE SCALE: 1 INCH = 250 FEET

TITLE	GROUND WATER FLOW ON 07/06/98		
DATE	07/15/98	FIGURE	1
DRAWN BY	MRD	APPROVED BY	MEB
CLIENT	COOLIDGE, WALL, WOMSLEY & LOMBARD		
PROJECT NO.	0279.44.07		

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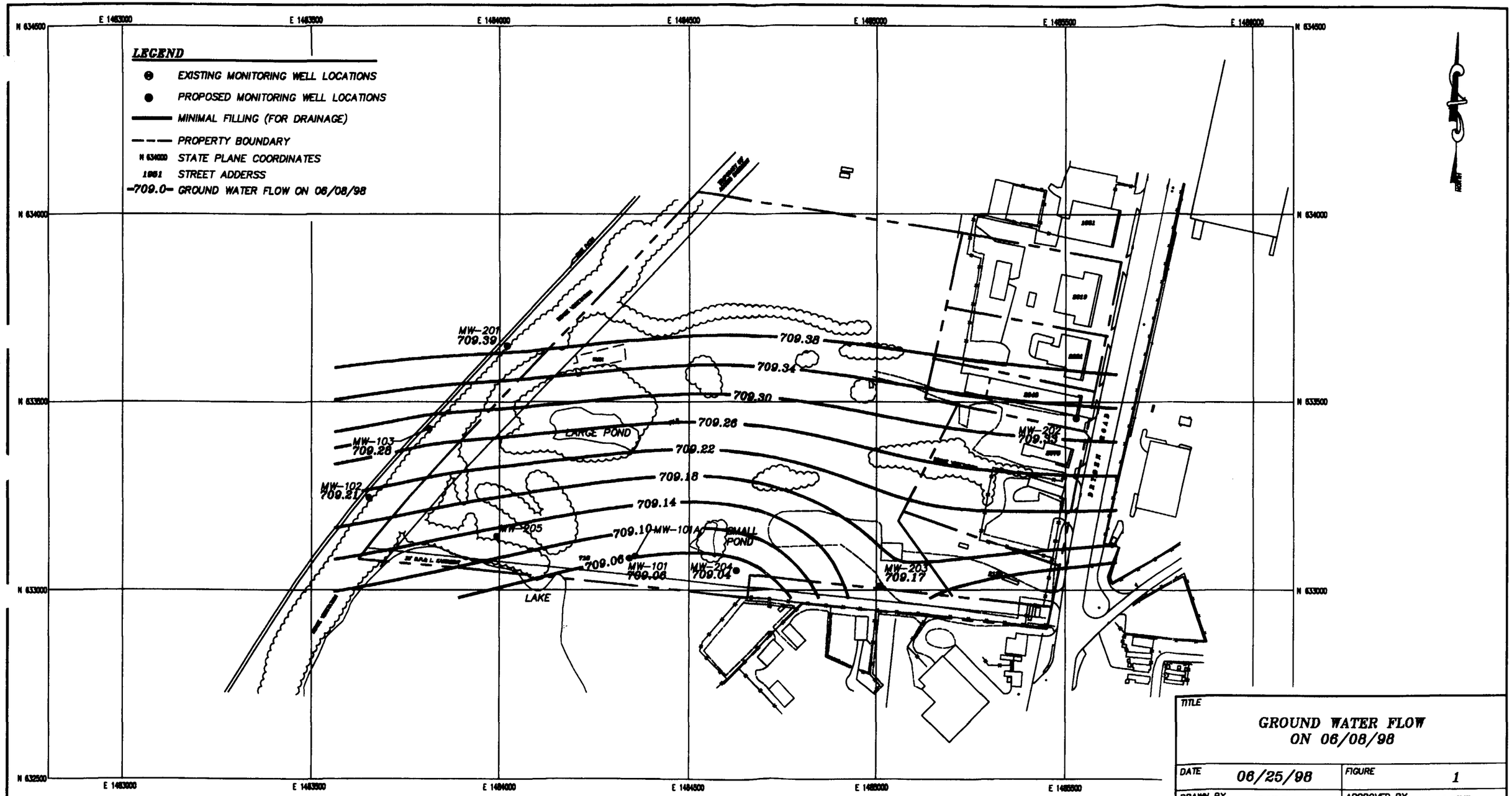

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TITLE	GROUND WATER FLOW ON 06/08/98
DATE 06/25/98	FIGURE 1
DRAWN BY MRD	APPROVED BY MEB
CLIENT COOLIDGE, WALL, WOMSLEY & LOMBARD	
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APPENDIX III

JULY 2002 MEETING

South Dayton Landfill

Meeting with USEPA & OEPA

July 9, 2002

1) The South Dayton Team

a) Coolidge Wall Womsley & Lombard Co., L.P.A. – Legal Counsel

i) Tim Hoffman
ii) John Chambers

b) The Payne Firm–Environmental Consultants

i) Dan Weed
ii) David Strayer

c) Environmental Remediation Trust – Trustees

i) Jim Kiefer
ii) Mark Fornes

d) Owners

i) <u>Kathryn Boesch</u>

(1) 7/16th interest

(2) Received her interest as heir to husband's estate

(3) 1980 Inherited Property

(4) Age - 89

ii) <u>Margaret Grillot</u>

(1) 9/16 interest

(2) Received her interest as settlement of her husband's estate

(3) 1998 Inherited Property

(4) Age - 80

2) The Site

a) A view from the East looking West

b) A view from the North looking South

c) A view from the South looking North

3) Alcine Grillot – Operator of the Landfill

a) Alcine Grillot leased the Site and operated the Landfill from the time the Landfill about 1950 until his death in 1996.

b) His brother Kenny, now deceased, was his partner in operation of the Landfill.

C) Alcine Grillot was Cyril Grillot's brother

(1) The Estate of Cyril Grillot filed a lawsuit against the Estate of Alcine Grillot for potential damages relating to the operation of the South Dayton Landfill

(a) March, 1997 – Lawsuit filed.

2) The Estate of Alcine Grillot entered into a settlement of the lawsuit by donating funds to the South Dayton Landfill Environmental Remediation Trust

(a) November, 1998 – Lawsuit settles.

4) Plan for Remediation

a) Estate of Cyril Grillot hired CWWL to advise it regarding the Landfill

b) CWWL hired the Payne Firm to consult and advise on the Landfill

c) The Initial Strategy
   i) Prevent further dumping
   ii) Put control of the Site into limited, responsible hands
   iii) Institute monitoring and analysis of the site

d) Second Stage Planning

i) Create Environmental Remediation Trust
ii) Fence site ($90,000)
iii) Continue monitoring and analysis of data
iv) Develop closure strategy under State of Ohio Solid Waste scheme.

e) Third Stage Planning

i) Continue monitoring and analysis of data
ii) Seek partners for efficient hardfill closure
iii) Prepare to present plan to OEPA

5) Environmental Remediation Trust

a) Created in November 1998
b) Jim Kiefer and Mark Fornes
   – Co-Trustees
c) Current Members of the ERT
   i) Kathryn Boesch
      (1) Contributed $333,000
   ii) Margaret Grillot
      (1) Contributed $333,000

d) Cash Out Grantors

i) Estate of Alcine Grillot

(1) Contributed $125,000

ii) Testamentary Trust Created by the Last Will and Testament of Cyril Grillot

(1) Contributed $125,000

(2) Beneficiaries

(a) John R. Grillot
(b) Violet Wead
(c) Toni Maric Nash
(d) Edward R Grillot
(e) Estate of Cyril J. Grillot, Jr.
(f) Ruby Grillot
(g) Christopher Felty
(h) Deborah Grillot Cornett
(i) Craig Grillot
(j) Karen Blades, Guardian of Sarah Grillot

e) Current Funding – about $725,000

f) Purpose
   i) to close and monitor the site

g) Current Activity
   i) Seeking partners to close site via hardfill, a cap and long term covenants and monitoring

Regional Setting

- Heavy industrial and commercial area
- Gravel pits common along GMR corridor
  - Many ultimately became C&DD fills
- Neighbors include DP&L and GM/Delphi
- North (upgradient):
  - Former auto salvage yard
  - Asphalt plant and storage area

Site History

- 1935 – Site purchased by Cyril Grillot and Horace Boesch.
- 1950 – Alcine Grillot began operating the site. Disposal consisted primarily of open burning.
- 1970 – Open burning prohibited. Site operates primarily as a C&DD fill.

Site History

- 1985 – OEPA prepares PA recommending FIT investigation.
- 1991 – USEPA FIT investigation. SSI recommended.
- 1994 – USEPA SSI, recommends NFRAP. OEPA objects.
- 1996 – OEPA STEP investigation.

Summary of Operating Licenses

- 1969 – 1974. MCBH license to accept commercial, industrial and household wastes.
- 1975. Licensed for sludges and demolition wastes.
- 1976 – 1986. Licensed for dry commercial, industrial, household and salvageable wastes and wood for burning. No putrescibles.
- 1969 – 1986. 53 inspections, most satisfactory, some with minor comments. No violations noted.

Response Summary

- 1997 – Initial Payne Firm investigation
  - Ground water flow complicated
    - Adjacent surface waters
      - Lake
      - Great Miami River
    - Buried Valley Aquifer
    - Surrounding pumping influences

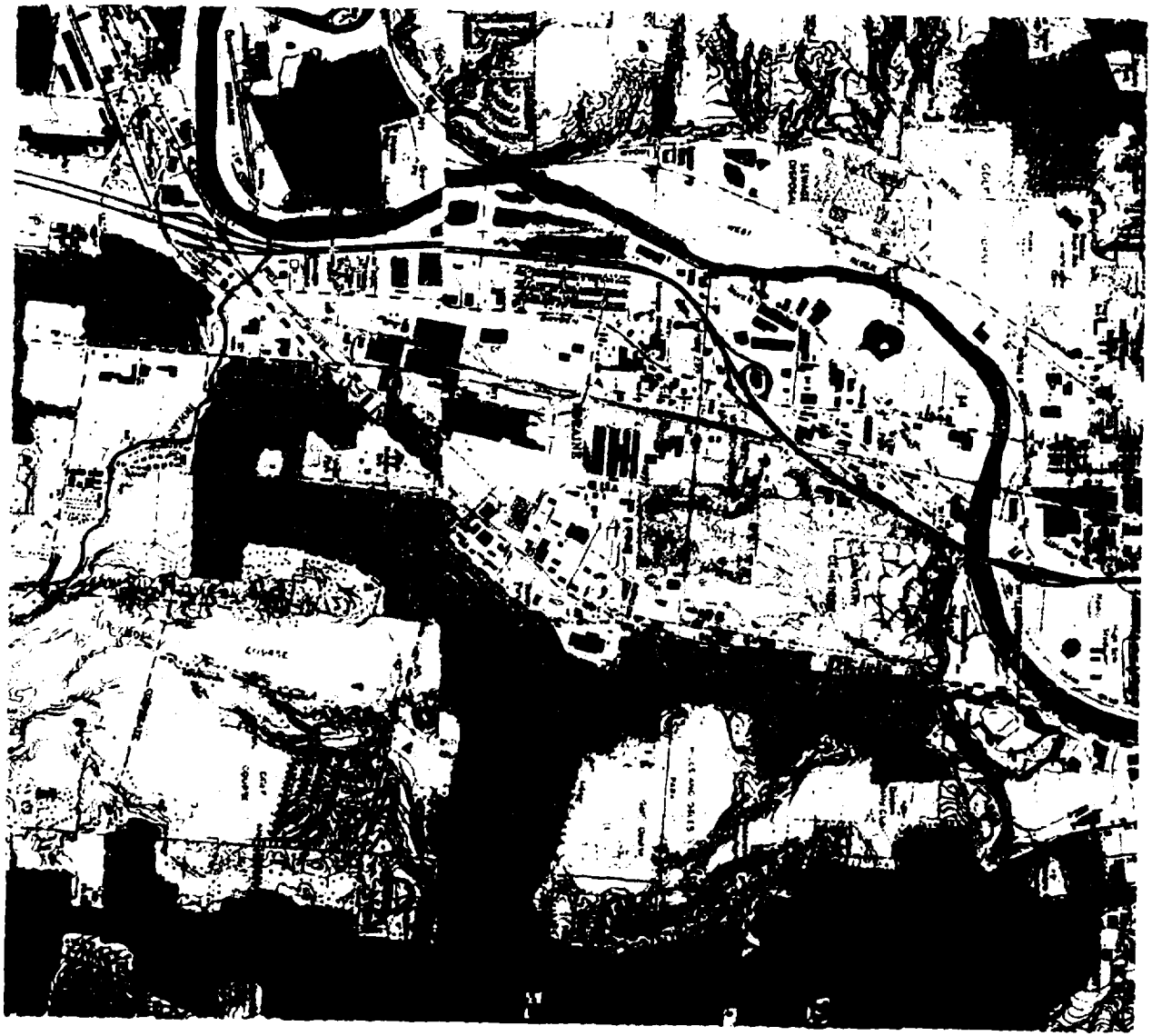
Response Summary

- 1/98 – Sampled OEPA wells (101A, 102, 103)
- 5/98 – Installed new wells 201- 204. Sampled network.
- 2/99 – Installed new wells 206 – 210 and 212. Sampled network.
- 11/99 – Sampled network

Response Summary

- 5/00 – Sampled MW network. Collected surface water and sediment samples from lake.
- 6/01 – Sampled MW network.
- 6/02 – Sampled MW network.

USGS Map

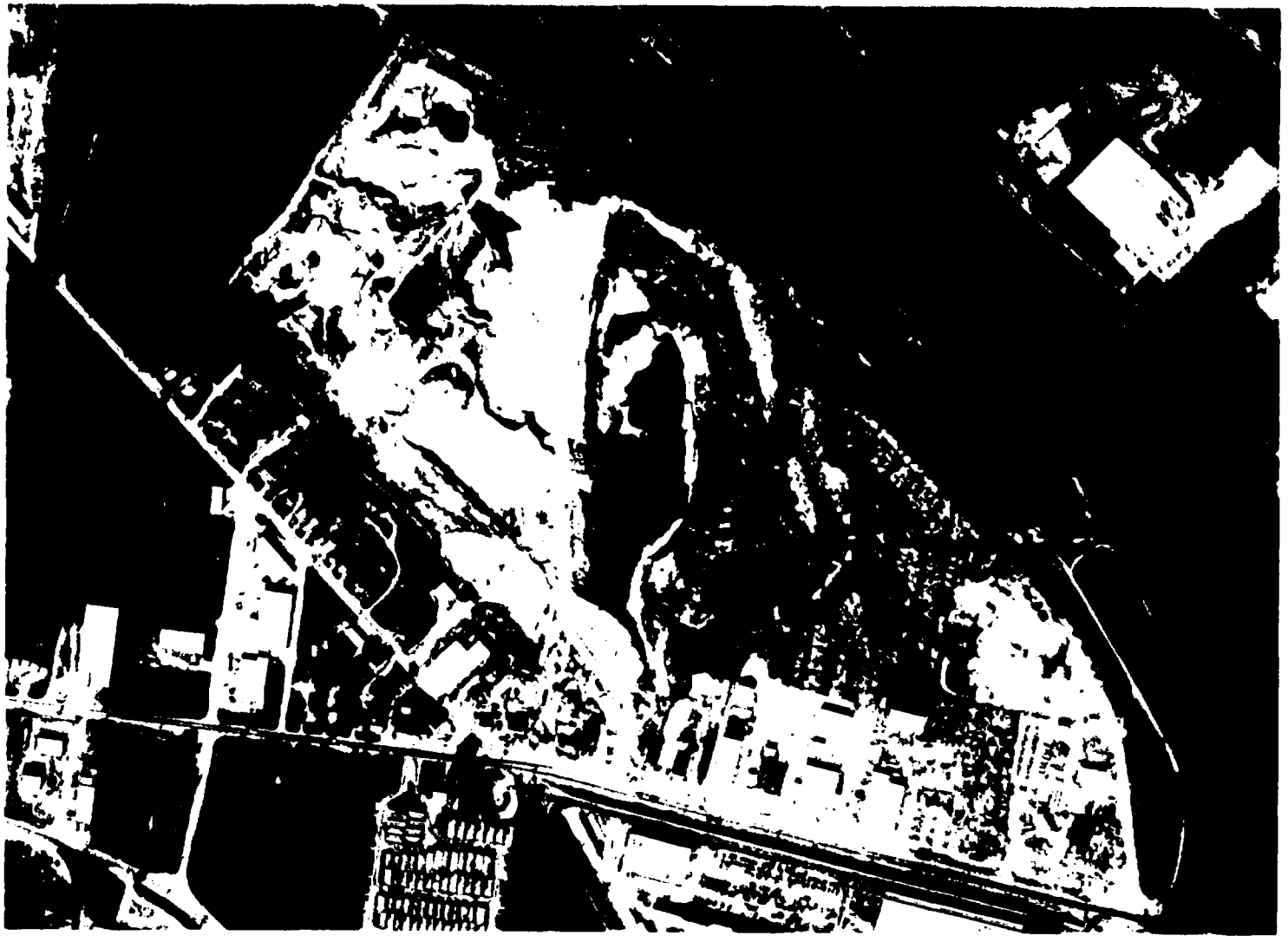


1996

1956

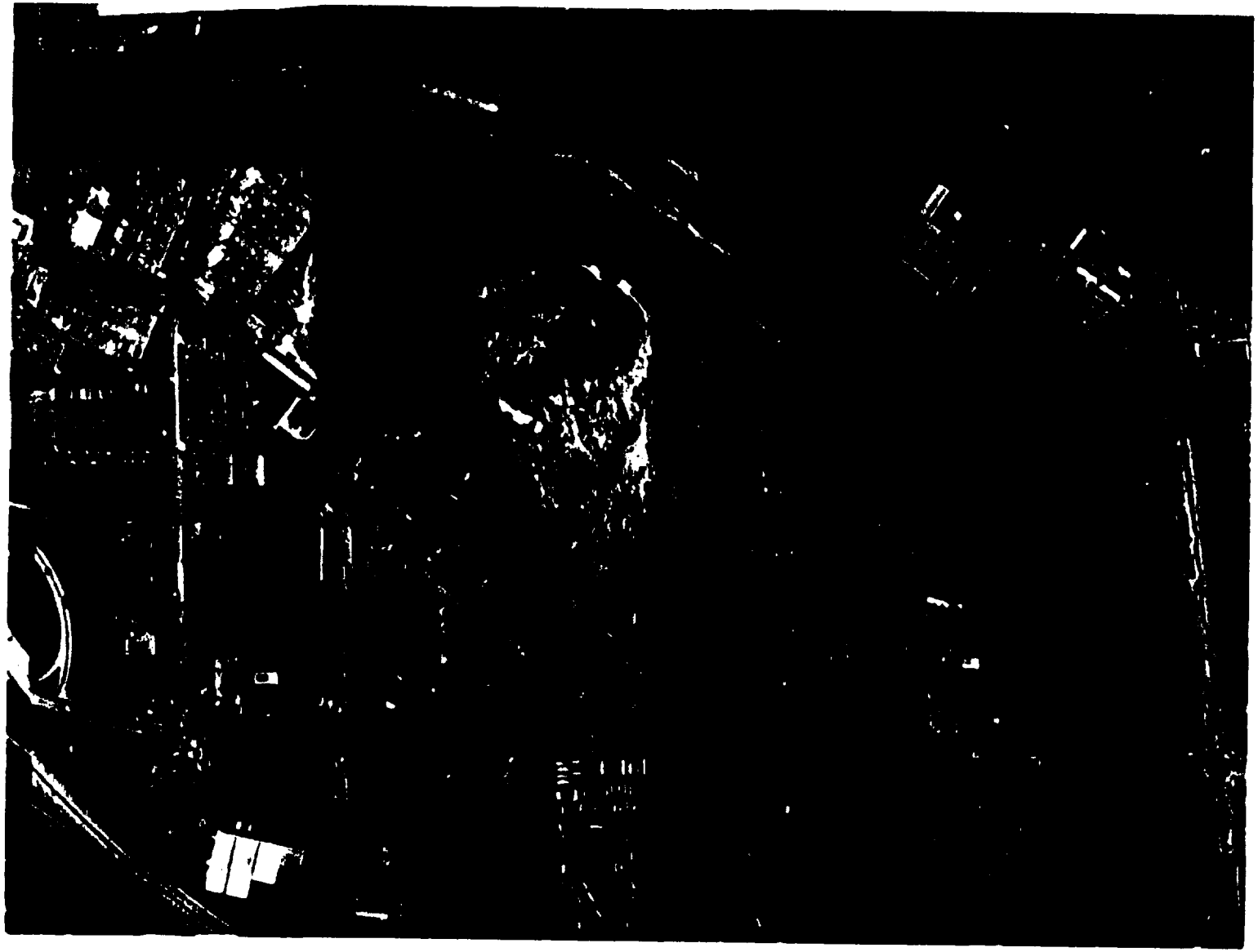
1957

1968

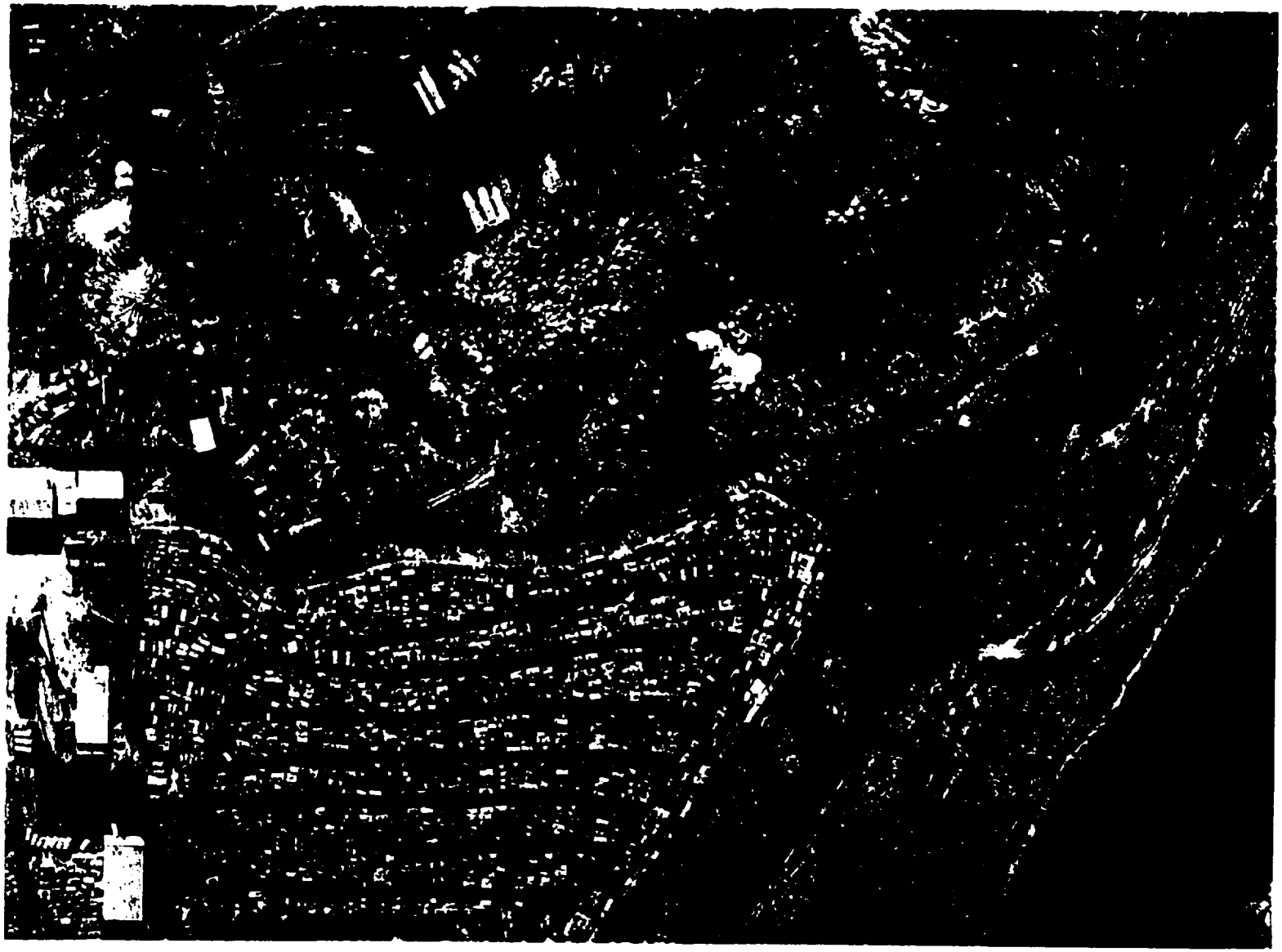


1973

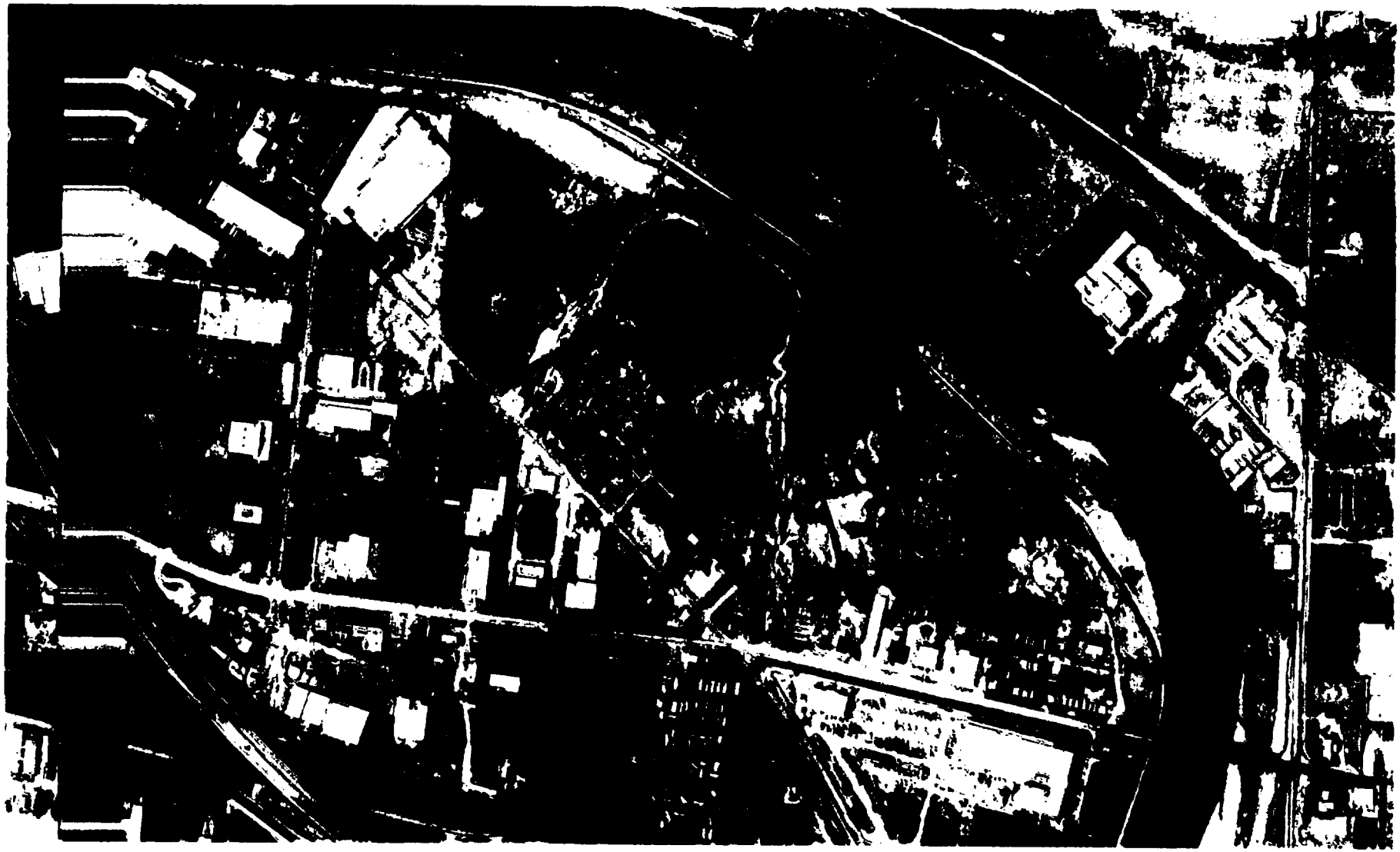
1975



1978



1987



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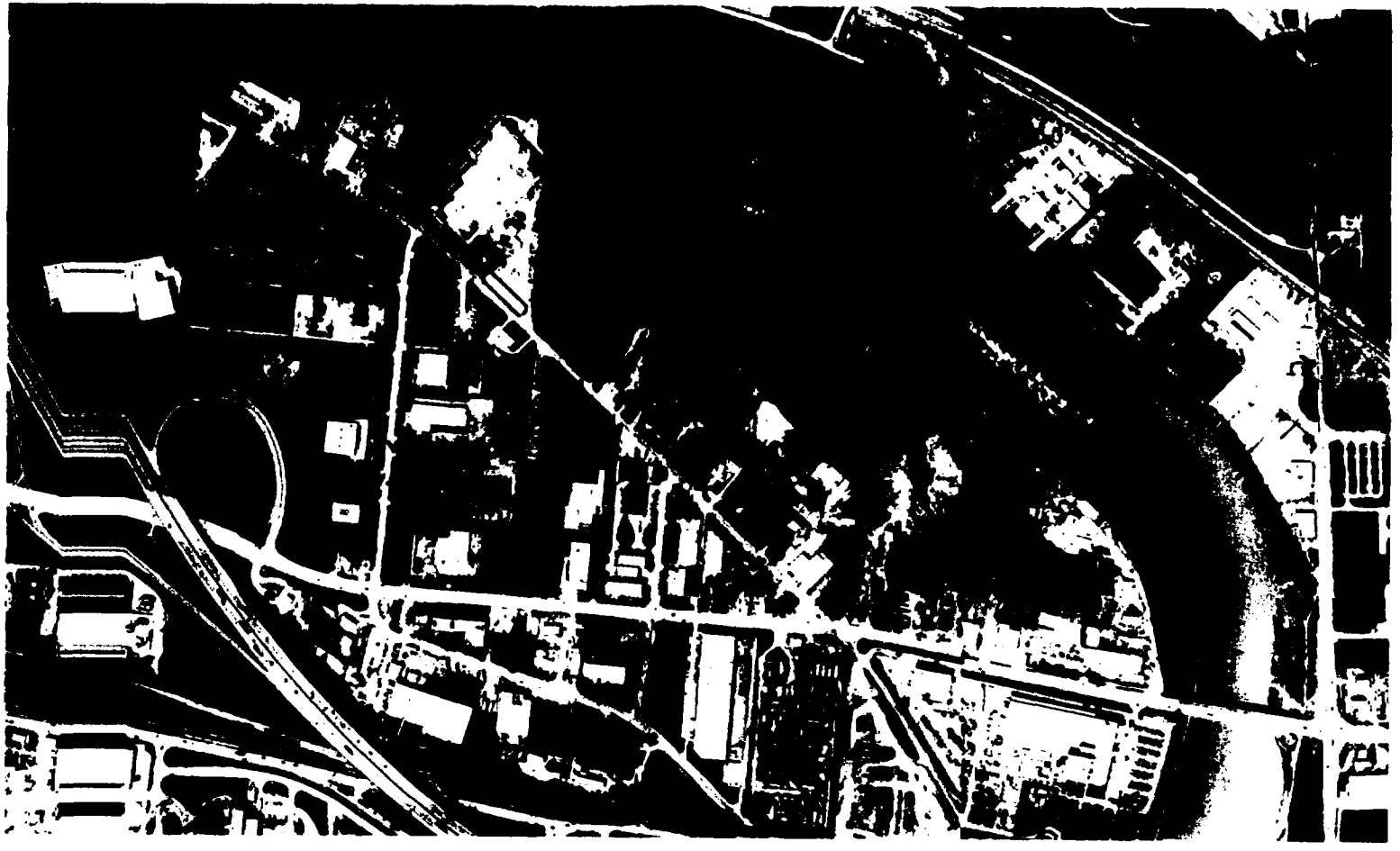
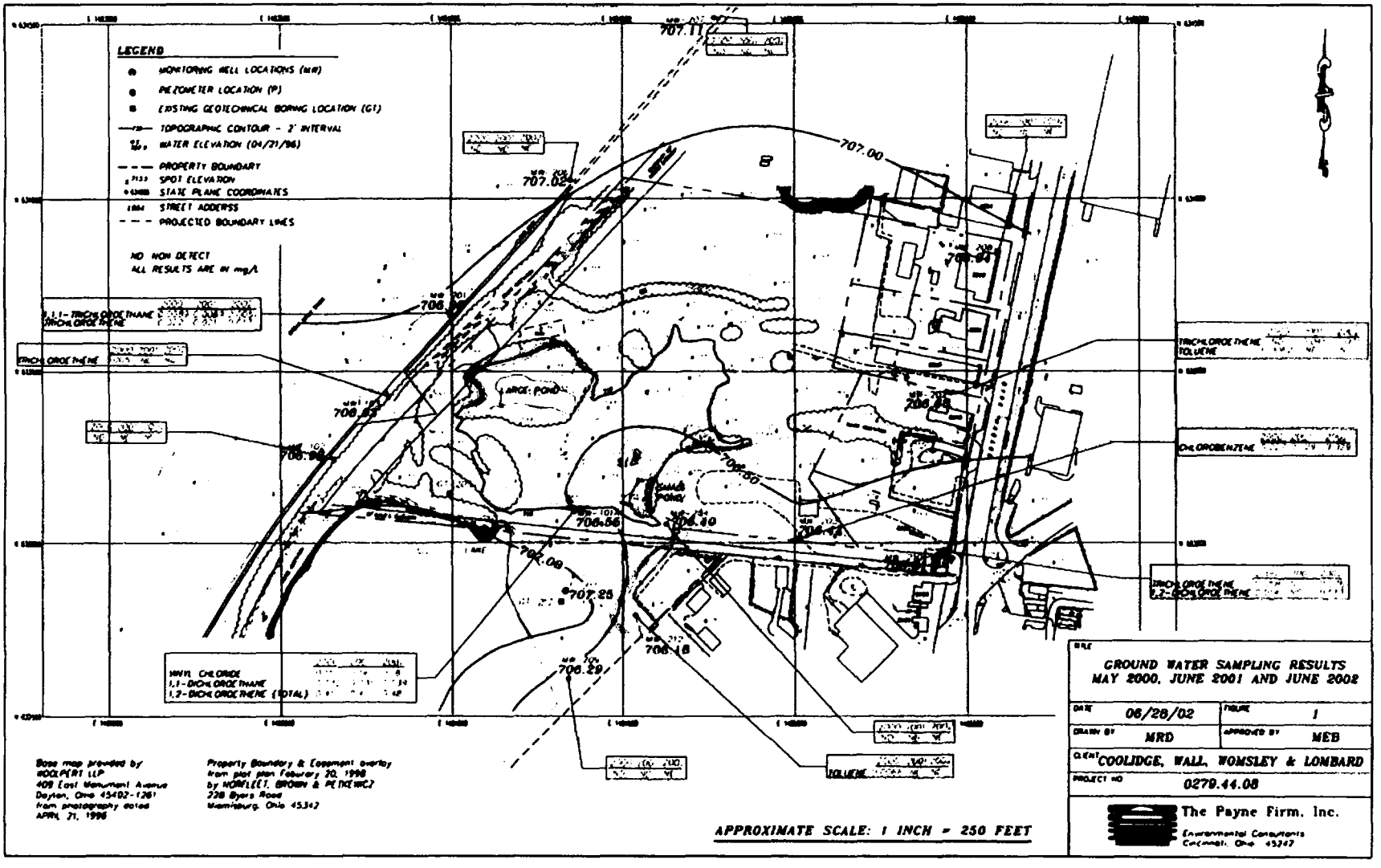
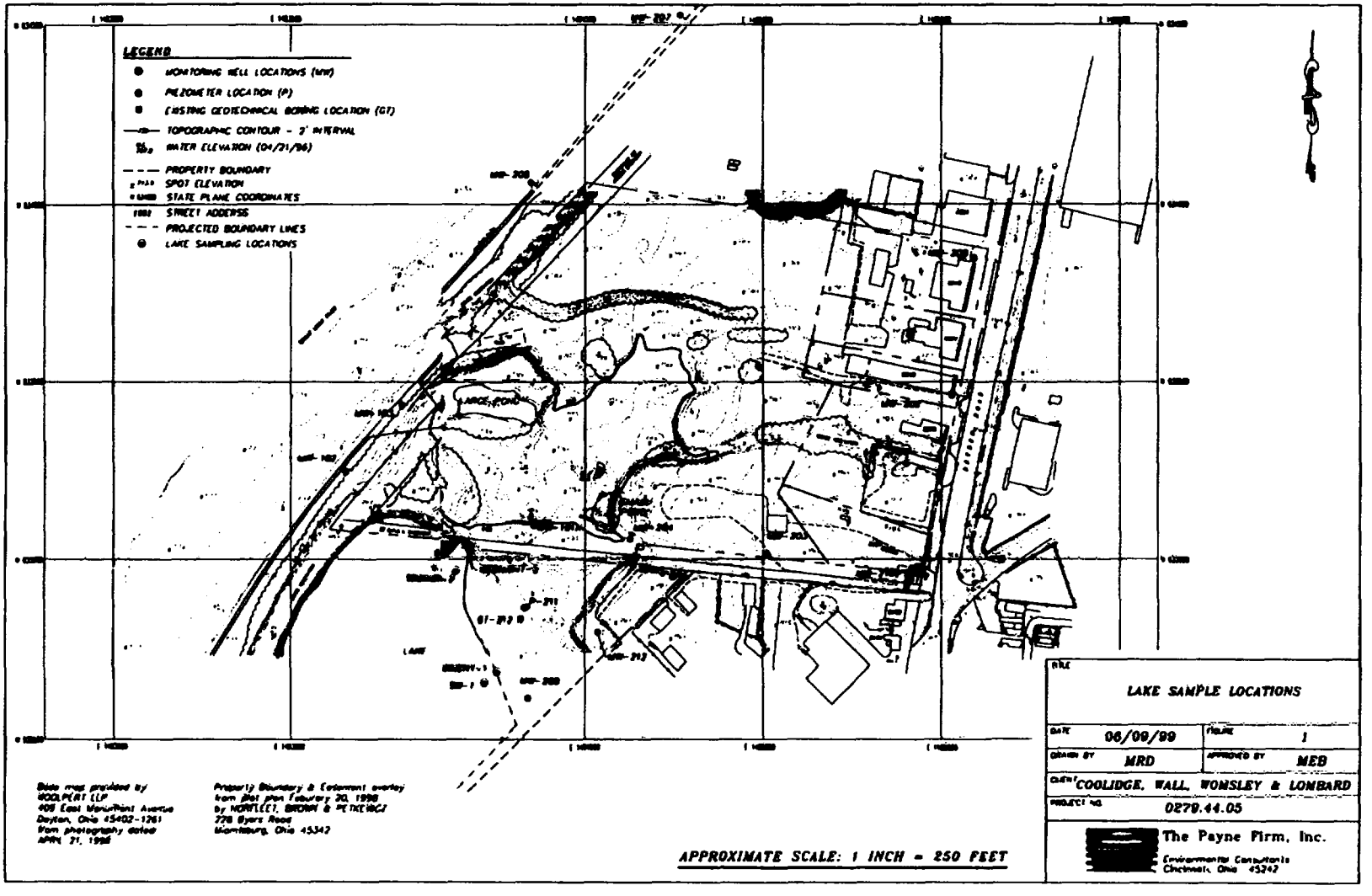


1996

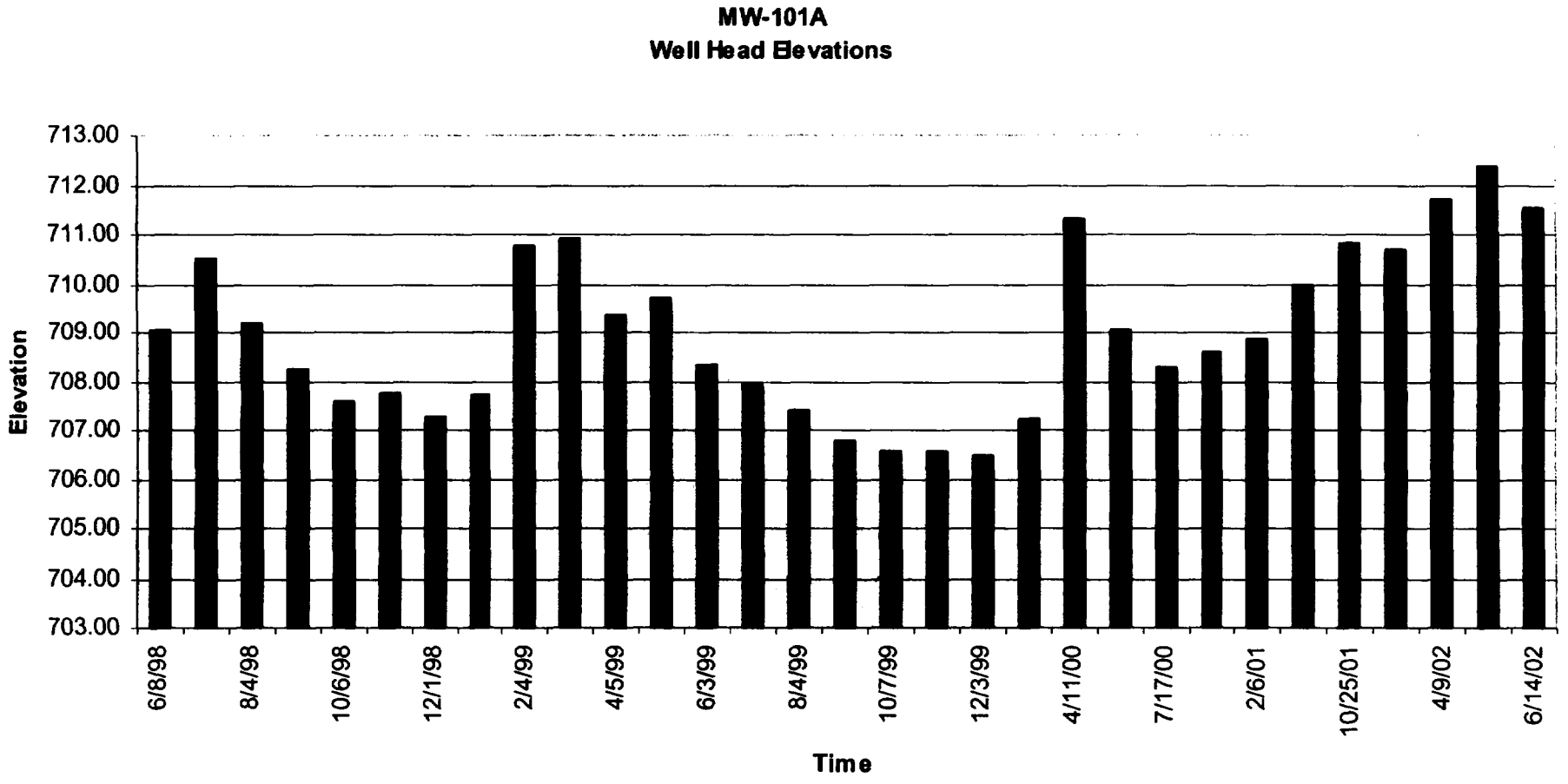
Data Summary



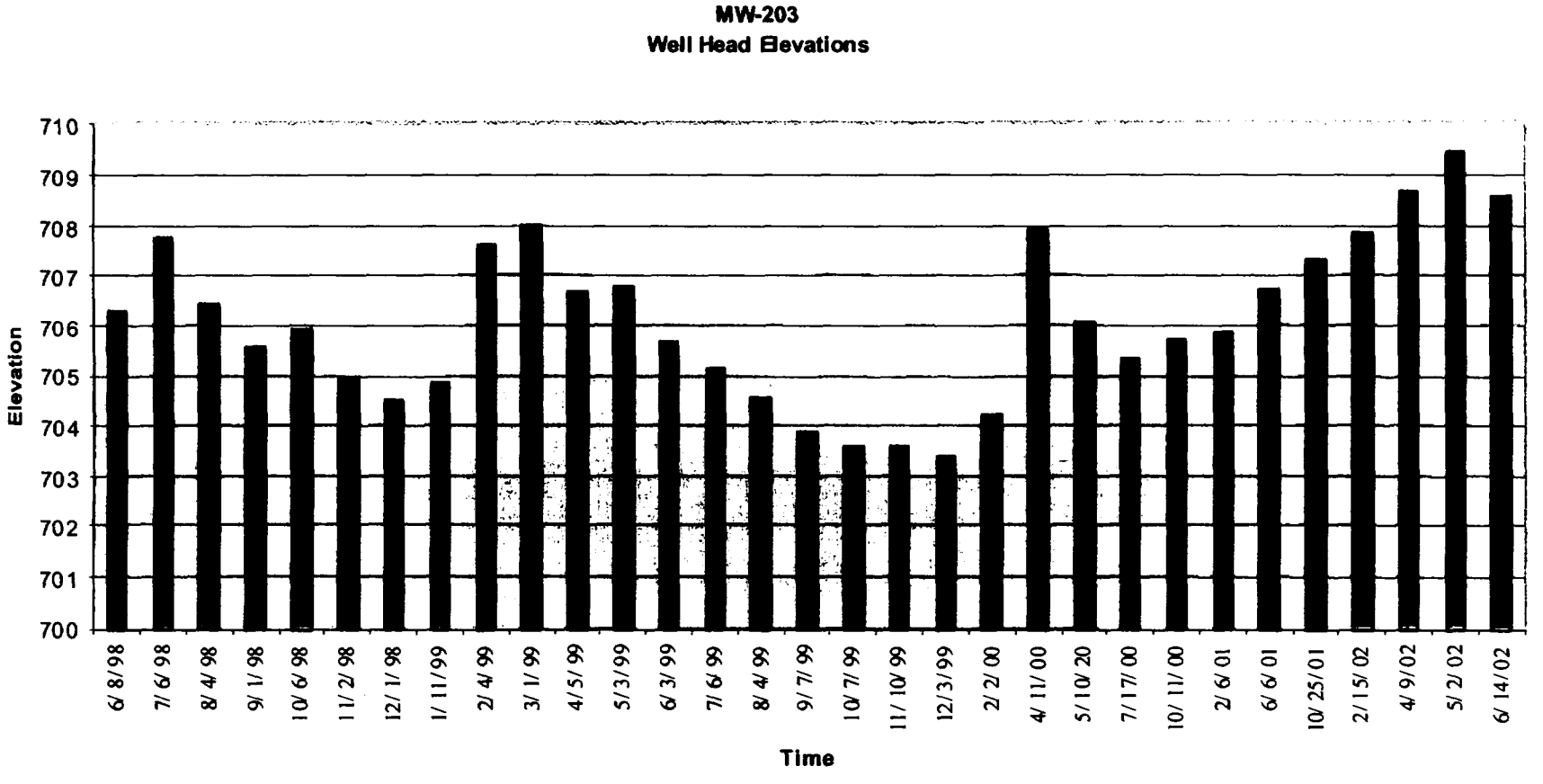
Data Summary



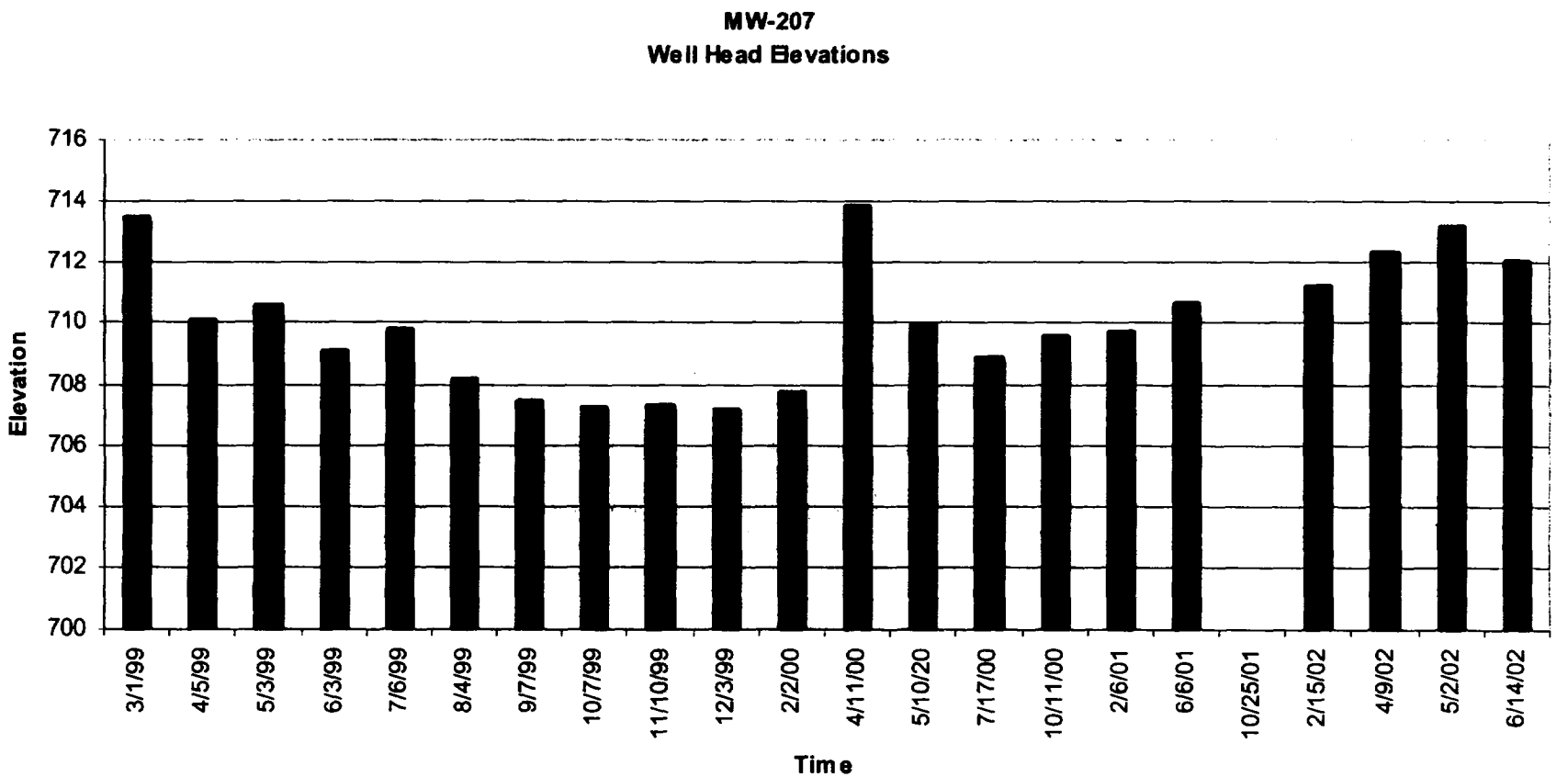
Well Elevations – MW101A



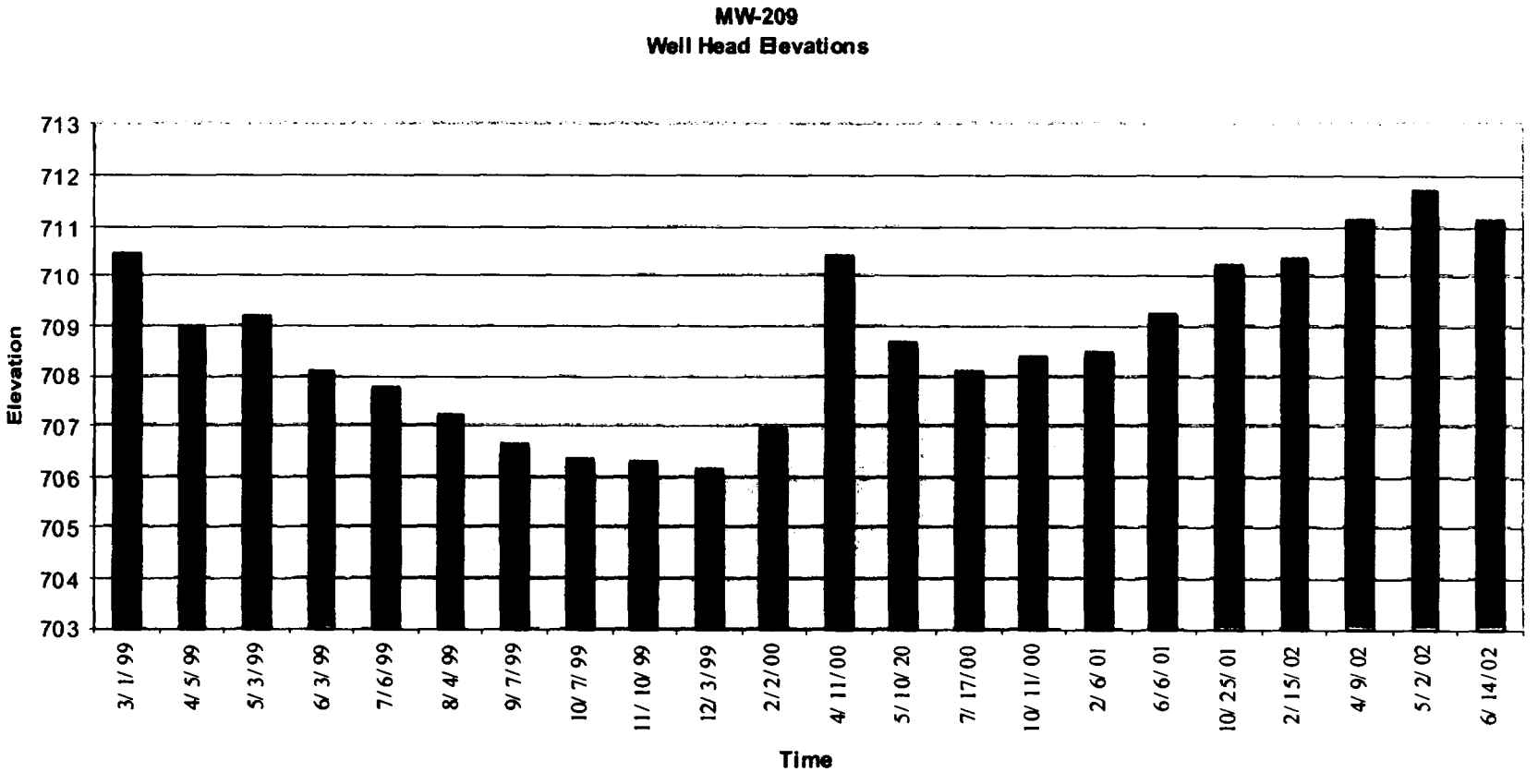
Well Elevations – MW203



Well Elevations – MW207



Well Elevations – MW209



Recommended Path Forward

- Future response
  - Better-define ground water conditions
  - Presumptive Remedy
    - Hard fill to grade
    - Cap and cover
    - Ground water

Recommended Path Forward

- Regulatory context
  - Ohio EPA Solid Waste Program
    - Appropriate jurisdiction given:
      - Nature of facility
      - Nature of environmental challenges
    - Administratively efficient
    - Timely
    - Cost effective

Summary:

- The landfill should be closed pursuant to Ohio laws and regulations governing closure of solid waste facilities as those regulations are applicable.

- Mrs. Grillot and Mrs Boesch are prepared to immediately move forward on that basis so that this property can be redeveloped.

Summary:

- This approach will be fully protective of human health and the environment. Use of the Superfund mechanism may cause unnecessary expense and delay and result normal PRP defensive maneuvering which we would like to avoid.

APPENDIX IV

ANALYTICAL DATA

FILE COPY

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The Payne Firm, Inc.

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STL North Canton
4101 Shuffel Drive NW
North Canton, OH 44720-6961

Tel: 330 497 9396
Fax: 330 497 0772
www.stl-inc.com

ANALYTICAL REPORT

PROJECT NO. 279.44.05

GRILLOT

Lot #: A2F150142

Mark Berkich

The Payne Firm, Inc.

SEVERN TRENT LABORATORIES, INC.

Roger K. Toth

Roger K. Toth
Project Manager

July 2, 2002

CASE NARRATIVE

A2F150142

The following report contains the analytical results for sixteen water samples submitted to STL North Canton by The Payne Firm, Inc. from the Grillot site, project number 279.44.05. The samples were received on June 15, 2002, according to documented sample acceptance procedures.

STL North Canton utilizes USEPA approved methods in all analytical work. The sample(s) presented in this report was analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Mark Berkich on June 28 and July 1, 2002.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan. All data have been found to be compliant with laboratory protocol.

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 3.6° C.

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	Metals
Methylene chloride	Phthalate Esters	Copper
Acetone		Iron
2-Butanone		Zinc
		Lead*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.

QUALITY CONTROL ELEMENTS OF SW-846 METHODS
(Continued)

- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprepped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be reprepped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, PAH, and Herbicide methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

ANALYTICAL METHODS SUMMARY

A2F150142

PARAMETER	ANALYTICAL METHOD
Volatile Organics by GC/MS	SW846 8260B

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

A2F150142

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
E25FF	001	MW-101A/061402	06/14/02	14:58
E25FL	002	MW-102/061402	06/14/02	13:10
E25FM	003	MW-103/061402	06/14/02	12:41
E25FN	004	MW-201/061402	06/14/02	12:08
E25FP	005	MW-202/061402	06/14/02	09:35
E25FQ	006	MW-203/061402	06/14/02	14:04
E25FR	007	MW-204/061402	06/14/02	14:35
E25FV	008	MW-206/061402	06/14/02	11:07
E25FW	009	MW-207/061402	06/14/02	10:20
E25FX	010	MW-208/061402	06/14/02	09:05
E25F0	011	MW-209/061402	06/14/02	15:33
E25F2	012	MW-210/061402	06/14/02	13:[illegible]
E25F4	013	MW-212/061402	06/14/02	16[illegible]
E25GD	014	RINSATE01/061402	06/14/02	
E25GL	015	DUPLICATE01/061402	06/14/02	
E25GM	016	FIELD BLANK/061402	06/14/02	

NOTE(S):

The analytical results of the samples listed above are presented on the following pages.

All calculations are performed before rounding to avoid round-off errors in calculated results.

- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PAYNE FIRM INC.

Client Sample ID: MW-101A/061402

GC/MS Volatiles

Lot-Sample #...: A2F150142-001 **Work Order #...:** E25FF1AA **Matrix.....:** WG
Date Sampled...: 06/14/02 14:58 **Date Received..:** 06/15/02
Prep Date.....: 06/19/02 **Analysis Date..:** 06/19/02
Prep Batch #...: 2171510
Dilution Factor: 3.33 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	33	ug/L
Bromomethane	ND	33	ug/L
Vinyl chloride	**180**	**33**	**ug/L**
Chloroethane	ND	33	ug/L
Methylene chloride	ND	17	ug/L
Acetone	ND	67	ug/L
Carbon disulfide	ND	17	ug/L
1,1-Dichloroethene	ND	17	ug/L
1,1-Dichloroethane	**39**	**17**	**ug/L**
1,2-Dichloroethene (total)	**480**	**17**	**ug/L**
Chloroform	ND	17	ug/L
1,2-Dichloroethane	ND	17	ug/L
2-Butanone	ND	67	ug/L
1,1,1-Trichloroethane	ND	17	ug/L
Carbon tetrachloride	ND	17	ug/L
Bromodichloromethane	ND	17	ug/L
1,2-Dichloropropane	ND	17	ug/L
cis-1,3-Dichloropropene	ND	17	ug/L
Trichloroethene	ND	17	ug/L
Dibromochloromethane	ND	17	ug/L
1,1,2-Trichloroethane	ND	17	ug/L
Benzene	ND	17	ug/L
trans-1,3-Dichloropropene	ND	17	ug/L
Bromoform	ND	17	ug/L
4-Methyl-2-pentanone	ND	67	ug/L
2-Hexanone	ND	67	ug/L
Tetrachloroethene	ND	17	ug/L
1,1,2,2-Tetrachloroethane	ND	17	ug/L
Toluene	ND	17	ug/L
Chlorobenzene	ND	17	ug/L
Ethylbenzene	ND	17	ug/L
Styrene	ND	17	ug/L
Xylenes (total)	ND	17	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	93	(78 - 115)
1,2-Dichloroethane-d4	91	(77 - 120)
Toluene-d8	92	(78 - 111)
4-Bromofluorobenzene	85	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW-102/061402

GC/MS Volatiles

Lot-Sample #...: A2F150142-002 **Work Order #...:** E25FL1AA **Matrix.....:** WG
Date Sampled...: 06/14/02 13:10 **Date Received..:** 06/15/02
Prep Date.....: 06/19/02 **Analysis Date..:** 06/19/02
Prep Batch #...: 2171510
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	91	(78 - 115)
1,2-Dichloroethane-d4	86	(77 - 120)
Toluene-d8	93	(78 - 111)
4-Bromofluorobenzene	82	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW-103/061402

GC/MS Volatiles

Lot-Sample #...: A2F150142-003 **Work Order #...:** E25FM1AA **Matrix.....:** WG
Date Sampled...: 06/14/02 12:41 **Date Received..:** 06/15/02
Prep Date.....: 06/19/02 **Analysis Date..:** 06/19/02
Prep Batch #...: 2171510
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	92	(78 - 115)
1,2-Dichloroethane-d4	88	(77 - 120)
Toluene-d8	93	(78 - 111)
4-Bromofluorobenzene	81	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW-201/061402

GC/MS Volatiles

Lot-Sample #...: A2F150142-004 **Work Order #...:** E25FN1AA **Matrix.....:** WG
Date Sampled...: 06/14/02 12:08 **Date Received..:** 06/15/02
Prep Date.....: 06/19/02 **Analysis Date..:** 06/19/02
Prep Batch #...: 2171510
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	**5.2**	**5.0**	**ug/L**
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	**17**	**5.0**	**ug/L**
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	91	(78 - 115)
1,2-Dichloroethane-d4	87	(77 - 120)
Toluene-d8	92	(78 - 111)
4-Bromofluorobenzene	80	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW-202/061402

GC/MS Volatiles

Lot-Sample #...: A2F150142-005 **Work Order #...:** E25FP1AA **Matrix.....:** WG
Date Sampled...: 06/14/02 09:35 **Date Received..:** 06/15/02
Prep Date.....: 06/20/02 **Analysis Date..:** 06/20/02
Prep Batch #...: 2171510
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	**31**	**5.0**	**ug/L**
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	91	(78 - 115)
1,2-Dichloroethane-d4	87	(77 - 120)
Toluene-d8	93	(78 - 111)
4-Bromofluorobenzene	82	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW-203/061402

GC/MS Volatiles

Lot-Sample #...: A2F150142-006 **Work Order #...:** E25FQ1AA **Matrix.....:** WG
Date Sampled...: 06/14/02 14:04 **Date Received..:** 06/15/02
Prep Date.....: 06/20/02 **Analysis Date..:** 06/20/02
Prep Batch #...: 2171510
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	**29**	**5.0**	**ug/L**
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	89	(78 - 115)
1,2-Dichloroethane-d4	87	(77 - 120)
Toluene-d8	91	(78 - 111)
4-Bromofluorobenzene	85	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW-204/061402

GC/MS Volatiles

Lot-Sample #...: A2F150142-007 **Work Order #...:** E25FR1AA **Matrix.....:** WG
Date Sampled...: 06/14/02 14:35 **Date Received..:** 06/15/02
Prep Date.....: 06/20/02 **Analysis Date..:** 06/20/02
Prep Batch #...: 2171510
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	92	(78 - 115)
1,2-Dichloroethane-d4	88	(77 - 120)
Toluene-d8	91	(78 - 111)
4-Bromofluorobenzene	86	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW-206/061402

GC/MS Volatiles

Lot-Sample #...: A2F150142-008 **Work Order #...:** E25FV1AA **Matrix.....:** WG
Date Sampled...: 06/14/02 11:07 **Date Received..:** 06/15/02
Prep Date.....: 06/20/02 **Analysis Date..:** 06/20/02
Prep Batch #...: 2171510
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	90	(78 - 115)
1,2-Dichloroethane-d4	86	(77 - 120)
Toluene-d8	92	(78 - 111)
4-Bromofluorobenzene	80	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW-207/061402

GC/MS Volatiles

Lot-Sample #...: A2F150142-009 **Work Order #...:** E25FW1AA **Matrix.....:** WG
Date Sampled...: 06/14/02 10:20 **Date Received..:** 06/15/02
Prep Date.....: 06/20/02 **Analysis Date..:** 06/20/02
Prep Batch #...: 2171510
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	91	(78 - 115)
1,2-Dichloroethane-d4	85	(77 - 120)
Toluene-d8	94	(78 - 111)
4-Bromofluorobenzene	81	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW-208/061402

GC/MS Volatiles

Lot-Sample #...: A2F150142-010 **Work Order #...:** E25FX1AA **Matrix.....:** WG
Date Sampled...: 06/14/02 09:05 **Date Received..:** 06/15/02
Prep Date.....: 06/20/02 **Analysis Date..:** 06/20/02
Prep Batch #...: 2171510
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	94	(78 - 115)
1,2-Dichloroethane-d4	86	(77 - 120)
Toluene-d8	93	(78 - 111)
4-Bromofluorobenzene	80	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW-209/061402

GC/MS Volatiles

Lot-Sample #...: A2F150142-011 **Work Order #...:** E25F01AA **Matrix.....:** WG
Date Sampled...: 06/14/02 15:33 **Date Received..:** 06/15/02
Prep Date.....: 06/20/02 **Analysis Date..:** 06/20/02
Prep Batch #...: 2171510
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	93	(78 - 115)
1,2-Dichloroethane-d4	89	(77 - 120)
Toluene-d8	93	(78 - 111)
4-Bromofluorobenzene	81	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW-210/061402

GC/MS Volatiles

Lot-Sample #...: A2F150142-012 **Work Order #...:** E25F21AA **Matrix.....:** WG
Date Sampled...: 06/14/02 13:40 **Date Received..:** 06/15/02
Prep Date.....: 06/26/02 **Analysis Date..:** 06/26/02
Prep Batch #...: 2178445
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	**13**	**5.0**	**ug/L**
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	**76**	**5.0**	**ug/L**
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	88	(78 - 115)
1,2-Dichloroethane-d4	88	(77 - 120)
Toluene-d8	88	(78 - 111)
4-Bromofluorobenzene	82	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW-212/061402

GC/MS Volatiles

Lot-Sample #...: A2F150142-013 **Work Order #...:** E25F41AA **Matrix.....:** WG
Date Sampled...: 06/14/02 16:10 **Date Received..:** 06/15/02
Prep Date.....: 06/26/02 **Analysis Date..:** 06/26/02
Prep Batch #...: 2178445
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
'ethylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	87	(78 - 115)
1,2-Dichloroethane-d4	88	(77 - 120)
Toluene-d8	90	(78 - 111)
4-Bromofluorobenzene	80	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: RINSATE01/061402

GC/MS Volatiles

Lot-Sample #...:	A2F150142-014	**Work Order #...:**	E25GD1AA	**Matrix.....:**	WQ
Date Sampled...:	06/14/02	**Date Received..:**	06/15/02		
Prep Date.....:	06/26/02	**Analysis Date..:**	06/26/02		
Prep Batch #...:	2178445				
Dilution Factor:	1	**Method.....:**	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	89	(78 - 115)
1,2-Dichloroethane-d4	89	(77 - 120)
Toluene-d8	91	(78 - 111)
4-Bromofluorobenzene	81	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: DUPLICATE01/061402

GC/MS Volatiles

Lot-Sample #...: A2F150142-015 **Work Order #...:** E25GL1AA **Matrix.....:** WG
Date Sampled...: 06/14/02 **Date Received..:** 06/15/02
Prep Date.....: 06/27/02 **Analysis Date..:** 06/27/02
Prep Batch #...: 2179455
Dilution Factor: 3.85 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	38	ug/L
Bromomethane	ND	38	ug/L
Vinyl chloride	**170**	**38**	**ug/L**
Chloroethane	ND	38	ug/L
'ethylene chloride	ND	19	ug/L
Acetone	ND	77	ug/L
Carbon disulfide	ND	19	ug/L
1,1-Dichloroethene	ND	19	ug/L
1,1-Dichloroethane	**42**	**19**	**ug/L**
1,2-Dichloroethene (total)	**500**	**19**	**ug/L**
Chloroform	ND	19	ug/L
1,2-Dichloroethane	ND	19	ug/L
2-Butanone	ND	77	ug/L
1,1,1-Trichloroethane	ND	19	ug/L
Carbon tetrachloride	ND	19	ug/L
Bromodichloromethane	ND	19	ug/L
1,2-Dichloropropane	ND	19	ug/L
cis-1,3-Dichloropropene	ND	19	ug/L
Trichloroethene	ND	19	ug/L
Dibromochloromethane	ND	19	ug/L
,1,2-Trichloroethane	ND	19	ug/L
Benzene	ND	19	ug/L
trans-1,3-Dichloropropene	ND	19	ug/L
Bromoform	ND	19	ug/L
4-Methyl-2-pentanone	ND	77	ug/L
2-Hexanone	ND	77	ug/L
Tetrachloroethene	ND	19	ug/L
1,1,2,2-Tetrachloroethane	ND	19	ug/L
Toluene	ND	19	ug/L
Chlorobenzene	ND	19	ug/L
Ethylbenzene	ND	19	ug/L
Styrene	ND	19	ug/L
Xylenes (total)	ND	19	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	93	(78 - 115)
1,2-Dichloroethane-d4	98	(77 - 120)
Toluene-d8	93	(78 - 111)
4-Bromofluorobenzene	82	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: FIELD BLANK/061402

GC/MS Volatiles

Lot-Sample #...: A2F150142-016 **Work Order #...:** E25GM1AA **Matrix.....:** WQ
Date Sampled...: 06/14/02 **Date Received..:** 06/15/02
Prep Date.....: 06/19/02 **Analysis Date..:** 06/19/02
Prep Batch #...: 2171510
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	91	(78 - 115)
1,2-Dichloroethane-d4	88	(77 - 120)
Toluene-d8	91	(78 - 111)
4-Bromofluorobenzene	81	(80 - 114)

QUALITY CONTROL SECTION

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A2F150142 **Work Order #...:** E3E221AA **Matrix.....:** WATER
MB Lot-Sample #: A2F200000-510

Prep Date.....: 06/19/02
Analysis Date..: 06/19/02 **Prep Batch #...:** 2171510
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	10	ug/L	SW846 8260B
Bromomethane	ND	10	ug/L	SW846 8260B
Vinyl chloride	ND	10	ug/L	SW846 8260B
Chloroethane	ND	10	ug/L	SW846 8260B
Methylene chloride	ND	5.0	ug/L	SW846 8260B
Acetone	ND	20	ug/L	SW846 8260B
Carbon disulfide	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethene (total)	ND	5.0	ug/L	SW846 8260B
Chloroform	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	5.0	ug/L	SW846 8260B
Butanone	ND	20	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	5.0	ug/L	SW846 8260B
Bromodichloromethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	5.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Trichloroethene	ND	5.0	ug/L	SW846 8260B
Dibromochloromethane	ND	5.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Benzene	ND	5.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Bromoform	ND	5.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	20	ug/L	SW846 8260B
2-Hexanone	ND	20	ug/L	SW846 8260B
Tetrachloroethene	ND	5.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	SW846 8260B
Toluene	ND	5.0	ug/L	SW846 8260B
Chlorobenzene	ND	5.0	ug/L	SW846 8260B
Ethylbenzene	ND	5.0	ug/L	SW846 8260B
Styrene	ND	5.0	ug/L	SW846 8260B
Xylenes (total)	ND	5.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	90	(78 - 115)
2-Dichloroethane-d4	88	(77 - 120)
Toluene-d8	92	(78 - 111)
4-Bromofluorobenzene	83	(80 - 114)

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A2F150142 **Work Order #...:** E3E221AA **Matrix.....:** WATER

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A2F150142 **Work Order #...:** E3VFR1AA **Matrix.....:** WATER
MB Lot-Sample #: A2F270000-445

Prep Date.....: 06/26/02
Analysis Date..: 06/26/02 **Prep Batch #...:** 2178445
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	10	ug/L	SW846 8260B
Bromomethane	ND	10	ug/L	SW846 8260B
Vinyl chloride	ND	10	ug/L	SW846 8260B
Chloroethane	ND	10	ug/L	SW846 8260B
Methylene chloride	ND	5.0	ug/L	SW846 8260B
Acetone	ND	20	ug/L	SW846 8260B
Carbon disulfide	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethene (total)	ND	5.0	ug/L	SW846 8260B
Chloroform	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	5.0	ug/L	SW846 8260B
2-Butanone	ND	20	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	5.0	ug/L	SW846 8260B
Bromodichloromethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	5.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Trichloroethene	ND	5.0	ug/L	SW846 8260B
Dibromochloromethane	ND	5.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Benzene	ND	5.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Bromoform	ND	5.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	20	ug/L	SW846 8260B
2-Hexanone	ND	20	ug/L	SW846 8260B
Tetrachloroethene	ND	5.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	SW846 8260B
Toluene	ND	5.0	ug/L	SW846 8260B
Chlorobenzene	ND	5.0	ug/L	SW846 8260B
Ethylbenzene	ND	5.0	ug/L	SW846 8260B
Styrene	ND	5.0	ug/L	SW846 8260B
Xylenes (total)	ND	5.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	89	(78 - 115)
1,2-Dichloroethane-d4	86	(77 - 120)
Toluene-d8	92	(78 - 111)
4-Bromofluorobenzene	81	(80 - 114)

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A2F150142 **Work Order #...:** E3VFR1AA **Matrix.....:** WATER

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A2F150142 **Work Order #...:** E30VG1AA **Matrix.....:** WATER
MB Lot-Sample #: A2F280000-455

Prep Date.....: 06/27/02
Analysis Date..: 06/27/02 **Prep Batch #...:** 2179455
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	10	ug/L	SW846 8260B
Bromomethane	ND	10	ug/L	SW846 8260B
Vinyl chloride	ND	10	ug/L	SW846 8260B
Chloroethane	ND	10	ug/L	SW846 8260B
Methylene chloride	ND	5.0	ug/L	SW846 8260B
Acetone	ND	20	ug/L	SW846 8260B
Carbon disulfide	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethene (total)	ND	5.0	ug/L	SW846 8260B
Chloroform	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	5.0	ug/L	SW846 8260B
-Butanone	ND	20	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	5.0	ug/L	SW846 8260B
Bromodichloromethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	5.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Trichloroethene	ND	5.0	ug/L	SW846 8260B
Dibromochloromethane	ND	5.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Benzene	ND	5.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Bromoform	ND	5.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	20	ug/L	SW846 8260B
2-Hexanone	ND	20	ug/L	SW846 8260B
Tetrachloroethene	ND	5.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	SW846 8260B
Toluene	ND	5.0	ug/L	SW846 8260B
Chlorobenzene	ND	5.0	ug/L	SW846 8260B
Ethylbenzene	ND	5.0	ug/L	SW846 8260B
Styrene	ND	5.0	ug/L	SW846 8260B
Xylenes (total)	ND	5.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	91	(78 - 115)
,2-Dichloroethane-d4	97	(77 - 120)
oluene-d8	91	(78 - 111)
4-Bromofluorobenzene	85	(80 - 114)

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A2F150142 **Work Order #...:** E30VG1AA **Matrix.....:** WATER

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A2F150142 **Work Order #...:** E3E221AC **Matrix.....:** WATER
LCS Lot-Sample#: A2F200000-510
Prep Date.....: 06/19/02 **Analysis Date..:** 06/19/02
Prep Batch #...: 2171510
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
1,1-Dichloroethene	**96**	**(65 - 119)**	**SW846 8260B**
Trichloroethene	**96**	**(80 - 122)**	**SW846 8260B**
Benzene	**109**	**(79 - 116)**	**SW846 8260B**
Toluene	**98**	**(76 - 119)**	**SW846 8260B**
Chlorobenzene	**98**	**(81 - 115)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	93	(78 - 115)
1,2-Dichloroethane-d4	90	(77 - 120)
Toluene-d8	91	(78 - 111)
4-Bromofluorobenzene	91	(80 - 114)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A2F150142 **Work Order #...:** E3VFR1AC **Matrix.....:** WATER
LCS Lot-Sample#: A2F270000-445
Prep Date.....: 06/26/02 **Analysis Date..:** 06/26/02
Prep Batch #...: 2178445
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
1,1-Dichloroethene	**102**	**(65 - 119)**	**SW846 8260B**
Trichloroethene	**101**	**(80 - 122)**	**SW846 8260B**
Benzene	**99**	**(79 - 116)**	**SW846 8260B**
Toluene	**101**	**(76 - 119)**	**SW846 8260B**
Chlorobenzene	**101**	**(81 - 115)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	86	(78 - 115)
1,2-Dichloroethane-d4	87	(77 - 120)
Toluene-d8	90	(78 - 111)
4-Bromofluorobenzene	91	(80 - 114)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A2F150142 **Work Order #...:** E25F41AC-MS **Matrix.....:** WG
MS Lot-Sample #: A2F150142-013 E25F41AD-MSD
Date Sampled...: 06/14/02 16:10 **Date Received..:** 06/15/02
Prep Date.....: 06/26/02 **Analysis Date..:** 06/26/02
Prep Batch #...: 2178445
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	**105**	**(57 - 138)**			**SW846 8260B**
	101	**(57 - 138)**	**3.7**	**(0-15)**	**SW846 8260B**
Trichloroethene	**100**	**(58 - 141)**			**SW846 8260B**
	97	**(58 - 141)**	**3.7**	**(0-17)**	**SW846 8260B**
Benzene	**100**	**(73 - 123)**			**SW846 8260B**
	95	**(73 - 123)**	**6.0**	**(0-11)**	**SW846 8260B**
Toluene	**102**	**(67 - 129)**			**SW846 8260B**
	94	**(67 - 129)**	**8.1**	**(0-14)**	**SW846 8260B**
Chlorobenzene	**102**	**(70 - 122)**			**SW846 8260B**
	95	**(70 - 122)**	**7.3**	**(0-14)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	87	(78 - 115)
	89	(78 - 115)
1,2-Dichloroethane-d4	88	(77 - 120)
	91	(77 - 120)
Toluene-d8	90	(78 - 111)
	88	(78 - 111)
4-Bromofluorobenzene	88	(80 - 114)
	86	(80 - 114)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A2F150142 **Work Order #...:** E3GLP1EU-MS **Matrix.....:** WATER
MS Lot-Sample #: A2F210181-003 E3GLP1EV-MSD
Date Sampled...: 06/21/02 08:45 **Date Received..:** 06/21/02
Prep Date.....: 06/27/02 **Analysis Date..:** 06/27/02
Prep Batch #...: 2179455
Dilution Factor: 50

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	**92**	**(57 - 138)**			**SW846 8260B**
	97	**(57 - 138)**	**5.9**	**(0-15)**	**SW846 8260B**
Trichloroethene	**91**	**(58 - 141)**			**SW846 8260B**
	95	**(58 - 141)**	**4.6**	**(0-17)**	**SW846 8260B**
Benzene	**91**	**(73 - 123)**			**SW846 8260B**
	95	**(73 - 123)**	**4.1**	**(0-11)**	**SW846 8260B**
Toluene	**92**	**(67 - 129)**			**SW846 8260B**
	93	**(67 - 129)**	**1.4**	**(0-14)**	**SW846 8260B**
Chlorobenzene	**95**	**(70 - 122)**			**SW846 8260B**
	95	**(70 - 122)**	**0.15**	**(0-14)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	89	(78 - 115)
	91	(78 - 115)
1,2-Dichloroethane-d4	101	(77 - 120)
	106	(77 - 120)
Toluene-d8	91	(78 - 111)
	88	(78 - 111)
4-Bromofluorobenzene	95	(80 - 114)
	94	(80 - 114)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

The Payne Firm, Inc.
Environmental Consultants
11231 Cornell Park Drive
Cincinnati, Ohio 45242
513-489-2255 Fax: 513-489-2533

№

CHAIN OF CUSTODY RECORD

PROJ. NO.: 279-44.05
PROJECT NAME: GRILLOT
SAMPLERS: (Signature) Bryan Goodlin
[signature] SEVELIPE

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOC 8260						REMARKS
	6/14/02	1458		X	MW-101A / 061402	3	X						FAX RESULTS TO
		1310		X	MW-102 / 061402		X						MARK BERKICH @
		1241		X	MW-103 / 061402		X						513-489-2533
		1208		X	MW-201 / 061402		X						
		0935		X	MW-202 / 061402		X						
		1404		X	MW-203 / 061402		X						-NORMAL TURN-
		1435		X	MW-204 / 061402		X						
		1107		X	MW-206 / 061402		X						
		1020		X	MW-207 / 061402		X						
		0905		X	MW-208 / 061402		X						
		1533		X	MW-209 / 061402		X						
		1340		X	MW-210 / 061402		X						
		1610		X	MW-212 / 061402		X						
		—		X	RINSATE 01 / 061402		X						
		—		X	DUPLICATE 01 / 061402		X						

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	6/14/02 1800				
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) [signature]	Date / Time 6/15/02 9:25 AM	Remarks	

Distribution: Original Accompanies Shipment; Copy to Field Files

The Payne Firm, Inc.
Environmental Consultants
11231 Cornell Park Drive
Cincinnati, Ohio 45242
513-489-2255 Fax: 513-489-2533

№

CHAIN OF CUSTODY RECORD

PROJ. NO.: 279.44.05
PROJECT NAME: GRILLOT
SAMPLERS: (Signature) Bryan Goodlin, STEVE LOPEZ

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOC 8260	REMARKS
	6/14/02	—		X	FIELD BLANK / 061402	3	X	

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	6/14/02 1900				
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**	
		Terry Burns	6/15/02 9:25 am		

Distribution: Original Accompanies Shipment; Copy to Field Files

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STL North Canton
4101 Shuffel Drive NW
North Canton, OH 44720-6961

Tel: 330 497 9396
Fax: 330 497 0772
www.stl-inc.com

ANALYTICAL REPORT

PROJECT NO. 279.44.05

GRILLOT

Lot #: A1F110153

Mark Berkich

The Payne Firm, Inc.

SEVERN TRENT LABORATORIES, INC.

Roger K. Toth

Roger K. Toth
Project Manager

June 25, 2001

CASE NARRATIVE

A1F110153

The following report contains the analytical results for fifteen water samples submitted to STL North Canton by The Payne Firm, Inc. from the Grillot site, project number 279.44.05. The samples were received on June 11, 2001, according to documented sample acceptance procedures.

STL North Canton utilizes USEPA approved methods in all analytical work. The sample(s) presented in this report was analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method indicated.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan. All data have been found to be compliant with laboratory protocol.

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 22.1° C. The samples were received with water only present.

See STL's Cooler Receipt Form for additional information.

STL Cooler Receipt Form Narrative
North Canton Facility

Client: Payne Firm Project: _____ Quote: _____
Cooler Received on: 6-11-01 Opened on: 6-11-01 by: [signature] (Signature)

Fedex [X] Client Drop Off [ ] UPS [ ] Airborne [ ]
Other: _____

Cooler [ ] Safe [ ] Foam Box [ ] Client Cooler [X] Other: _____
STL Shipper No#: _____

1. Were custody seals on the outside of the cooler and intact? Yes [ ] No [X]
   If YES, Quantity: _____ Location: _____
   Were the custody seals signed and dated? Yes [ ] No [ ] NA [X]
2. Shipper's packing slip attached to this form? Yes [X] No [ ]
3. Were custody papers included inside the cooler and relinquished? Yes [X] No [ ]
4. Did you sign the custody papers in the appropriate place? Yes [X] No [ ]
5. Packing material used:
Peanuts [ ] Bubble Wrap [X] Vermiculite [ ] Foam [ ] None [ ] Other: _____
6. Cooler temperature upon receipt 22.1 °C (see back of form for multiple coolers/temp)
METHOD: Temperature Vial [ ] Between Coolant & Sample Container [X] Against Bottles [ ]
COOLANT: Wet Ice [ ] Blue Ice [ ] Dry Ice [ ] Water [X] None [ ]
7. Were all the bottles sealed in separate plastic bags? Yes [ ] No [X]
8. Did all bottles arrive in good condition (Unbroken)? Yes [X] No [ ]
9. Did all bottle labels and tags agree with the custody papers? Yes [X] No [ ]
10. Were samples at the correct pH? Yes [ ] No [ ] NA [X]
11. Were correct bottles used for the tests indicated? Yes [X] No [ ]
12. Were air bubbles >6 mm in any VOA vials? Yes [X] No [X] NA [ ]
13. Was a sufficient amount of sample sent in each bottle? Yes [X] No [ ]
Contacted PM RKT Date: 6-11-01 by: lde via Voice Mail [X] Verbal [ ] Other [ ]
Concerning: bubbles, temp 7.6°C

√	MACRO	MACRO
	1. CHAIN OF CUSTODY	
	SR1A	Samples were received under proper custody procedures and without discrepancies.
	SR1B	The chain of custody and sample bottles did not agree. The following discrepancies occurred _____
	2. SAMPLE CONDITION	
	SR2A	Sample(s) _____ were received or requested after the recommended holding time had expired.
	SR2B	Sample(s) _____ were received with insufficient volume
	SR2C	Sample(s) _____ were received in a broken container.
	3. SAMPLE PRESERVATION	
	SR3A	Sample(s) _____ were further preserved in sample receiving to meet recommended pH level(s).
X	SR3B	Sample(s) see back were received with bubble > 6 mm in diameter (cc: PM)
	4. NCM	
	SR4A	NCM has been generated. Refer to Clouseau for details
	5. Other Anomalies (see below or back)	

STL Cooler Receipt Form/Narrative
North Canton Facility

Client ID	pH	Date	Initials

Cooler	Temp	Method	Comments

Discrepancies Cont.

Macro Name: SR3B

MW212 – 1 vial
MW206 – 1 vial
102 – 2 vials
208 – 2 vials

Macro Name:

202 – 1 vial
210 – 1 vial

Macro Name:

204 – 2 vials
101A – 2 vials

Macro Name:

203 – 2 vials
Dup – 2 vials

Other Anomalies:

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	Metals
Methylene chloride	Phthalate Esters	Copper
Acetone		Iron
2-Butanone		Zinc
		Lead*

** for analyses run on TJA Trace ICP or GFAA only*

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.

- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample are spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If the surrogate recoveries are outside criteria for environmental or MS/MSD samples, the batch is acceptable if the Method Blank, LCS, and LCSD surrogate recoveries are within acceptance criteria. The only exception is if the surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank and the associated sample(s) are ND, the batch is acceptable. If the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprepared and reanalyzed.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide/PCB, PAH, and Herbicide methods, the surrogate criteria is that one of two surrogate compounds meet acceptance criteria.

ANALYTICAL METHODS SUMMARY

A1F110153

PARAMETER	ANALYTICAL METHOD
Volatile Organics by GC/MS	SW846 8260B

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

A1F110153

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
EEPJN	001	MW209-060601	06/06/01	11:40
EEPJP	002	MW212-060601	06/06/01	12:25
EEPJQ	003	MW207-060601	06/06/01	13:38
EEPJR	004	MW206-060601	06/06/01	14:00
EEPJT	005	MW201-060601	06/06/01	14:22
EEPJV	006	MW103-060601	06/06/01	14:46
EEPJW	007	MW102-060601	06/06/01	15:08
EEPJX	008	MW208-060601	06/06/01	15:38
EEPJ0	009	MW202-060601	06/06/01	15:49
EEPJ1	010	MW210-060601	06/06/01	16:12
EEPJ2	011	MW204-060601	06/06/01	16:31
EEPJ3	012	MW101A-060601	06/06/01	16:49
EEPJ4	013	MW203-060601	06/06/01	17
EEPJ5	014	DUPLICATE-060601	06/06/01	
EEPJ6	015	RINSEATE	06/06/01	

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PAYNE FIRM INC.

Client Sample ID: MW209-060601

GC/MS Volatiles

Lot-Sample #...: A1F110153-001 **Work Order #...:** EEPJN1AA **Matrix.....:** WG
Date Sampled...: 06/06/01 11:40 **Date Received..:** 06/11/01
Prep Date.....: 06/13/01 **Analysis Date..:** 06/13/01
Prep Batch #...: 1164551
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	96	(78 - 115)
1,2-Dichloroethane-d4	96	(77 - 120)
Toluene-d8	101	(78 - 111)
4-Bromofluorobenzene	94	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW212-060601

GC/MS Volatiles

Lot-Sample #...: A1F110153-002 **Work Order #...:** EEPJP1AA **Matrix.....:** WG
Date Sampled...: 06/06/01 12:25 **Date Received..:** 06/11/01
Prep Date.....: 06/13/01 **Analysis Date..:** 06/13/01
Prep Batch #...: 1164551
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	98	(78 - 115)
1,2-Dichloroethane-d4	100	(77 - 120)
Toluene-d8	100	(78 - 111)
Bromofluorobenzene	95	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW207-060601

GC/MS Volatiles

Lot-Sample #...: A1F110153-003 Work Order #...: EEPJQ1AA Matrix.....: WG
Date Sampled...: 06/06/01 13:38 Date Received..: 06/11/01
Prep Date.....: 06/13/01 Analysis Date..: 06/13/01
Prep Batch #...: 1164551
Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	97	(78 - 115)
1,2-Dichloroethane-d4	98	(77 - 120)
Toluene-d8	102	(78 - 111)
4-Bromofluorobenzene	93	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW206-060601

GC/MS Volatiles

Lot-Sample #...: A1F110153-004 Work Order #...: EEPJR1AA Matrix.....: WG
Date Sampled...: 06/06/01 14:00 Date Received..: 06/11/01
Prep Date.....: 06/13/01 Analysis Date..: 06/13/01
Prep Batch #...: 1164551
Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	95	(78 - 115)
1,2-Dichloroethane-d4	97	(77 - 120)
Toluene-d8	100	(78 - 111)
4-Bromofluorobenzene	94	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW201-060601

GC/MS Volatiles

Lot-Sample #...: A1F110153-005 **Work Order #...:** EEPJT1AA **Matrix.....:** WG
Date Sampled...: 06/06/01 14:22 **Date Received..:** 06/11/01
Prep Date.....: 06/15/01 **Analysis Date..:** 06/15/01
Prep Batch #...: 1166478
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
cetone	ND	20	ug/L
arbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	**6.9**	**5.0**	**ug/L**
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	**21**	**5.0**	**ug/L**
Dibromochloromethane	ND	5.0	ug/L
,1,2-Trichloroethane	ND	5.0	ug/L
enzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	97	(78 - 115)
1,2-Dichloroethane-d4	97	(77 - 120)
oluene-d8	99	(78 - 111)
4-Bromofluorobenzene	94	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW103-060601

GC/MS Volatiles

Lot-Sample #...: A1F110153-006 **Work Order #...:** EEPJV1AA **Matrix.....:** WG
Date Sampled...: 06/06/01 14:46 **Date Received..:** 06/11/01
Prep Date.....: 06/15/01 **Analysis Date..:** 06/15/01
Prep Batch #...: 1166478
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	97	(78 - 115)
1,2-Dichloroethane-d4	98	(77 - 120)
Toluene-d8	98	(78 - 111)
4-Bromofluorobenzene	94	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW102-060601

GC/MS Volatiles

Lot-Sample #...: A1F110153-007 **Work Order #...:** EEPJW1AA **Matrix.....:** WG
Date Sampled...: 06/06/01 15:08 **Date Received..:** 06/11/01
Prep Date.....: 06/15/01 **Analysis Date..:** 06/15/01
Prep Batch #...: 1166478
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	98	(78 - 115)
1,2-Dichloroethane-d4	100	(77 - 120)
Toluene-d8	100	(78 - 111)
Bromofluorobenzene	94	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW208-060601

GC/MS Volatiles

Lot-Sample #...: A1F110153-008 **Work Order #...:** EEPJX1AA **Matrix.....:** WG
Date Sampled...: 06/06/01 15:38 **Date Received..:** 06/11/01
Prep Date.....: 06/15/01 **Analysis Date..:** 06/15/01
Prep Batch #...: 1166478
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	96	(78 - 115)
1,2-Dichloroethane-d4	98	(77 - 120)
Toluene-d8	99	(78 - 111)
Bromofluorobenzene	93	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW202-060601

GC/MS Volatiles

Lot-Sample #...: A1F110153-009 **Work Order #...:** EEPJ01AA **Matrix.....:** WG
Date Sampled...: 06/06/01 15:49 **Date Received..:** 06/11/01
Prep Date.....: 06/15/01 **Analysis Date..:** 06/15/01
Prep Batch #...: 1166478
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	**41**	**5.0**	**ug/L**
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	98	(78 - 115)
1,2-Dichloroethane-d4	99	(77 - 120)
Toluene-d8	97	(78 - 111)
Bromofluorobenzene	93	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW210-060601

GC/MS Volatiles

Lot-Sample #...: A1F110153-010 **Work Order #...:** EEPJ11AA **Matrix.....:** WG
Date Sampled...: 06/06/01 16:12 **Date Received..:** 06/11/01
Prep Date.....: 06/15/01 **Analysis Date..:** 06/15/01
Prep Batch #...: 1166478
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	**30**	**5.0**	**ug/L**
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	98	(78 - 115)
1,2-Dichloroethane-d4	99	(77 - 120)
Toluene-d8	100	(78 - 111)
4-Bromofluorobenzene	94	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW204-060601

GC/MS Volatiles

Lot-Sample #...: A1F110153-011 **Work Order #...:** EEPJ21AA **Matrix.....:** WG
Date Sampled...: 06/06/01 16:31 **Date Received..:** 06/11/01
Prep Date.....: 06/15/01 **Analysis Date..:** 06/15/01
Prep Batch #...: 1166478
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	99	(78 - 115)
1,2-Dichloroethane-d4	96	(77 - 120)
Toluene-d8	97	(78 - 111)
4-Bromofluorobenzene	92	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW101A-060601

GC/MS Volatiles

Lot-Sample #...: A1F110153-012 **Work Order #...:** EEPJ31AA **Matrix.....:** WG
Date Sampled...: 06/06/01 16:49 **Date Received..:** 06/11/01
Prep Date.....: 06/15/01 **Analysis Date..:** 06/15/01
Prep Batch #...: 1166478
Dilution Factor: 3.33 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	33	ug/L
Bromomethane	ND	33	ug/L
Vinyl chloride	**140**	**33**	**ug/L**
Chloroethane	ND	33	ug/L
Methylene chloride	ND	17	ug/L
Acetone	ND	67	ug/L
Carbon disulfide	ND	17	ug/L
1,1-Dichloroethene	ND	17	ug/L
1,1-Dichloroethane	**31**	**17**	**ug/L**
1,2-Dichloroethene (total)	**400**	**17**	**ug/L**
Chloroform	ND	17	ug/L
1,2-Dichloroethane	ND	17	ug/L
2-Butanone	ND	67	ug/L
1,1,1-Trichloroethane	ND	17	ug/L
Carbon tetrachloride	ND	17	ug/L
Bromodichloromethane	ND	17	ug/L
1,2-Dichloropropane	ND	17	ug/L
cis-1,3-Dichloropropene	ND	17	ug/L
Trichloroethene	ND	17	ug/L
Dibromochloromethane	ND	17	ug/L
1,1,2-Trichloroethane	ND	17	ug/L
Benzene	ND	17	ug/L
trans-1,3-Dichloropropene	ND	17	ug/L
Bromoform	ND	17	ug/L
4-Methyl-2-pentanone	ND	67	ug/L
2-Hexanone	ND	67	ug/L
Tetrachloroethene	ND	17	ug/L
1,1,2,2-Tetrachloroethane	ND	17	ug/L
Toluene	ND	17	ug/L
Chlorobenzene	ND	17	ug/L
Ethylbenzene	ND	17	ug/L
Styrene	ND	17	ug/L
Xylenes (total)	ND	17	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	99	(78 - 115)
1,2-Dichloroethane-d4	101	(77 - 120)
Toluene-d8	97	(78 - 111)
4-Bromofluorobenzene	94	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW203-060601

GC/MS Volatiles

Lot-Sample #...: A1F110153-013 **Work Order #...:** EEPJ41AA **Matrix.....:** WG
Date Sampled...: 06/06/01 17:18 **Date Received..:** 06/11/01
Prep Date.....: 06/15/01 **Analysis Date..:** 06/15/01
Prep Batch #...: 1166478
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	**29**	**5.0**	**ug/L**
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	95	(78 - 115)
1,2-Dichloroethane-d4	98	(77 - 120)
Toluene-d8	100	(78 - 111)
Bromofluorobenzene	96	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: DUPLICATE-060601

GC/MS Volatiles

Lot-Sample #...: A1F110153-014 **Work Order #...:** EEPJ51AA **Matrix.....:** WG
Date Sampled...: 06/06/01 **Date Received..:** 06/11/01
Prep Date.....: 06/16/01 **Analysis Date..:** 06/16/01
Prep Batch #...: 1171092
Dilution Factor: 2.5 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	25	ug/L
Bromomethane	ND	25	ug/L
Vinyl chloride	**160**	**25**	**ug/L**
Chloroethane	ND	25	ug/L
Methylene chloride	ND	12	ug/L
Acetone	ND	50	ug/L
Carbon disulfide	ND	12	ug/L
1,1-Dichloroethene	ND	12	ug/L
1,1-Dichloroethane	**37**	**12**	**ug/L**
1,2-Dichloroethene (total)	**470**	**12**	**ug/L**
Chloroform	ND	12	ug/L
1,2-Dichloroethane	ND	12	ug/L
2-Butanone	ND	50	ug/L
1,1,1-Trichloroethane	ND	12	ug/L
Carbon tetrachloride	ND	12	ug/L
Bromodichloromethane	ND	12	ug/L
1,2-Dichloropropane	ND	12	ug/L
cis-1,3-Dichloropropene	ND	12	ug/L
Trichloroethene	ND	12	ug/L
Dibromochloromethane	ND	12	ug/L
1,1,2-Trichloroethane	ND	12	ug/L
Benzene	ND	12	ug/L
trans-1,3-Dichloropropene	ND	12	ug/L
Bromoform	ND	12	ug/L
4-Methyl-2-pentanone	ND	50	ug/L
2-Hexanone	ND	50	ug/L
Tetrachloroethene	ND	12	ug/L
1,1,2,2-Tetrachloroethane	ND	12	ug/L
Toluene	ND	12	ug/L
Chlorobenzene	ND	12	ug/L
Ethylbenzene	ND	12	ug/L
Styrene	ND	12	ug/L
Xylenes (total)	ND	12	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	94	(78 - 115)
1,2-Dichloroethane-d4	93	(77 - 120)
Toluene-d8	100	(78 - 111)
4-Bromofluorobenzene	102	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: RINSEATE

GC/MS Volatiles

Lot-Sample #...: A1F110153-015 **Work Order #...:** EEPJ61AA **Matrix.....:** WG
Date Sampled...: 06/06/01 **Date Received..:** 06/11/01
Prep Date.....: 06/16/01 **Analysis Date..:** 06/16/01
Prep Batch #...: 1171092
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	**8.9**	**5.0**	**ug/L**
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	91	(78 - 115)
1,2-Dichloroethane-d4	92	(77 - 120)
Toluene-d8	100	(78 - 111)
4-Bromofluorobenzene	100	(80 - 114)

QUALITY CONTROL SECTION

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A1F110153 **Work Order #...:** EEWJK1AA **Matrix.....:** WATER
MB Lot-Sample #: A1F130000-551

Prep Date.....: 06/12/01
Analysis Date..: 06/12/01 **Prep Batch #...:** 1164551
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	10	ug/L	SW846 8260B
Bromomethane	ND	10	ug/L	SW846 8260B
Vinyl chloride	ND	10	ug/L	SW846 8260B
Chloroethane	ND	10	ug/L	SW846 8260B
Methylene chloride	ND	5.0	ug/L	SW846 8260B
etone	ND	20	ug/L	SW846 8260B
arbon disulfide	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethene (total)	ND	5.0	ug/L	SW846 8260B
Chloroform	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	5.0	ug/L	SW846 8260B
Butanone	ND	20	ug/L	SW846 8260B
1,1-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	5.0	ug/L	SW846 8260B
Bromodichloromethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	5.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Trichloroethene	ND	5.0	ug/L	SW846 8260B
Dibromochloromethane	ND	5.0	ug/L	SW846 8260B
1,2-Trichloroethane	ND	5.0	ug/L	SW846 8260B
nzene	ND	5.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Bromoform	ND	5.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	20	ug/L	SW846 8260B
2-Hexanone	ND	20	ug/L	SW846 8260B
Tetrachloroethene	ND	5.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	SW846 8260B
Toluene	ND	5.0	ug/L	SW846 8260B
Chlorobenzene	ND	5.0	ug/L	SW846 8260B
Ethylbenzene	ND	5.0	ug/L	SW846 8260B
Styrene	ND	5.0	ug/L	SW846 8260B
Xylenes (total)	ND	5.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	97	(78 - 115)
1,2-Dichloroethane-d4	95	(77 - 120)
luene-d8	100	(78 - 111)
-Bromofluorobenzene	94	(80 - 114)

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A1F110153 **Work Order #...:** EEWJK1AA **Matrix.....:** WATER

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A1F110153 **Work Order #...:** EE2WL1AA **Matrix.....:** WATER
MB Lot-Sample #: A1F150000-478

Prep Date.....: 06/14/01
Analysis Date..: 06/14/01 **Prep Batch #...:** 1166478
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	10	ug/L	SW846 8260B
Bromomethane	ND	10	ug/L	SW846 8260B
Vinyl chloride	ND	10	ug/L	SW846 8260B
Chloroethane	ND	10	ug/L	SW846 8260B
Methylene chloride	ND	5.0	ug/L	SW846 8260B
Acetone	ND	20	ug/L	SW846 8260B
Carbon disulfide	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethene (total)	ND	5.0	ug/L	SW846 8260B
Chloroform	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	5.0	ug/L	SW846 8260B
2-Butanone	ND	20	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	5.0	ug/L	SW846 8260B
Bromodichloromethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	5.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Trichloroethene	ND	5.0	ug/L	SW846 8260B
Dibromochloromethane	ND	5.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Benzene	ND	5.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Bromoform	ND	5.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	20	ug/L	SW846 8260B
2-Hexanone	ND	20	ug/L	SW846 8260B
Tetrachloroethene	ND	5.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	SW846 8260B
Toluene	ND	5.0	ug/L	SW846 8260B
Chlorobenzene	ND	5.0	ug/L	SW846 8260B
Ethylbenzene	ND	5.0	ug/L	SW846 8260B
Styrene	ND	5.0	ug/L	SW846 8260B
Xylenes (total)	ND	5.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	99	(78 - 115)
1,2-Dichloroethane-d4	99	(77 - 120)
Toluene-d8	98	(78 - 111)
4-Bromofluorobenzene	94	(80 - 114)

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A1F110153 **Work Order #...:** EE2WL1AA **Matrix.....:** WATER

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A1F110153 **Work Order #...:** EE61X1AA **Matrix.....:** WATER
MB Lot-Sample #: A1F200000-092

Prep Date.....: 06/15/01
Analysis Date..: 06/15/01 **Prep Batch #...:** 1171092
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	10	ug/L	SW846 8260B
Bromomethane	ND	10	ug/L	SW846 8260B
Vinyl chloride	ND	10	ug/L	SW846 8260B
Chloroethane	ND	10	ug/L	SW846 8260B
Methylene chloride	ND	5.0	ug/L	SW846 8260B
Acetone	ND	20	ug/L	SW846 8260B
Carbon disulfide	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethene (total)	ND	5.0	ug/L	SW846 8260B
Chloroform	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	5.0	ug/L	SW846 8260B
2-Butanone	ND	20	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	5.0	ug/L	SW846 8260B
Bromodichloromethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	5.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Trichloroethene	ND	5.0	ug/L	SW846 8260B
Dibromochloromethane	ND	5.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Benzene	ND	5.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Bromoform	ND	5.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	20	ug/L	SW846 8260B
2-Hexanone	ND	20	ug/L	SW846 8260B
Tetrachloroethene	ND	5.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	SW846 8260B
Toluene	ND	5.0	ug/L	SW846 8260B
Chlorobenzene	ND	5.0	ug/L	SW846 8260B
Ethylbenzene	ND	5.0	ug/L	SW846 8260B
Styrene	ND	5.0	ug/L	SW846 8260B
Xylenes (total)	ND	5.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	93	(78 - 115)
1,2-Dichloroethane-d4	91	(77 - 120)
Toluene-d8	100	(78 - 111)
4-Bromofluorobenzene	102	(80 - 114)

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A1F110153 Work Order #...: EE61X1AA Matrix.....: WATER

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A1F110153 **Work Order #...:** EEWJK1AC **Matrix.....:** WATER
LCS Lot-Sample#: A1F130000-551
Prep Date.....: 06/12/01 **Analysis Date..:** 06/12/01
Prep Batch #...: 1164551
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
1,1-Dichloroethene	**98**	**(65 - 119)**	**SW846 8260B**
Trichloroethene	**100**	**(80 - 122)**	**SW846 8260B**
Benzene	**98**	**(79 - 116)**	**SW846 8260B**
Toluene	**97**	**(76 - 119)**	**SW846 8260B**
Chlorobenzene	**96**	**(81 - 115)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	97	(78 - 115)
1,2-Dichloroethane-d4	94	(77 - 120)
Toluene-d8	102	(78 - 111)
4-Bromofluorobenzene	98	(80 - 114)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A1F110153 **Work Order #...:** EE2WL1AC **Matrix.....:** WATER
LCS Lot-Sample#: A1F150000-478
Prep Date.....: 06/14/01 **Analysis Date..:** 06/14/01
Prep Batch #...: 1166478
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
1,1-Dichloroethene	**95**	**(65 - 119)**	**SW846 8260B**
Trichloroethene	**102**	**(80 - 122)**	**SW846 8260B**
Benzene	**102**	**(79 - 116)**	**SW846 8260B**
Toluene	**99**	**(76 - 119)**	**SW846 8260B**
Chlorobenzene	**99**	**(81 - 115)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	98	(78 - 115)
1,2-Dichloroethane-d4	91	(77 - 120)
Toluene-d8	101	(78 - 111)
4-Bromofluorobenzene	100	(80 - 114)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A1F110153 **Work Order #...:** EE61X1AC **Matrix.....:** WATER
LCS Lot-Sample#: A1F200000-092
Prep Date.....: 06/15/01 **Analysis Date..:** 06/15/01
Prep Batch #...: 1171092
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
1,1-Dichloroethene	**94**	**(65 - 119)**	**SW846 8260B**
Trichloroethene	**100**	**(80 - 122)**	**SW846 8260B**
Benzene	**100**	**(79 - 116)**	**SW846 8260B**
Toluene	**101**	**(76 - 119)**	**SW846 8260B**
Chlorobenzene	**99**	**(81 - 115)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	92	(78 - 115)
1,2-Dichloroethane-d4	92	(77 - 120)
Toluene-d8	100	(78 - 111)
4-Bromofluorobenzene	102	(80 - 114)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A1F110153 **Work Order #...:** EEKP01AH-MS **Matrix.....:** WATER
MS Lot-Sample #: A1F080133-003 EEKP01AJ-MSD
Date Sampled...: 06/07/01 15:45 **Date Received..:** 06/08/01
Prep Date.....: 06/13/01 **Analysis Date..:** 06/13/01
Prep Batch #...: 1164551
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	**98**	**(57 - 138)**			**SW846 8260B**
	96	**(57 - 138)**	**1.9**	**(0-15)**	**SW846 8260B**
Trichloroethene	**95**	**(58 - 141)**			**SW846 8260B**
	91	**(58 - 141)**	**3.8**	**(0-17)**	**SW846 8260B**
Benzene	**99**	**(73 - 123)**			**SW846 8260B**
	97	**(73 - 123)**	**2.3**	**(0-11)**	**SW846 8260B**
Toluene	**93**	**(67 - 129)**			**SW846 8260B**
	93	**(67 - 129)**	**0.61**	**(0-14)**	**SW846 8260B**
Chlorobenzene	**94**	**(70 - 122)**			**SW846 8260B**
	95	**(70 - 122)**	**0.92**	**(0-14)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	102	(78 - 115)
	99	(78 - 115)
1,2-Dichloroethane-d4	96	(77 - 120)
	97	(77 - 120)
Toluene-d8	99	(78 - 111)
	101	(78 - 111)
4-Bromofluorobenzene	96	(80 - 114)
	101	(80 - 114)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A1F110153 **Work Order #...:** EEPJ01AC-MS **Matrix.....:** WG
MS Lot-Sample #: A1F110153-009 EEPJ01AD-MSD
Date Sampled...: 06/06/01 15:49 **Date Received..:** 06/11/01
Prep Date.....: 06/15/01 **Analysis Date..:** 06/15/01
Prep Batch #...: 1166478
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	**92**	**(57 - 138)**			**SW846 8260B**
	95	**(57 - 138)**	**2.7**	**(0-15)**	**SW846 8260B**
Trichloroethene	**88**	**(58 - 141)**			**SW846 8260B**
	89	**(58 - 141)**	**1.1**	**(0-17)**	**SW846 8260B**
[illegible]uene	**99**	**(73 - 123)**			**SW846 8260B**
	103	**(73 - 123)**	**3.6**	**(0-11)**	**SW846 8260B**
Toluene	**91**	**(67 - 129)**			**SW846 8260B**
	93	**(67 - 129)**	**1.5**	**(0-14)**	**SW846 8260B**
Chlorobenzene	**90**	**(70 - 122)**			**SW846 8260B**
	91	**(70 - 122)**	**1.1**	**(0-14)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
[illegible]bromofluoromethane	100	(78 - 115)
	101	(78 - 115)
1,2-Dichloroethane-d4	96	(77 - 120)
	95	(77 - 120)
Toluene-d8	101	(78 - 111)
	102	(78 - 111)
4-Bromofluorobenzene	97	(80 - 114)
	99	(80 - 114)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A1F110153 **Work Order #...:** EEQR21AC-MS **Matrix.....:** WATER
MS Lot-Sample #: A1F120169-013 EEQR21AD-MSD
Date Sampled...: 06/10/01 10:00 **Date Received..:** 06/12/01
Prep Date.....: 06/16/01 **Analysis Date..:** 06/16/01
Prep Batch #...: 1171092
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	**86**	**(57 - 138)**			**SW846 8260B**
	88	**(57 - 138)**	**2.0**	**(0-15)**	**SW846 8260B**
Trichloroethene	**94**	**(58 - 141)**			**SW846 8260B**
	94	**(58 - 141)**	**0.10**	**(0-17)**	**SW846 8260B**
Benzene	**96**	**(73 - 123)**			**SW846 8260B**
	97	**(73 - 123)**	**1.5**	**(0-11)**	**SW846 8260B**
Toluene	**93**	**(67 - 129)**			**SW846 8260B**
	94	**(67 - 129)**	**1.4**	**(0-14)**	**SW846 8260B**
Chlorobenzene	**93**	**(70 - 122)**			**SW846 8260B**
	95	**(70 - 122)**	**1.3**	**(0-14)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluoromethane	91	(78 - 115)
	89	(78 - 115)
1,2-Dichloroethane-d4	91	(77 - 120)
	89	(77 - 120)
Toluene-d8	99	(78 - 111)
	99	(78 - 111)
4-Bromofluorobenzene	101	(80 - 114)
	101	(80 - 114)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

The Payne Firm, Inc.
Environmental Consultants
11231 Cornell Park Drive
Cincinnati, Ohio 45242
513-489-2255 Fax: 513-489-2533

№

CHAIN OF CUSTODY RECORD

PROJ. NO.: 274.445
PROJECT NAME: Conifer
SAMPLERS: (Signature) Mark Berkich

STA. NO.	DATE 2001	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOC 8260	REMARKS
	6 6	1140		X	MW 209-060601	2-40ml	X	* Results to MARK BERKICH
	6 6	1225		X	MW 212-060601	2-40ml	X	at the Payne Firm
	6 6	1338		X	MW 207-060601	2-40ml	X	
	6 6	1400		X	MW 206-060601	2-40ml	X	* Normal Turn
	6 6	1422		X	MW 201-060601	2-40ml	X	
	6 6	1446		X	MW 103-060601	2-40ml	X	
	6 6	1508		X	MW 102-060601	2-40ml	X	
	6 6	1538		X	MW 205-060601	2-40ml	X	
	6 6	1549		X	MW 202-060601	2-40ml	X	
	6 6	1612		X	MW 210-060601	2-40ml	X	
	6 6	1631		X	MW 204-060601	2-40ml	X	
	6 6	1649		X	MW 101R-060601	2-40ml	X	
	6 6	1718		X	MW 203-060601	2-40ml	X	
	6 6	-		X	Replicate-060601	2-40ml	X	
	6 6	—		X	Rinsate	2-40ml	X	

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Mark Berkich	6 7 01 / 1400				
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	
		[illegible]	6 [illegible] 01 / 0940		

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ANALYTICAL REPORT

PROJECT NO. 279.44.05 FL

GRILLOT

Lot #: A0E150149

Dan Weed

The Payne Firm, Inc.

SEVERN TRENT LABORATORIES, INC.

Gary L. Wood
Project Manager

May 26, 2000

CASE NARRATIVE

The following report contains the analytical results for three solid samples and three water samples submitted to STL North Canton by The Payne Firm, Inc. from the Grillot site, project number 279.44.05. The samples were received on May 13, 2000, according to documented sample acceptance procedures.

STL North Canton utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter listed on the analytical methods summary page in accordance with the method indicated.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan. All data have been found to be compliant with laboratory protocol.

Supplemental QC Information

SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 16.3° C.

GC/MS VOLATILES

The MS/MSD for batch 0138271 failed RPD criteria. The check sample associated with this batch was in control. This is believed to be a matrix effect; therefore, no further corrective action was taken.

ANALYTICAL METHODS SUMMARY

A0E150149

PARAMETER	ANALYTICAL METHOD
Total Residue as Percent Solids	MCAWW 160.3 MOD
Volatile Organics by GC/MS	SW846 8260A
Volatile Organics by GC/MS	SW846 8260B

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

A0E150149

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
DD780	001	SW-1	05/12/00	11:00
DD781	002	SW-2	05/12/00	11:10
DD782	003	SW-3	05/12/00	11:20
DD784	004	SED-1	05/12/00	11:00
DD785	005	SED-2	05/12/00	11:10
DD786	006	SED-3	05/12/00	11:20

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PAYNE FIRM INC.

Client Sample ID: SW-1

GC/MS Volatiles

Lot-Sample #...: A0E150149-001 **Work Order #...:** DD780101 **Matrix.....:** WS
Date Sampled...: 05/12/00 11:00 **Date Received..:** 05/13/00
Prep Date.....: 05/19/00 **Analysis Date..:** 05/19/00
Prep Batch #...: 0143415
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	94	(78 - 110)
1,2-Dichloroethane-d4	90	(77 - 120)
Toluene-d8	98	(78 - 111)
4-Bromofluorobenzene	93	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: SW-2

GC/MS Volatiles

Lot-Sample #...: A0E150149-002 **Work Order #...:** DD781101 **Matrix.....:** WS
Date Sampled...: 05/12/00 11:10 **Date Received..:** 05/13/00
Prep Date.....: 05/19/00 **Analysis Date..:** 05/19/00
Prep Batch #...: 0143415
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	93	(78 - 110)
1,2-Dichloroethane-d4	91	(77 - 120)
Toluene-d8	96	(78 - 111)
4-Bromofluorobenzene	95	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: SW-3

GC/MS Volatiles

Lot-Sample #...: A0E150149-003 Work Order #...: DD782101 Matrix.....: WS
Date Sampled...: 05/12/00 11:20 Date Received..: 05/13/00
Prep Date.....: 05/19/00 Analysis Date..: 05/19/00
Prep Batch #...: 0143415
Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
cetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
-Butanone	ND	20	ug/L
,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
.1,2-Trichloroethane	ND	5.0	ug/L
enzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	94	(78 - 110)
,2-Dichloroethane-d4	90	(77 - 120)
oluene-d8	97	(78 - 111)
4-Bromofluorobenzene	94	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: SED-1

GC/MS Volatiles

Lot-Sample #...: A0E150149-004 **Work Order #...:** DD784102 **Matrix.....:** SE
Date Sampled...: 05/12/00 11:00 **Date Received..:** 05/13/00
Prep Date.....: 05/16/00 **Analysis Date..:** 05/16/00
Prep Batch #...: 0138271
Dilution Factor: 1
% Moisture.....: 15 **Method.....:** SW846 8260A

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/kg
Bromomethane	ND	10	ug/kg
Vinyl chloride	ND	10	ug/kg
Chloroethane	ND	10	ug/kg
Methylene chloride	ND	5.0	ug/kg
Acetone	ND	20	ug/kg
Carbon disulfide	ND	5.0	ug/kg
1,1-Dichloroethene	ND	5.0	ug/kg
1,1-Dichloroethane	ND	5.0	ug/kg
1,2-Dichloroethene (total)	ND	5.0	ug/kg
Chloroform	ND	5.0	ug/kg
1,2-Dichloroethane	ND	5.0	ug/kg
2-Butanone	ND	20	ug/kg
1,1,1-Trichloroethane	ND	5.0	ug/kg
Carbon tetrachloride	ND	5.0	ug/kg
Bromodichloromethane	ND	5.0	ug/kg
1,2-Dichloropropane	ND	5.0	ug/kg
cis-1,3-Dichloropropene	ND	5.0	ug/kg
Trichloroethene	ND	5.0	ug/kg
Dibromochloromethane	ND	5.0	ug/kg
1,1,2-Trichloroethane	ND	5.0	ug/kg
Benzene	ND	5.0	ug/kg
trans-1,3-Dichloropropene	ND	5.0	ug/kg
Bromoform	ND	5.0	ug/kg
4-Methyl-2-pentanone	ND	20	ug/kg
2-Hexanone	ND	20	ug/kg
Tetrachloroethene	ND	5.0	ug/kg
1,1,2,2-Tetrachloroethane	ND	5.0	ug/kg
Toluene	ND	5.0	ug/kg
Chlorobenzene	ND	5.0	ug/kg
Ethylbenzene	ND	5.0	ug/kg
Styrene	ND	5.0	ug/kg
Xylenes (total)	ND	5.0	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	102	(59 - 138)
1,2-Dichloroethane-d4	96	(61 - 130)
Toluene-d8	118	(60 - 143)
4-Bromofluorobenzene	106	(47 - 158)

PAYNE FIRM INC.

Client Sample ID: SED-2

GC/MS Volatiles

Lot-Sample #...: A0E150149-005 **Work Order #...:** DD785102 **Matrix.....:** SE
Date Sampled...: 05/12/00 11:10 **Date Received..:** 05/13/00
Prep Date.....: 05/16/00 **Analysis Date..:** 05/16/00
Prep Batch #...: 0138271
Dilution Factor: 1
% Moisture.....: 13 **Method.....:** SW846 8260A

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/kg
Bromomethane	ND	10	ug/kg
Vinyl chloride	ND	10	ug/kg
Chloroethane	ND	10	ug/kg
ethylene chloride	ND	5.0	ug/kg
Acetone	ND	20	ug/kg
Carbon disulfide	ND	5.0	ug/kg
1,1-Dichloroethene	ND	5.0	ug/kg
1,1-Dichloroethane	ND	5.0	ug/kg
1,2-Dichloroethene (total)	ND	5.0	ug/kg
Chloroform	ND	5.0	ug/kg
,2-Dichloroethane	ND	5.0	ug/kg
2-Butanone	ND	20	ug/kg
1,1,1-Trichloroethane	ND	5.0	ug/kg
Carbon tetrachloride	ND	5.0	ug/kg
Bromodichloromethane	ND	5.0	ug/kg
1,2-Dichloropropane	ND	5.0	ug/kg
cis-1,3-Dichloropropene	ND	5.0	ug/kg
Trichloroethene	ND	5.0	ug/kg
ibromochloromethane	ND	5.0	ug/kg
1,1,2-Trichloroethane	ND	5.0	ug/kg
Benzene	ND	5.0	ug/kg
trans-1,3-Dichloropropene	ND	5.0	ug/kg
Bromoform	ND	5.0	ug/kg
4-Methyl-2-pentanone	ND	20	ug/kg
2-Hexanone	ND	20	ug/kg
Tetrachloroethene	ND	5.0	ug/kg
1,1,2,2-Tetrachloroethane	ND	5.0	ug/kg
Toluene	ND	5.0	ug/kg
Chlorobenzene	ND	5.0	ug/kg
Ethylbenzene	ND	5.0	ug/kg
Styrene	ND	5.0	ug/kg
Xylenes (total)	ND	5.0	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
ibromofluoromethane	101	(59 - 138)
,2-Dichloroethane-d4	93	(61 - 130)
Toluene-d8	119	(60 - 143)
4-Bromofluorobenzene	103	(47 - 158)

PAYNE FIRM INC.

Client Sample ID: SED-3

GC/MS Volatiles

Lot-Sample #...: A0E150149-006 **Work Order #...:** DD786102 **Matrix.....:** SE
Date Sampled...: 05/12/00 11:20 **Date Received..:** 05/13/00
Prep Date.....: 05/16/00 **Analysis Date..:** 05/16/00
Prep Batch #...: 0138271
Dilution Factor: 1
% Moisture.....: 32 **Method.....:** SW846 8260A

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/kg
Bromomethane	ND	10	ug/kg
Vinyl chloride	ND	10	ug/kg
Chloroethane	ND	10	ug/kg
Methylene chloride	ND	5.0	ug/kg
Acetone	**37**	**20**	**ug/kg**
Carbon disulfide	ND	5.0	ug/kg
1,1-Dichloroethene	ND	5.0	ug/kg
1,1-Dichloroethane	ND	5.0	ug/kg
1,2-Dichloroethene (total)	ND	5.0	ug/kg
Chloroform	ND	5.0	ug/kg
1,2-Dichloroethane	ND	5.0	ug/kg
2-Butanone	ND	20	ug/kg
1,1,1-Trichloroethane	ND	5.0	ug/kg
Carbon tetrachloride	ND	5.0	ug/kg
Bromodichloromethane	ND	5.0	ug/kg
1,2-Dichloropropane	ND	5.0	ug/kg
cis-1,3-Dichloropropene	ND	5.0	ug/kg
Trichloroethene	ND	5.0	ug/kg
Dibromochloromethane	ND	5.0	ug/kg
1,1,2-Trichloroethane	ND	5.0	ug/kg
Benzene	ND	5.0	ug/kg
trans-1,3-Dichloropropene	ND	5.0	ug/kg
Bromoform	ND	5.0	ug/kg
4-Methyl-2-pentanone	ND	20	ug/kg
2-Hexanone	ND	20	ug/kg
Tetrachloroethene	ND	5.0	ug/kg
1,1,2,2-Tetrachloroethane	ND	5.0	ug/kg
Toluene	**14**	**5.0**	**ug/kg**
Chlorobenzene	ND	5.0	ug/kg
Ethylbenzene	ND	5.0	ug/kg
Styrene	ND	5.0	ug/kg
Xylenes (total)	ND	5.0	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	102	(59 - 138)
1,2-Dichloroethane-d4	92	(61 - 130)
Toluene-d8	129	(60 - 143)
4-Bromofluorobenzene	98	(47 - 158)

QUALITY CONTROL SECTION

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL), the analytes were greater than 10 times the blank level, or the associated sample(s) must be ND except for the common laboratory contaminants indicated below.

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	Metals
Methylene chloride	Phthalate Esters	Copper
Acetone		Iron
2-Butanone		Zinc
		Lead*

** for analyses run on TJA Trace ICP only*

QUALITY CONTROL ELEMENTS OF SW-846 METHODS
(Continued)

The listed volatile and semivolatile compounds may be present in concentrations up to 5 times the reporting limits. The listed metals may be present in concentrations up to 2 times the reporting limit or must be twenty fold less than the results of the environmental samples. Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample are spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

The acceptance criteria do not apply to samples that are diluted. All other surrogate recoveries will be reported. If the LCS, LCSD, or the Method Blank surrogates fail to meet recovery criteria (exception for dilutions), the entire batch of samples is reprepared and reanalyzed.

If the surrogate recoveries are outside criteria for environmental or MS/MSD samples, the batch is acceptable if the Method Blank, LCS, and LCSD surrogate recoveries are within acceptance criteria. If the surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank and the associated sample(s) are ND, the batch is acceptable.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide/PCB, PAH, and Herbicide methods, the surrogate criteria is that one of two surrogate compounds meet acceptance criteria.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A0E150149 **Work Order #...:** DDA1A102 **Matrix.....:** SOLID
LCS Lot-Sample#: A0E170000-271
Prep Date.....: 05/16/00 **Analysis Date..:** 05/16/00
Prep Batch #...: 0138271
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
1,1-Dichloroethene	**98**	**(55 - 142)**	**SW846 8260A**
Trichloroethene	**89**	**(70 - 131)**	**SW846 8260A**
Benzene	**94**	**(75 - 129)**	**SW846 8260A**
Toluene	**100**	**(71 - 130)**	**SW846 8260A**
Chlorobenzene	**96**	**(75 - 127)**	**SW846 8260A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	104	(59 - 138)
1,2-Dichloroethane-d4	100	(61 - 130)
Toluene-d8	117	(60 - 143)
4-Bromofluorobenzene	106	(47 - 158)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A0E150149 **Work Order #...:** DDJ11102 **Matrix.....:** WATER
LCS Lot-Sample#: A0E220000-415
Prep Date.....: 05/19/00 **Analysis Date..:** 05/19/00
Prep Batch #...: 0143415
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
1,1-Dichloroethene	**113**	**(65 - 119)**	**SW846 8260B**
Trichloroethene	**95**	**(80 - 122)**	**SW846 8260B**
Benzene	**96**	**(79 - 116)**	**SW846 8260B**
Toluene	**96**	**(76 - 119)**	**SW846 8260B**
Chlorobenzene	**95**	**(81 - 115)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	95	(78 - 110)
1,2-Dichloroethane-d4	93	(77 - 120)
Toluene-d8	97	(78 - 111)
4-Bromofluorobenzene	94	(80 - 114)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A0E150149 **Work Order #...:** DDA1A101 **Matrix.....:** SOLID
MB Lot-Sample #: A0E170000-271

Prep Date.....: 05/16/00
Analysis Date..: 05/16/00 **Prep Batch #...:** 0138271
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	10	ug/kg	SW846 8260A
Bromomethane	ND	10	ug/kg	SW846 8260A
Vinyl chloride	ND	10	ug/kg	SW846 8260A
Chloroethane	ND	10	ug/kg	SW846 8260A
Methylene chloride	ND	5.0	ug/kg	SW846 8260A
Acetone	ND	20	ug/kg	SW846 8260A
Carbon disulfide	ND	5.0	ug/kg	SW846 8260A
1,1-Dichloroethene	ND	5.0	ug/kg	SW846 8260A
1,1-Dichloroethane	ND	5.0	ug/kg	SW846 8260A
1,2-Dichloroethene (total)	ND	5.0	ug/kg	SW846 8260A
Chloroform	ND	5.0	ug/kg	SW846 8260A
1,2-Dichloroethane	ND	5.0	ug/kg	SW846 8260A
-Butanone	ND	20	ug/kg	SW846 8260A
1,1-Trichloroethane	ND	5.0	ug/kg	SW846 8260A
Carbon tetrachloride	ND	5.0	ug/kg	SW846 8260A
Bromodichloromethane	ND	5.0	ug/kg	SW846 8260A
1,2-Dichloropropane	ND	5.0	ug/kg	SW846 8260A
cis-1,3-Dichloropropene	ND	5.0	ug/kg	SW846 8260A
Trichloroethene	ND	5.0	ug/kg	SW846 8260A
Dibromochloromethane	ND	5.0	ug/kg	SW846 8260A
1,1,2-Trichloroethane	ND	5.0	ug/kg	SW846 8260A
Benzene	ND	5.0	ug/kg	SW846 8260A
trans-1,3-Dichloropropene	ND	5.0	ug/kg	SW846 8260A
Bromoform	ND	5.0	ug/kg	SW846 8260A
4-Methyl-2-pentanone	ND	20	ug/kg	SW846 8260A
2-Hexanone	ND	20	ug/kg	SW846 8260A
Tetrachloroethene	ND	5.0	ug/kg	SW846 8260A
1,1,2,2-Tetrachloroethane	ND	5.0	ug/kg	SW846 8260A
Toluene	ND	5.0	ug/kg	SW846 8260A
Chlorobenzene	ND	5.0	ug/kg	SW846 8260A
Ethylbenzene	ND	5.0	ug/kg	SW846 8260A
Styrene	ND	5.0	ug/kg	SW846 8260A
Xylenes (total)	ND	5.0	ug/kg	SW846 8260A

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	101	(59 - 138)
1,2-Dichloroethane-d4	96	(61 - 130)
luene-d8	119	(60 - 143)
4-Bromofluorobenzene	105	(47 - 158)

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A0E150149 **Work Order #...:** DDA1A101 **Matrix.....:** SOLID

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A0E150149 **Work Order #...:** DDJ11101 **Matrix.....:** WATER
MB Lot-Sample #: A0E220000-415

Prep Date.....: 05/19/00
Analysis Date..: 05/19/00 **Prep Batch #...:** 0143415
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	10	ug/L	SW846 8260B
Bromomethane	ND	10	ug/L	SW846 8260B
Vinyl chloride	ND	10	ug/L	SW846 8260B
Chloroethane	ND	10	ug/L	SW846 8260B
Methylene chloride	ND	5.0	ug/L	SW846 8260B
Acetone	ND	20	ug/L	SW846 8260B
Carbon disulfide	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethene (total)	ND	5.0	ug/L	SW846 8260B
Chloroform	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	5.0	ug/L	SW846 8260B
-Butanone	ND	20	ug/L	SW846 8260B
,1,1-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	5.0	ug/L	SW846 8260B
Bromodichloromethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	5.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Trichloroethene	ND	5.0	ug/L	SW846 8260B
Dibromochloromethane	ND	5.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Benzene	ND	5.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Bromoform	ND	5.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	20	ug/L	SW846 8260B
2-Hexanone	ND	20	ug/L	SW846 8260B
Tetrachloroethene	ND	5.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	SW846 8260B
Toluene	ND	5.0	ug/L	SW846 8260B
Chlorobenzene	ND	5.0	ug/L	SW846 8260B
Ethylbenzene	ND	5.0	ug/L	SW846 8260B
Styrene	ND	5.0	ug/L	SW846 8260B
Xylenes (total)	ND	5.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	98	(78 - 110)
1,2-Dichloroethane-d4	94	(77 - 120)
luene-d8	99	(78 - 111)
4-Bromofluorobenzene	95	(80 - 114)

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A0E150149 **Work Order #...:** DDJ11101 **Matrix.....:** WATER

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A0E150149 **Work Order #...:** DD780102-MS **Matrix.....:** WS
MS Lot-Sample #: A0E150149-001 DD780103-MSD
Date Sampled...: 05/12/00 11:00 **Date Received..:** 05/13/00
Prep Date.....: 05/19/00 **Analysis Date..:** 05/19/00
Prep Batch #...: 0143415
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	**115**	**(57 - 138)**			**SW846 8260B**
	115	**(57 - 138)**	**0.26**	**(0-15)**	**SW846 8260B**
Trichloroethene	**98**	**(58 - 141)**			**SW846 8260B**
	96	**(58 - 141)**	**1.4**	**(0-17)**	**SW846 8260B**
Benzene	**98**	**(73 - 123)**			**SW846 8260B**
	96	**(73 - 123)**	**1.7**	**(0-11)**	**SW846 8260B**
Toluene	**98**	**(67 - 129)**			**SW846 8260B**
	96	**(67 - 129)**	**1.9**	**(0-14)**	**SW846 8260B**
Chlorobenzene	**99**	**(70 - 122)**			**SW846 8260B**
	97	**(70 - 122)**	**1.9**	**(0-14)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	95	(78 - 110)
	95	(78 - 110)
1,2-Dichloroethane-d4	91	(77 - 120)
	92	(77 - 120)
Toluene-d8	97	(78 - 111)
	96	(78 - 111)
4-Bromofluorobenzene	99	(80 - 114)
	99	(80 - 114)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A0E150149 **Work Order #...:** DD785103-MS **Matrix.....:** SE
MS Lot-Sample #: A0E150149-005 DD785104-MSD
Date Sampled...: 05/12/00 11:10 **Date Received..:** 05/13/00
Prep Date.....: 05/16/00 **Analysis Date..:** 05/16/00
Prep Batch #...: 0138271
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	**95**	**(43 - 147)**			**SW846 8260A**
	140 p	**(43 - 147)**	**38**	**(0-27)**	**SW846 8260A**
Trichloroethene	**77**	**(46 - 143)**			**SW846 8260A**
	109 p	**(46 - 143)**	**34**	**(0-23)**	**SW846 8260A**
nzene	**88**	**(55 - 138)**			**SW846 8260A**
	118 p	**(55 - 138)**	**29**	**(0-20)**	**SW846 8260A**
Toluene	**89**	**(46 - 147)**			**SW846 8260A**
	127 p	**(46 - 147)**	**35**	**(0-24)**	**SW846 8260A**
Chlorobenzene	**80**	**(49 - 139)**			**SW846 8260A**
	107 p	**(49 - 139)**	**29**	**(0-22)**	**SW846 8260A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1bromofluoromethane	103	(59 - 138)
	101	(59 - 138)
1,2-Dichloroethane-d4	97	(61 - 130)
	101	(61 - 130)
Toluene-d8	120	(60 - 143)
	122	(60 - 143)
4-Bromofluorobenzene	105	(47 - 158)
	97	(47 - 158)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

p Relative percent difference (RPD) is outside stated control limits.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A0E150149 **Work Order #...:** DD1CV-SMP DD1CV-DUP **Matrix.....:** SOLID

Date Sampled...: 05/09/00 15:55 **Date Received..:** 05/10/00

% Moisture.....: 6.1

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids						SD Lot-Sample #:	A0E100203-006	
	93.9	96.8	%	3.0	(0-20)	MCAWW 160.3 MOD	05/16-05/17/00	0137310

Dilution Factor: 1

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A0E150149 **Work Order #...:** DD7JX-SMP DD7JX-DUP **Matrix.....:** SOLID

Date Sampled...: 04/17/00 13:37 **Date Received..:** 04/18/00

% Moisture.....: 8.7

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids						SD Lot-Sample #:	A0E100165-003	
	91.3	91.5	%	0.19	(0-20)	MCAWW 160.3 MOD	05/16-05/17/00	0137310

Dilution Factor: 1

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

Chain of Custody Record

Quanterra

QUA-4124

Client: The Payne Firm, Inc.	Project Manager: Dan Wood	Date: 5-12-00	Chain Of Custody Number: 30752
Address: 11231 Cornell Park Dr.	Telephone Number (Area Code)/Fax Number: 513-489-2255 / 513-489-2533	Lab Number	Page 1 of 1
City: Cincinnati; State: OH; Zip Code: 45242	Site Contact		
Project Name: Carlisle	Carrier/Waybill Number		
Contract/Purchase Order/Quote No.: 279.44.05			

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Preservative	Condition on Receipt	Analysis: VOC 8260
SW-1	5-12-00	1100	H_2O	120ml	VOA	3	HCl		
SW-2		1110	H_2O	120ml	VOA	3	HCl		
SW-3		1120	H_2O	120ml	VOA	3	HCl		
SED-1		1100	Sediment	4oz	Jar	1	—		
SED-2		1110		4oz	Jar	1	—		
SED-3		1120		4oz	Jar	1	—		

Special Instructions

Possible Hazard Identification: [X] Non-Hazard [ ] Flammable [ ] Skin Irritant [ ] Poison B [ ] Unknown

Sample Disposal: [ ] Return To Client [ ] Disposal By Lab [ ] Archive For _____ Months

Turn Around Time Required: [X] Normal [ ] Rush

QC Level: [ ] I. [ ] II. [ ] III.

Project Specific (Specify)

	Date	Time		Date	Time
1. Relinquished By: Mark [illegible]	5-12-00	1600	1. Received By		
2. Relinquished By			2. Received By: [illegible]	5/12/00	1120
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: Original Stays with Sample; CANARY - Returned to Client with Report; PINK - Field Copy

Quanterra
4101 Shuffel Drive, NW
North Canton, Ohio 44720-6961

330 497-9396 Telephone
330 497-0772 Fax
www.quanterra.com

FILE COPY

ANALYTICAL REPORT

PROJECT NO. 279.44.05 F2

GRILLOT

Lot #: A0E120122

Dan Weed

The Payne Firm, Inc.

SEVERN TRENT LABORATORIES, INC.

Gary L. Wood
Project Manager

May 26, 2000

CASE NARRATIVE

The following report contains the analytical results for sixteen water samples submitted to STL North Canton by The Payne Firm, Inc. from the Grillot site, project number 279.44.05. The samples were received on May 11, 2000, according to documented sample acceptance procedures.

STL North Canton utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter listed on the analytical methods summary page in accordance with the method indicated.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan. All data have been found to be compliant with laboratory protocol.

Supplemental QC Information

SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 0.1° C.

Six volatile vials were received for sample MW 206-050900 with only three volatile vials listed on the chain-of-custody. No vials were received for sample MW 207-050900 with three volatile vials listed on the chain-of-custody. Three of the six vials have 206 written on the lids. The other three vials have nothing written on the lids and were logged as sample MW 207-050900 per the Payne Firm.

ANALYTICAL METHODS SUMMARY

A0E120122

PARAMETER	ANALYTICAL METHOD
Volatile Organics by GC/MS	SW846 8260B

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

A0E120122

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
DD44P	001	MW204-050900	05/09/00	09:15
DD44V	002	MW206-050900	05/09/00	13:35
DD44W	003	MW207-050900	05/09/00	13:05
DD44X	004	MW208-050900	05/09/00	11:35
DD451	005	MW209-050900	05/09/00	14:40
DD452	006	MW212-051000	05/10/00	09:05
DD453	007	MW201-051000	05/10/00	09:55
DD455	008	MW202-051000	05/10/00	11:25
DD457	009	MW102-051000	05/10/00	10:50
DD458	010	MW103-051000	05/10/00	10:20
DD45A	011	MW101A-051000	05/10/00	12:10
DD45C	012	MW203-051000	05/10/00	1[illegible]
DD45E	013	MW210-051000	05/10/00	13:[illegible]0
DD45F	014	RINSEATE	05/10/00	
DD45H	015	DUPLICATE	05/10/00	
DD45J	016	FIELD BLANK	05/10/00	

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PAYNE FIRM INC.

Client Sample ID: MW204-050900

GC/MS Volatiles

Lot-Sample #...: A0E120122-001 **Work Order #...:** DD44P101 **Matrix.....:** WG
Date Sampled...: 05/09/00 09:15 **Date Received..:** 05/11/00
Prep Date.....: 05/18/00 **Analysis Date..:** 05/18/00
Prep Batch #...: 0143164
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	95	(78 - 110)
1,2-Dichloroethane-d4	93	(77 - 120)
Toluene-d8	97	(78 - 111)
4-Bromofluorobenzene	96	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW206-050900

GC/MS Volatiles

Lot-Sample #...: A0E120122-002 Work Order #...: DD44V101 Matrix.....: WG
Date Sampled...: 05/09/00 13:35 Date Received..: 05/11/00
Prep Date.....: 05/18/00 Analysis Date..: 05/18/00
Prep Batch #...: 0143164
Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	94	(78 - 110)
1,2-Dichloroethane-d4	93	(77 - 120)
Toluene-d8	98	(78 - 111)
4-Bromofluorobenzene	93	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW207-050900

GC/MS Volatiles

Lot-Sample #...: A0E120122-003 **Work Order #...:** DD44W101 **Matrix.....:** WG
Date Sampled...: 05/09/00 13:05 **Date Received..:** 05/11/00
Prep Date.....: 05/18/00 **Analysis Date..:** 05/18/00
Prep Batch #...: 0143164
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
cetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	93	(78 - 110)
,2-Dichloroethane-d4	92	(77 - 120)
Toluene-d8	98	(78 - 111)
4-Bromofluorobenzene	92	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW208-050900

GC/MS Volatiles

Lot-Sample #...: A0E120122-004 **Work Order #...:** DD44X101 **Matrix.....:** WG
Date Sampled...: 05/09/00 11:35 **Date Received..:** 05/11/00
Prep Date.....: 05/18/00 **Analysis Date..:** 05/18/00
Prep Batch #...: 0143164
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	92	(78 - 110)
1,2-Dichloroethane-d4	94	(77 - 120)
Toluene-d8	98	(78 - 111)
4-Bromofluorobenzene	95	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW209-050900

GC/MS Volatiles

Lot-Sample #...:	A0E120122-005	**Work Order #...:**	DD451101	**Matrix.....:**	WG
Date Sampled...:	05/09/00 14:40	**Date Received..:**	05/11/00		
Prep Date.....:	05/18/00	**Analysis Date..:**	05/18/00		
Prep Batch #...:	0143164				
Dilution Factor:	1	**Method.....:**	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	93	(78 - 110)
1,2-Dichloroethane-d4	91	(77 - 120)
Toluene-d8	97	(78 - 111)
4-Bromofluorobenzene	95	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW212-051000

GC/MS Volatiles

Lot-Sample #...: A0E120122-006 **Work Order #...:** DD452101 **Matrix.....:** WG
Date Sampled...: 05/10/00 09:05 **Date Received..:** 05/11/00
Prep Date.....: 05/18/00 **Analysis Date..:** 05/18/00
Prep Batch #...: 0143164
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	**6.6**	**5.0**	**ug/L**
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	92	(78 - 110)
1,2-Dichloroethane-d4	93	(77 - 120)
Toluene-d8	99	(78 - 111)
4-Bromofluorobenzene	95	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW201-051000

GC/MS Volatiles

Lot-Sample #...: A0E120122-007 **Work Order #...:** DD453101 **Matrix.....:** WG
Date Sampled...: 05/10/00 09:55 **Date Received..:** 05/11/00
Prep Date.....: 05/18/00 **Analysis Date..:** 05/18/00
Prep Batch #...: 0143164
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	**8.9**	**5.0**	**ug/L**
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	**22**	**5.0**	**ug/L**
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	93	(78 - 110)
1,2-Dichloroethane-d4	92	(77 - 120)
Toluene-d8	99	(78 - 111)
4-Bromofluorobenzene	93	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW202-051000

GC/MS Volatiles

Lot-Sample #...: A0E120122-008 **Work Order #...:** DD455101 **Matrix.....:** WG
Date Sampled...: 05/10/00 11:25 **Date Received..:** 05/11/00
Prep Date.....: 05/18/00 **Analysis Date..:** 05/18/00
Prep Batch #...: 0143164
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	**35**	**5.0**	**ug/L**
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	**6.2**	**5.0**	**ug/L**
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	94	(78 - 110)
1,2-Dichloroethane-d4	93	(77 - 120)
Toluene-d8	97	(78 - 111)
4-Bromofluorobenzene	94	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW102-051000

GC/MS Volatiles

Lot-Sample #...: A0E120122-009 **Work Order #...:** DD457101 **Matrix.....:** WG
Date Sampled...: 05/10/00 10:50 **Date Received..:** 05/11/00
Prep Date.....: 05/18/00 **Analysis Date..:** 05/18/00
Prep Batch #...: 0143164
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	94	(78 - 110)
1,2-Dichloroethane-d4	94	(77 - 120)
Toluene-d8	97	(78 - 111)
4-Bromofluorobenzene	94	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW103-051000

GC/MS Volatiles

Lot-Sample #...: A0E120122-010 Work Order #...: DD458101 Matrix.....: WG
Date Sampled...: 05/10/00 10:20 Date Received..: 05/11/00
Prep Date.....: 05/18/00 Analysis Date..: 05/18/00
Prep Batch #...: 0143164
Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	**5.0**	**5.0**	**ug/L**
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	94	(78 - 110)
1,2-Dichloroethane-d4	93	(77 - 120)
Toluene-d8	97	(78 - 111)
4-Bromofluorobenzene	91	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW101A-051000

GC/MS Volatiles

Lot-Sample #...: A0E120122-011 **Work Order #...:** DD45A101 **Matrix.....:** WG
Date Sampled...: 05/10/00 12:10 **Date Received..:** 05/11/00
Prep Date.....: 05/18/00 **Analysis Date..:** 05/18/00
Prep Batch #...: 0143164
Dilution Factor: 3.33 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	33	ug/L
Bromomethane	ND	33	ug/L
Vinyl chloride	**150**	**33**	**ug/L**
Chloroethane	ND	33	ug/L
Methylene chloride	ND	17	ug/L
Acetone	ND	67	ug/L
Carbon disulfide	ND	17	ug/L
1,1-Dichloroethene	ND	17	ug/L
1,1-Dichloroethane	**32**	**17**	**ug/L**
1,2-Dichloroethene (total)	**410**	**17**	**ug/L**
Chloroform	ND	17	ug/L
1,2-Dichloroethane	ND	17	ug/L
2-Butanone	ND	67	ug/L
1,1,1-Trichloroethane	ND	17	ug/L
Carbon tetrachloride	ND	17	ug/L
Bromodichloromethane	ND	17	ug/L
1,2-Dichloropropane	ND	17	ug/L
cis-1,3-Dichloropropene	ND	17	ug/L
Trichloroethene	ND	17	ug/L
Dibromochloromethane	ND	17	ug/L
1,1,2-Trichloroethane	ND	17	ug/L
Benzene	ND	17	ug/L
trans-1,3-Dichloropropene	ND	17	ug/L
Bromoform	ND	17	ug/L
4-Methyl-2-pentanone	ND	67	ug/L
2-Hexanone	ND	67	ug/L
Tetrachloroethene	ND	17	ug/L
1,1,2,2-Tetrachloroethane	ND	17	ug/L
Toluene	ND	17	ug/L
Chlorobenzene	ND	17	ug/L
Ethylbenzene	ND	17	ug/L
Styrene	ND	17	ug/L
Xylenes (total)	ND	17	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	94	(78 - 110)
1,2-Dichloroethane-d4	91	(77 - 120)
Toluene-d8	99	(78 - 111)
4-Bromofluorobenzene	94	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW203-051000

GC/MS Volatiles

Lot-Sample #...: A0E120122-012 Work Order #...: DD45C101 Matrix.....: WG
Date Sampled...: 05/10/00 12:40 Date Received..: 05/11/00
Prep Date.....: 05/18/00 Analysis Date..: 05/18/00
Prep Batch #...: 0143164
Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	**27**	**5.0**	**ug/L**
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	92	(78 - 110)
1,2-Dichloroethane-d4	92	(77 - 120)
Toluene-d8	96	(78 - 111)
4-Bromofluorobenzene	94	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: MW210-051000

GC/MS Volatiles

Lot-Sample #...: A0E120122-013 **Work Order #...:** DD45E101 **Matrix.....:** WG
Date Sampled...: 05/10/00 13:10 **Date Received..:** 05/11/00
Prep Date.....: 05/18/00 **Analysis Date..:** 05/19/00
Prep Batch #...: 0143164
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
cetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	**14**	**5.0**	**ug/L**
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	**58**	**5.0**	**ug/L**
Dibromochloromethane	ND	5.0	ug/L
,1,2-Trichloroethane	ND	5.0	ug/L
enzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	96	(78 - 110)
,2-Dichloroethane-d4	93	(77 - 120)
oluene-d8	97	(78 - 111)
4-Bromofluorobenzene	93	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: RINSEATE

GC/MS Volatiles

Lot-Sample #...: A0E120122-014 **Work Order #...:** DD45F101 **Matrix.....:** WG
Date Sampled...: 05/10/00 **Date Received..:** 05/11/00
Prep Date.....: 05/18/00 **Analysis Date..:** 05/19/00
Prep Batch #...: 0143164
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	93	(78 - 110)
1,2-Dichloroethane-d4	89	(77 - 120)
Toluene-d8	96	(78 - 111)
4-Bromofluorobenzene	92	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: DUPLICATE

GC/MS Volatiles

Lot-Sample #...: A0E120122-015 **Work Order #...:** DD45H101 **Matrix.....:** WG
Date Sampled...: 05/10/00 **Date Received..:** 05/11/00
Prep Date.....: 05/18/00 **Analysis Date..:** 05/19/00
Prep Batch #...: 0143164
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	**14**	**5.0**	**ug/L**
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	**58**	**5.0**	**ug/L**
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	94	(78 - 110)
1,2-Dichloroethane-d4	93	(77 - 120)
Toluene-d8	99	(78 - 111)
4-Bromofluorobenzene	92	(80 - 114)

PAYNE FIRM INC.

Client Sample ID: FIELD BLANK

GC/MS Volatiles

Lot-Sample #...: A0E120122-016 **Work Order #...:** DD45J101 **Matrix.....:** WG
Date Sampled...: 05/10/00 **Date Received..:** 05/11/00
Prep Date.....: 05/18/00 **Analysis Date..:** 05/18/00
Prep Batch #...: 0143164
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	96	(78 - 110)
1,2-Dichloroethane-d4	93	(77 - 120)
Toluene-d8	97	(78 - 111)
4-Bromofluorobenzene	95	(80 - 114)

QUALITY CONTROL SECTION

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL), the analytes were greater than 10 times the blank level, or the associated sample(s) must be ND except for the common laboratory contaminants indicated below.

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	Metals
Methylene chloride	Phthalate Esters	Copper
Acetone		Iron
2-Butanone		Zinc
		Lead*

** for analyses run on TJA Trace ICP only*

QUALITY CONTROL ELEMENTS OF SW-846 METHODS
(Continued)

The listed volatile and semivolatile compounds may be present in concentrations up to 5 times the reporting limits. The listed metals may be present in concentrations up to 2 times the reporting limit or must be twenty fold less than the results of the environmental samples. Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample are spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

The acceptance criteria do not apply to samples that are diluted. All other surrogate recoveries will be reported. If the LCS, LCSD, or the Method Blank surrogates fail to meet recovery criteria (exception for dilutions), the entire batch of samples is reprepared and reanalyzed.

If the surrogate recoveries are outside criteria for environmental or MS/MSD samples, the batch is acceptable if the Method Blank, LCS, and LCSD surrogate recoveries are within acceptance criteria. If the surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank and the associated sample(s) are ND, the batch is acceptable.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide/PCB, PAH, and Herbicide methods, the surrogate criteria is that one of two surrogate compounds meet acceptance criteria.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A0E120122 **Work Order #...:** DDH8V102 **Matrix.....:** WATER
LCS Lot-Sample#: A0E220000-164
Prep Date.....: 05/18/00 **Analysis Date..:** 05/18/00
Prep Batch #...: 0143164
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
1,1-Dichloroethene	**114**	**(65 - 119)**	**SW846 8260B**
Trichloroethene	**100**	**(80 - 122)**	**SW846 8260B**
Benzene	**97**	**(79 - 116)**	**SW846 8260B**
Toluene	**97**	**(76 - 119)**	**SW846 8260B**
Chlorobenzene	**98**	**(81 - 115)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	97	(78 - 110)
1,2-Dichloroethane-d4	94	(77 - 120)
Toluene-d8	98	(78 - 111)
4-Bromofluorobenzene	102	(80 - 114)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A0E120122 **Work Order #...:** DDH8V101 **Matrix.....:** WATER
MB Lot-Sample #: A0E220000-164

Prep Date.....: 05/18/00
Analysis Date..: 05/18/00 **Prep Batch #...:** 0143164
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	10	ug/L	SW846 8260B
Bromomethane	ND	10	ug/L	SW846 8260B
Vinyl chloride	ND	10	ug/L	SW846 8260B
Chloroethane	ND	10	ug/L	SW846 8260B
Methylene chloride	ND	5.0	ug/L	SW846 8260B
Acetone	ND	20	ug/L	SW846 8260B
Carbon disulfide	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethene (total)	ND	5.0	ug/L	SW846 8260B
Chloroform	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	5.0	ug/L	SW846 8260B
2-Butanone	ND	20	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	5.0	ug/L	SW846 8260B
Bromodichloromethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	5.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Trichloroethene	ND	5.0	ug/L	SW846 8260B
Dibromochloromethane	ND	5.0	ug/L	SW846 8260B
1,2-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Benzene	ND	5.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Bromoform	ND	5.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	20	ug/L	SW846 8260B
2-Hexanone	ND	20	ug/L	SW846 8260B
Tetrachloroethene	ND	5.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	SW846 8260B
Toluene	ND	5.0	ug/L	SW846 8260B
Chlorobenzene	ND	5.0	ug/L	SW846 8260B
Ethylbenzene	ND	5.0	ug/L	SW846 8260B
Styrene	ND	5.0	ug/L	SW846 8260B
Xylenes (total)	ND	5.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	94	(78 - 110)
1,2-Dichloroethane-d4	93	(77 - 120)
Toluene-d8	97	(78 - 111)
4-Bromofluorobenzene	96	(80 - 114)

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A0E120122 **Work Order #...:** DDH8V101 **Matrix.....:** WATER

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A0E120122 **Work Order #...:** DD44P102-MS **Matrix.....:** WG
MS Lot-Sample #: A0E120122-001 DD44P103-MSD
Date Sampled...: 05/09/00 09:15 **Date Received..:** 05/11/00
Prep Date.....: 05/18/00 **Analysis Date..:** 05/18/00
Prep Batch #...: 0143164
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	**114**	**(57 - 138)**			**SW846 8260B**
	114	**(57 - 138)**	**0.23**	**(0-15)**	**SW846 8260B**
Trichloroethene	**98**	**(58 - 141)**			**SW846 8260B**
	96	**(58 - 141)**	**2.1**	**(0-17)**	**SW846 8260B**
Benzene	**100**	**(73 - 123)**			**SW846 8260B**
	98	**(73 - 123)**	**2.0**	**(0-11)**	**SW846 8260B**
Toluene	**98**	**(67 - 129)**			**SW846 8260B**
	98	**(67 - 129)**	**0.64**	**(0-14)**	**SW846 8260B**
Chlorobenzene	**99**	**(70 - 122)**			**SW846 8260B**
	98	**(70 - 122)**	**0.90**	**(0-14)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	96	(78 - 110)
	95	(78 - 110)
1,2-Dichloroethane-d4	94	(77 - 120)
	92	(77 - 120)
Toluene-d8	95	(78 - 111)
	97	(78 - 111)
4-Bromofluorobenzene	97	(80 - 114)
	98	(80 - 114)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Chain of Custody Record

Quanterra

QUA 4124

Client: The Payne Firm, Inc.	Project Manager: Dan Weed	Date: 5/10/00	Chain Of Custody Number: 30750
Address: 11231 Cornell Park Dr.	Telephone Number (Area Code)/Fax Number: 513-489-2255 / 513-489-2533	Lab Number:	Page 1 of 1
City: Cincinnati; State: OH; Zip Code: 45242	Site Contact: —		
Project Name: Grillot	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.: 279.44.05			

Analysis: VOC 8260

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Preservative	Condition on Receipt	VOC 8260
MW 204-050900	5-9-00	0915	H_2O/VOA	120ml	VOA	3	HCl		X
MW 206-050900		1335							X
MW 207-050900		1305							X
MW 208-050900		1135							X
MW 209-050900		1440							X
MW 212-051000	5-10-00	0905							X
MW 201-051000		0955							X
MW 202-051000		1125							X
MW 102-051000		1050							X
MW 103-051000		1020							X
MW 101A-051000		1210							X
MW 203-051000		1240							X
MW 210-051000		1310							X
Rinsate		—		80ml		2			X
Duplicate		—		120ml		3			X
Field Blank		—		80ml		2			X

Special Instructions:

Possible Hazard Identification: [X] Non Hazard [ ] Flammable [ ] Skin Irritant [ ] Poison B [ ] Unknown

Sample Disposal: [ ] Return To Client [X] Disposal By Lab [ ] Archive For ____ Months

Turn Around Time Required: [X] Normal [ ] Rush

QC Level: [ ] I. [ ] II. [ ] III.

Project Specific (Specify):

	Date	Time		Date	Time
1. Relinquished By: Mark Berkich	5/10/00	1700	1. Received By:		
2. Relinquished By:			2. Received By: [signature]	5/11/00	9:30
3. Relinquished By:			3. Received By:		

Comments: Rs to MARK BERKICH @ The Payne Firm

DISTRIBUTION: WHITE - Stays with Sample; CANARY - Returned to Client with Report; PINK - Field Copy

Quanterra

Quanterra
4101 Shuffel Drive, NW
North Canton, Ohio 44720-6961

330 497-9396 Telephone
330 497-0772 Fax
www.quanterra.com

ANALYTICAL REPORT

279.44.05

PROJECT NO. 279.44.05

GRILLOT

Lot #: A9K150107

3

Dan Weed

The Payne Firm, Inc.

QUANTERRA INCORPORATED

Gary L. Wood
Project Manager

December 2, 1999

CASE NARRATIVE

The following report contains the analytical results for sixteen water samples submitted to Quanterra-North Canton by The Payne Firm, Inc. from the Grillot site, project number 279.44.05. The samples were received November 12, 1999, according to documented sample acceptance procedures.

Quanterra-North Canton utilizes only USEPA approved methods and instrumentation in all analytical work. The samples presented in this report were analyzed for the parameter listed on the method reference page in accordance with the methods indicated.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan. All data have been found to be compliant with laboratory protocol.

Supplemental QC Information

GC/MS VOLATILES

Methylene chloride was detected in the method blank for batch 9323468. This is a common laboratory contaminant with concentrations less than five times the requested reporting limit. All affected sample results are qualified with a "B".

SAMPLE SUMMARY

A9K150107

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
D525W	001	MW101A-111199	11/11/99	13:00
D5260	002	MW204-111199	11/11/99	12:20
D5262	003	MW203-111199	11/11/99	11:45
D5264	004	MW210-111199	11/11/99	11:10
D5265	005	MW209-111199	11/11/99	10:30
D5266	006	MW212-111199	11/11/99	09:45
D5267	007	MW101B-111199	11/11/99	
D5269	008	RINSATE-111199	11/11/99	
D526E	009	MW202-111099	11/10/99	13:25
D526F	010	MW208-111099	11/10/99	12:50
526G	011	MW207-111099	11/10/99	11:45
D526H	012	MW206-111099	11/10/99	11:20
D526J	013	MW201-111099	11/10/99	10:45
D526L	014	MW103-111099	11/10/99	09:55
D526N	015	MW102-111099	11/10/99	09:20
D526P	016	FIELD BLANK	11/11/99	

NOTE(S):

The analytical results of the samples listed above are presented on the following pages.

- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PAYNE FIRM INC.

Client Sample ID: MW101A-111199

GC/MS Volatiles

Lot-Sample #...: A9K150107-001 **Work Order #...:** D525W101 **Matrix.....:** WATER
Date Sampled...: 11/11/99 13:00 **Date Received..:** 11/12/99
Prep Date.....: 11/19/99 **Analysis Date..:** 11/19/99
Prep Batch #...: 9323468
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	**5.0 B**	**5.0**	**ug/L**
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	**34**	**5.0**	**ug/L**
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	99	(80 - 120)
Toluene-d8	96	(88 - 110)
Bromofluorobenzene	98	(86 - 115)
Dibromofluoromethane	98	(86 - 118)

(Continued on next page)

PAYNE FIRM INC.

Client Sample ID: MW101A-111199

GC/MS Volatiles

Lot-Sample #...: A9K150107-001 **Work Order #...:** D525W101 **Matrix.....:** WATER

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

PAYNE FIRM INC.

Client Sample ID: MW204-111199

GC/MS Volatiles

Lot-Sample #...: A9K150107-002 **Work Order #...:** D5260101 **Matrix.....:** WATER
Date Sampled...: 11/11/99 12:20 **Date Received..:** 11/12/99
Prep Date.....: 11/19/99 **Analysis Date..:** 11/19/99
Prep Batch #...: 9323468
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	**5.8 B**	**5.0**	**ug/L**
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	102	(80 - 120)
oluene-d8	100	(88 - 110)
Bromofluorobenzene	101	(86 - 115)
Dibromofluoromethane	100	(86 - 118)

(Continued on next page)

PAYNE FIRM INC.

Client Sample ID: MW204-111199

GC/MS Volatiles

Lot-Sample #...: A9K150107-002 **Work Order #...:** D5260101 **Matrix.....:** WATER

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

PAYNE FIRM INC.

Client Sample ID: MW203-111199

GC/MS Volatiles

Lot-Sample #...: A9K150107-003 **Work Order #...:** D5262101 **Matrix.....:** WATER
Date Sampled...: 11/11/99 11:45 **Date Received..:** 11/12/99
Prep Date.....: 11/19/99 **Analysis Date..:** 11/19/99
Prep Batch #...: 9323468
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	**13**	**10**	**ug/L**
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	**25**	**5.0**	**ug/L**
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	**8.4**	**5.0**	**ug/L**
Chlorobenzene	**19**	**5.0**	**ug/L**
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	103	(80 - 120)
Toluene-d8	96	(88 - 110)
Bromofluorobenzene	101	(86 - 115)
Dibromofluoromethane	101	(86 - 118)

PAYNE FIRM INC.

Client Sample ID: MW210-111199

GC/MS Volatiles

Lot-Sample #...: A9K150107-004 **Work Order #...:** D5264101 **Matrix.....:** WATER
Date Sampled...: 11/11/99 11:10 **Date Received..:** 11/12/99
Prep Date.....: 11/19/99 **Analysis Date..:** 11/19/99
Prep Batch #...: 9323468
Dilution Factor: 2.5 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	25	ug/L
Bromomethane	ND	25	ug/L
Vinyl chloride	ND	25	ug/L
Chloroethane	ND	25	ug/L
Methylene chloride	**14 B**	**12**	**ug/L**
Acetone	ND	50	ug/L
Carbon disulfide	ND	12	ug/L
1,1-Dichloroethene	ND	12	ug/L
1,1-Dichloroethane	ND	12	ug/L
1,2-Dichloroethene (total)	**45**	**12**	**ug/L**
Chloroform	ND	12	ug/L
1,2-Dichloroethane	ND	12	ug/L
2-Butanone	ND	50	ug/L
1,1,1-Trichloroethane	ND	12	ug/L
Carbon tetrachloride	ND	12	ug/L
Bromodichloromethane	ND	12	ug/L
1,2-Dichloropropane	ND	12	ug/L
cis-1,3-Dichloropropene	ND	12	ug/L
Trichloroethene	**260**	**12**	**ug/L**
Dibromochloromethane	ND	12	ug/L
1,1,2-Trichloroethane	ND	12	ug/L
Benzene	ND	12	ug/L
trans-1,3-Dichloropropene	ND	12	ug/L
Bromoform	ND	12	ug/L
4-Methyl-2-pentanone	ND	50	ug/L
2-Hexanone	ND	50	ug/L
Tetrachloroethene	ND	12	ug/L
1,1,2,2-Tetrachloroethane	ND	12	ug/L
Toluene	ND	12	ug/L
Chlorobenzene	ND	12	ug/L
Ethylbenzene	ND	12	ug/L
Styrene	ND	12	ug/L
Xylenes (total)	ND	12	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	105	(80 - 120)
Toluene-d8	99	(88 - 110)
Bromofluorobenzene	99	(86 - 115)
Dibromofluoromethane	101	(86 - 118)

(Continued on next page)

PAYNE FIRM INC.

Client Sample ID: MW210-111199

GC/MS Volatiles

Lot-Sample #...: A9K150107-004 Work Order #...: D5264101 Matrix.....: WATER

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

PAYNE FIRM INC.

Client Sample ID: MW209-111199

GC/MS Volatiles

Lot-Sample #...: A9K150107-005 **Work Order #...:** D5265101 **Matrix.....:** WATER
Date Sampled...: 11/11/99 10:30 **Date Received..:** 11/12/99
Prep Date.....: 11/19/99 **Analysis Date..:** 11/19/99
Prep Batch #...: 9323468
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	**5.1 B**	**5.0**	**ug/L**
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	104	(80 - 120)
Toluene-d8	99	(88 - 110)
Bromofluorobenzene	101	(86 - 115)
Dibromofluoromethane	102	(86 - 118)

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PAYNE FIRM INC.

Client Sample ID: MW209-111199

GC/MS Volatiles

Lot-Sample #...: A9K150107-005 **Work Order #...:** D5265101 **Matrix.....:** WATER

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

PAYNE FIRM INC.

Client Sample ID: MW212-111199

GC/MS Volatiles

Lot-Sample #...: A9K150107-006 **Work Order #...:** D5266101 **Matrix.....:** WATER
Date Sampled...: 11/11/99 09:45 **Date Received..:** 11/12/99
Prep Date.....: 11/19/99 **Analysis Date..:** 11/19/99
Prep Batch #...: 9323468
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	**5.4 B**	**5.0**	**ug/L**
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	**5.8**	**5.0**	**ug/L**
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	102	(80 - 120)
Toluene-d8	98	(88 - 110)
Bromofluorobenzene	98	(86 - 115)
Dibromofluoromethane	99	(86 - 118)

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PAYNE FIRM INC.

Client Sample ID: MW212-111199

GC/MS Volatiles

Lot-Sample #...: A9K150107-006 **Work Order #...:** D5266101 **Matrix.....:** WATER

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

PAYNE FIRM INC.

Client Sample ID: MW101B-111199

GC/MS Volatiles

Lot-Sample #...: A9K150107-007 **Work Order #...:** D5267101 **Matrix.....:** WATER
Date Sampled...: 11/11/99 **Date Received..:** 11/12/99
Prep Date.....: 11/19/99 **Analysis Date..:** 11/19/99
Prep Batch #...: 9323468
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	**13**	**10**	**ug/L**
Chloroethane	ND	10	ug/L
Methylene chloride	**5.6 B**	**5.0**	**ug/L**
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	**6.2**	**5.0**	**ug/L**
1,2-Dichloroethene (total)	**49**	**5.0**	**ug/L**
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	103	(80 - 120)
Toluene-d8	99	(88 - 110)
Bromofluorobenzene	99	(86 - 115)
Dibromofluoromethane	101	(86 - 118)

(Continued on next page)

PAYNE FIRM INC.

Client Sample ID: MW101B-111199

GC/MS Volatiles

Lot-Sample #...: A9K150107-007 **Work Order #...:** D5267101 **Matrix.....:** WATER

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

PAYNE FIRM INC.

Client Sample ID: RINSATE-111199

GC/MS Volatiles

Lot-Sample #...: A9K150107-008 **Work Order #...:** D5269101 **Matrix.....:** WATER
Date Sampled...: 11/11/99 **Date Received..:** 11/12/99
Prep Date.....: 11/19/99 **Analysis Date..:** 11/19/99
Prep Batch #...: 9323468
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	**5.6 B**	**5.0**	**ug/L**
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	105	(80 - 120)
Toluene-d8	100	(88 - 110)
Bromofluorobenzene	99	(86 - 115)
Dibromofluoromethane	102	(86 - 118)

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PAYNE FIRM INC.

Client Sample ID: RINSATE-111199

GC/MS Volatiles

Lot-Sample #...: A9K150107-008 Work Order #...: D5269101 Matrix.....: WATER

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

PAYNE FIRM INC.

Client Sample ID: MW202-111099

GC/MS Volatiles

Lot-Sample #...: A9K150107-009 **Work Order #...:** D526E101 **Matrix.....:** WATER
Date Sampled...: 11/10/99 13:25 **Date Received..:** 11/12/99
Prep Date.....: 11/23/99 **Analysis Date..:** 11/23/99
Prep Batch #...: 9328183
Dilution Factor: 1.66 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	17	ug/L
Bromomethane	ND	17	ug/L
Vinyl chloride	ND	17	ug/L
Chloroethane	ND	17	ug/L
Methylene chloride	ND	8.3	ug/L
Acetone	ND	33	ug/L
Carbon disulfide	ND	8.3	ug/L
1,1-Dichloroethene	ND	8.3	ug/L
1,1-Dichloroethane	ND	8.3	ug/L
1,2-Dichloroethene (total)	ND	8.3	ug/L
Chloroform	ND	8.3	ug/L
1,2-Dichloroethane	ND	8.3	ug/L
2-Butanone	ND	33	ug/L
1,1,1-Trichloroethane	ND	8.3	ug/L
Carbon tetrachloride	ND	8.3	ug/L
Bromodichloromethane	ND	8.3	ug/L
1,2-Dichloropropane	ND	8.3	ug/L
cis-1,3-Dichloropropene	ND	8.3	ug/L
Trichloroethene	**39**	**8.3**	**ug/L**
Dibromochloromethane	ND	8.3	ug/L
1,1,2-Trichloroethane	ND	8.3	ug/L
Benzene	ND	8.3	ug/L
trans-1,3-Dichloropropene	ND	8.3	ug/L
Bromoform	ND	8.3	ug/L
4-Methyl-2-pentanone	ND	33	ug/L
2-Hexanone	ND	33	ug/L
Tetrachloroethene	ND	8.3	ug/L
1,1,2,2-Tetrachloroethane	ND	8.3	ug/L
Toluene	ND	8.3	ug/L
Chlorobenzene	ND	8.3	ug/L
Ethylbenzene	ND	8.3	ug/L
Styrene	ND	8.3	ug/L
Xylenes (total)	ND	8.3	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	116	(80 - 120)
Toluene-d8	95	(88 - 110)
Bromofluorobenzene	103	(86 - 115)
Dibromofluoromethane	108	(86 - 118)

PAYNE FIRM INC.

Client Sample ID: MW208-111099

GC/MS Volatiles

Lot-Sample #...: A9K150107-010 **Work Order #...:** D526F101 **Matrix.....:** WATER
Date Sampled...: 11/10/99 12:50 **Date Received..:** 11/12/99
Prep Date.....: 11/18/99 **Analysis Date..:** 11/18/99
Prep Batch #...: 9323216
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	114	(80 - 120)
Toluene-d8	95	(88 - 110)
Bromofluorobenzene	110	(86 - 115)
Dibromofluoromethane	107	(86 - 118)

PAYNE FIRM INC.

Client Sample ID: MW207-111099

GC/MS Volatiles

Lot-Sample #...: A9K150107-011 **Work Order #...:** D526G101 **Matrix.....:** WATER
Date Sampled...: 11/10/99 11:45 **Date Received..:** 11/12/99
Prep Date.....: 11/18/99 **Analysis Date..:** 11/18/99
Prep Batch #...: 9323216
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	112	(80 - 120)
Toluene-d8	95	(88 - 110)
Bromofluorobenzene	110	(86 - 115)
Dibromofluoromethane	106	(86 - 118)

PAYNE FIRM INC.

Client Sample ID: MW206-111099

GC/MS Volatiles

Lot-Sample #...: A9K150107-012 **Work Order #...:** D526H101 **Matrix.....:** WATER
Date Sampled...: 11/10/99 11:20 **Date Received..:** 11/12/99
Prep Date.....: 11/18/99 **Analysis Date..:** 11/18/99
Prep Batch #...: 9323216
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	112	(80 - 120)
Toluene-d8	95	(88 - 110)
Bromofluorobenzene	113	(86 - 115)
Dibromofluoromethane	106	(86 - 118)

PAYNE FIRM INC.

Client Sample ID: MW201-111099

GC/MS Volatiles

Lot-Sample #...: A9K150107-013 **Work Order #...:** D526J101 **Matrix.....:** WATER
Date Sampled...: 11/10/99 10:45 **Date Received..:** 11/12/99
Prep Date.....: 11/18/99 **Analysis Date..:** 11/18/99
Prep Batch #...: 9323216
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	**8.4**	**5.0**	**ug/L**
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	**21**	**5.0**	**ug/L**
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	109	(80 - 120)
Toluene-d8	93	(88 - 110)
Bromofluorobenzene	110	(86 - 115)
Dibromofluoromethane	104	(86 - 118)

PAYNE FIRM INC.

Client Sample ID: MW103-111099

GC/MS Volatiles

Lot-Sample #...: A9K150107-014 **Work Order #...:** D526L101 **Matrix.....:** WATER
Date Sampled...: 11/10/99 09:55 **Date Received..:** 11/12/99
Prep Date.....: 11/18/99 **Analysis Date..:** 11/18/99
Prep Batch #...: 9323216
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	**8.0**	**5.0**	**ug/L**
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	112	(80 - 120)
Toluene-d8	95	(88 - 110)
Bromofluorobenzene	110	(86 - 115)
Dibromofluoromethane	105	(86 - 118)

PAYNE FIRM INC.

Client Sample ID: MW102-111099

GC/MS Volatiles

Lot-Sample #...: A9K150107-015 **Work Order #...:** D526N101 **Matrix.....:** WATER
Date Sampled...: 11/10/99 09:20 **Date Received..:** 11/12/99
Prep Date.....: 11/18/99 **Analysis Date..:** 11/18/99
Prep Batch #...: 9323216
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	110	(80 - 120)
Toluene-d8	95	(88 - 110)
Bromofluorobenzene	111	(86 - 115)
Dibromofluoromethane	104	(86 - 118)

PAYNE FIRM INC.

Client Sample ID: FIELD BLANK

GC/MS Volatiles

Lot-Sample #...: A9K150107-016 **Work Order #...:** D526P101 **Matrix.....:** WATER
Date Sampled...: 11/11/99 **Date Received..:** 11/12/99
Prep Date.....: 11/18/99 **Analysis Date..:** 11/18/99
Prep Batch #...: 9323216
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	112	(80 - 120)
Toluene-d8	92	(88 - 110)
Bromofluorobenzene	109	(86 - 115)
Dibromofluoromethane	108	(86 - 118)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A9K150107 **Work Order #...:** D5ARP101 **Matrix.....:** WATER
MB Lot-Sample #: A9K190000-468

Prep Date.....: 11/19/99
Analysis Date..: 11/19/99 **Prep Batch #...:** 9323468
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	10	ug/L	SW846 8260B
Bromomethane	ND	10	ug/L	SW846 8260B
Vinyl chloride	ND	10	ug/L	SW846 8260B
Chloroethane	ND	10	ug/L	SW846 8260B
Methylene chloride	**5.0**	**5.0**	**ug/L**	**SW846 8260B**
Acetone	ND	20	ug/L	SW846 8260B
Carbon disulfide	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethene (total)	ND	5.0	ug/L	SW846 8260B
Chloroform	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	5.0	ug/L	SW846 8260B
2-Butanone	ND	20	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	5.0	ug/L	SW846 8260B
Bromodichloromethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	5.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Trichloroethene	ND	5.0	ug/L	SW846 8260B
Dibromochloromethane	ND	5.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Benzene	ND	5.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Bromoform	ND	5.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	20	ug/L	SW846 8260B
2-Hexanone	ND	20	ug/L	SW846 8260B
Tetrachloroethene	ND	5.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	SW846 8260B
Toluene	ND	5.0	ug/L	SW846 8260B
Chlorobenzene	ND	5.0	ug/L	SW846 8260B
Ethylbenzene	ND	5.0	ug/L	SW846 8260B
Styrene	ND	5.0	ug/L	SW846 8260B
Xylenes (total)	ND	5.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	103	(80 - 120)
Toluene-d8	99	(88 - 110)
Bromofluorobenzene	101	(86 - 115)
Dibromofluoromethane	100	(86 - 118)

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A9K150107 **Work Order #...:** D5ARP101 **Matrix.....:** WATER

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A9K150107 **Work Order #...:** D5G5H101 **Matrix.....:** WATER
MB Lot-Sample #: A9K240000-183

Prep Date.....: 11/23/99
Analysis Date..: 11/23/99 **Prep Batch #...:** 9328183
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	10	ug/L	SW846 8260B
Bromomethane	ND	10	ug/L	SW846 8260B
Vinyl chloride	ND	10	ug/L	SW846 8260B
Chloroethane	ND	10	ug/L	SW846 8260B
Methylene chloride	ND	5.0	ug/L	SW846 8260B
Acetone	ND	20	ug/L	SW846 8260B
Carbon disulfide	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethene (total)	ND	5.0	ug/L	SW846 8260B
Chloroform	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	5.0	ug/L	SW846 8260B
2-Butanone	ND	20	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	5.0	ug/L	SW846 8260B
Bromodichloromethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	5.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Trichloroethene	ND	5.0	ug/L	SW846 8260B
Dibromochloromethane	ND	5.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Benzene	ND	5.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Bromoform	ND	5.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	20	ug/L	SW846 8260B
2-Hexanone	ND	20	ug/L	SW846 8260B
Tetrachloroethene	ND	5.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	SW846 8260B
Toluene	ND	5.0	ug/L	SW846 8260B
Chlorobenzene	ND	5.0	ug/L	SW846 8260B
Ethylbenzene	ND	5.0	ug/L	SW846 8260B
Styrene	ND	5.0	ug/L	SW846 8260B
Xylenes (total)	ND	5.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	109	(80 - 120)
Toluene-d8	94	(88 - 110)
Bromofluorobenzene	106	(86 - 115)
Dibromofluoromethane	100	(86 - 118)

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A9K150107 **Work Order #...:** D5G5H101 **Matrix.....:** WATER

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A9K150107 **Work Order #...:** D598V101 **Matrix.....:** WATER
MB Lot-Sample #: A9K190000-216

Prep Date.....: 11/18/99
Analysis Date..: 11/18/99 **Prep Batch #...:** 9323216
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	10	ug/L	SW846 8260B
Bromomethane	ND	10	ug/L	SW846 8260B
Vinyl chloride	ND	10	ug/L	SW846 8260B
Chloroethane	ND	10	ug/L	SW846 8260B
Methylene chloride	ND	5.0	ug/L	SW846 8260B
Acetone	ND	20	ug/L	SW846 8260B
Carbon disulfide	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethene (total)	ND	5.0	ug/L	SW846 8260B
Chloroform	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	5.0	ug/L	SW846 8260B
2-Butanone	ND	20	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	5.0	ug/L	SW846 8260B
Bromodichloromethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	5.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Trichloroethene	ND	5.0	ug/L	SW846 8260B
Dibromochloromethane	ND	5.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Benzene	ND	5.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Bromoform	ND	5.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	20	ug/L	SW846 8260B
2-Hexanone	ND	20	ug/L	SW846 8260B
Tetrachloroethene	ND	5.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	SW846 8260B
Toluene	ND	5.0	ug/L	SW846 8260B
Chlorobenzene	ND	5.0	ug/L	SW846 8260B
Ethylbenzene	ND	5.0	ug/L	SW846 8260B
Styrene	ND	5.0	ug/L	SW846 8260B
Xylenes (total)	ND	5.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	98	(80 - 120)
Toluene-d8	96	(88 - 110)
Bromofluorobenzene	108	(86 - 115)
Dibromofluoromethane	98	(86 - 118)

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #....: A9K150107 **Work Order #...:** D598V101 **Matrix.....:** WATER

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A9K150107 Work Order #...: D5ARP102 Matrix.....: WATER
LCS Lot-Sample#: A9K190000-468
Prep Date.....: 11/18/99 Analysis Date..: 11/18/99
Prep Batch #...: 9323468
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
1,1-Dichloroethene	**95**	**(70 - 122)**	**SW846 8260B**
Trichloroethene	**94**	**(82 - 112)**	**SW846 8260B**
Benzene	**97**	**(83 - 110)**	**SW846 8260B**
Toluene	**94**	**(86 - 119)**	**SW846 8260B**
Chlorobenzene	**97**	**(85 - 115)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	102	(80 - 120)
Toluene-d8	99	(88 - 110)
Bromofluorobenzene	101	(86 - 115)
Dibromofluoromethane	101	(86 - 118)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A9K150107 **Work Order #...:** D5G5H102 **Matrix.....:** WATER
LCS Lot-Sample#: A9K240000-183
Prep Date.....: 11/23/99 **Analysis Date..:** 11/23/99
Prep Batch #...: 9328183
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
1,1-Dichloroethene	**80**	**(70 - 122)**	**SW846 8260B**
Trichloroethene	**95**	**(82 - 112)**	**SW846 8260B**
Benzene	**91**	**(83 - 110)**	**SW846 8260B**
Toluene	**96**	**(86 - 119)**	**SW846 8260B**
Chlorobenzene	**102**	**(85 - 115)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	100	(80 - 120)
Toluene-d8	94	(88 - 110)
Bromofluorobenzene	89	(86 - 115)
Dibromofluoromethane	98	(86 - 118)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A9K150107 **Work Order #...:** D598V102 **Matrix.....:** WATER
LCS Lot-Sample#: A9K190000-216
Prep Date.....: 11/18/99 **Analysis Date..:** 11/18/99
Prep Batch #...: 9323216
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
1,1-Dichloroethene	**84**	**(70 - 122)**	**SW846 8260B**
Trichloroethene	**94**	**(82 - 112)**	**SW846 8260B**
Benzene	**92**	**(83 - 110)**	**SW846 8260B**
Toluene	**93**	**(86 - 119)**	**SW846 8260B**
Chlorobenzene	**95**	**(85 - 115)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	94	(80 - 120)
Toluene-d8	96	(88 - 110)
Bromofluorobenzene	89	(86 - 115)
Dibromofluoromethane	96	(86 - 118)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A9K150107 **Work Order #...:** D4RMG10A-MS **Matrix.....:** WATER
MS Lot-Sample #: A9K100162-002 D4RMG10C-MSD
Date Sampled...: 11/09/99 10:30 **Date Received..:** 11/10/99
Prep Date.....: 11/18/99 **Analysis Date..:** 11/18/99
Prep Batch #...: 9323216
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	**90**	**(75 - 113)**			**SW846 8260B**
	89	**(75 - 113)**	**0.91**	**(0-20)**	**SW846 8260B**
Trichloroethene	**94**	**(71 - 110)**			**SW846 8260B**
	94	**(71 - 110)**	**0.10**	**(0-22)**	**SW846 8260B**
Benzene	**93**	**(78 - 117)**			**SW846 8260B**
	93	**(78 - 117)**	**0.50**	**(0-17)**	**SW846 8260B**
Toluene	**93**	**(78 - 126)**			**SW846 8260B**
	93	**(78 - 126)**	**0.15**	**(0-24)**	**SW846 8260B**
Chlorobenzene	**95**	**(81 - 115)**			**SW846 8260B**
	95	**(81 - 115)**	**0.35**	**(0-18)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	105	(80 - 120)
	104	(80 - 120)
Toluene-d8	95	(88 - 110)
	94	(88 - 110)
Bromofluorobenzene	92	(86 - 115)
	92	(86 - 115)
Dibromofluoromethane	103	(86 - 118)
	103	(86 - 118)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A9K150107 **Work Order #...:** D53WL102-MS **Matrix.....:** WATER
MS Lot-Sample #: A9K160195-004 D53WL103-MSD
Date Sampled...: 11/15/99 16:00 **Date Received..:** 11/16/99
Prep Date.....: 11/19/99 **Analysis Date..:** 11/19/99
Prep Batch #...: 9323468
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	**97**	**(75 - 113)**			**SW846 8260B**
	85	**(75 - 113)**	**13**	**(0-20)**	**SW846 8260B**
Trichloroethene	**91**	**(71 - 110)**			**SW846 8260B**
	89	**(71 - 110)**	**3.0**	**(0-22)**	**SW846 8260B**
Benzene	**98**	**(78 - 117)**			**SW846 8260B**
	94	**(78 - 117)**	**4.1**	**(0-17)**	**SW846 8260B**
Toluene	**94**	**(78 - 126)**			**SW846 8260B**
	89	**(78 - 126)**	**4.8**	**(0-24)**	**SW846 8260B**
Chlorobenzene	**96**	**(81 - 115)**			**SW846 8260B**
	92	**(81 - 115)**	**4.3**	**(0-18)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	106	(80 - 120)
	104	(80 - 120)
Toluene-d8	99	(88 - 110)
	98	(88 - 110)
Bromofluorobenzene	99	(86 - 115)
	101	(86 - 115)
Dibromofluoromethane	103	(86 - 118)
	102	(86 - 118)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A9K150107 **Work Order #...:** D550M108-MS **Matrix.....:** WATER
MS Lot-Sample #: A9K170139-003 D550M109-MSD
Date Sampled...: 11/16/99 11:25 **Date Received..:** 11/17/99
Prep Date.....: 11/23/99 **Analysis Date..:** 11/23/99
Prep Batch #...: 9328183
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	**107**	**(75 - 113)**			**SW846 8260B**
	107	**(75 - 113)**	**0.02**	**(0-20)**	**SW846 8260B**
Trichloroethene	**103**	**(71 - 110)**			**SW846 8260B**
	102	**(71 - 110)**	**0.98**	**(0-22)**	**SW846 8260B**
Benzene	**105**	**(78 - 117)**			**SW846 8260B**
	104	**(78 - 117)**	**1.4**	**(0-17)**	**SW846 8260B**
Toluene	**104**	**(78 - 126)**			**SW846 8260B**
	105	**(78 - 126)**	**1.0**	**(0-24)**	**SW846 8260B**
Chlorobenzene	**108**	**(81 - 115)**			**SW846 8260B**
	106	**(81 - 115)**	**1.4**	**(0-18)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	108	(80 - 120)
	103	(80 - 120)
Toluene-d8	96	(88 - 110)
	97	(88 - 110)
Bromofluorobenzene	92	(86 - 115)
	92	(86 - 115)
Dibromofluoromethane	108	(86 - 118)
	105	(86 - 118)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A9K150107 **Work Order #...:** D561M102-MS **Matrix.....:** WATER
MS Lot-Sample #: A9K170243-008 D561M103-MSD
Date Sampled...: 11/17/99 11:13 **Date Received..:** 11/17/99
Prep Date.....: 11/23/99 **Analysis Date..:** 11/23/99
Prep Batch #...: 9328183
Dilution Factor: 500

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	**103**	**(75 - 113)**			**SW846 8260B**
	97	**(75 - 113)**	**6.0**	**(0-20)**	**SW846 8260B**
Trichloroethene	**100**	**(71 - 110)**			**SW846 8260B**
	98	**(71 - 110)**	**1.5**	**(0-22)**	**SW846 8260B**
Benzene	**100**	**(78 - 117)**			**SW846 8260B**
	99	**(78 - 117)**	**0.88**	**(0-17)**	**SW846 8260B**
Toluene	**101**	**(78 - 126)**			**SW846 8260B**
	99	**(78 - 126)**	**2.0**	**(0-24)**	**SW846 8260B**
Chlorobenzene	**102**	**(81 - 115)**			**SW846 8260B**
	101	**(81 - 115)**	**1.6**	**(0-18)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	117	(80 - 120)
	100	(80 - 120)
Toluene-d8	96	(88 - 110)
	95	(88 - 110)
Bromofluorobenzene	87	(86 - 115)
	87	(86 - 115)
ibromofluoromethane	104	(86 - 118)
	101	(86 - 118)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

hain of ustody Record

Quanterra

nt: PAYNE Firm	Project Manager: Dan Wood	Date: 11/11/99	Chain Of Custody Number: 09360
ress: 11231 Cornell Park Dr.	Telephone Number (Area Code)/Fax Number: 513-489-2255 / 513-489-2533	Lab Number	Page 1 of 1
Cincinnati — State: OH — Zip Code: 45242	Site Contact		
ject Name: Cardot	Carrier/Waybill Number		
ntract/Purchase Order/Quote No.: 279.44.05			

Analysis: VOC 8260

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Preservative	Condition on Receipt
MW101A-111199	11/11/99	1300	Potable	120ml	VOA	3	HCl	
MW 204-111199	11/11/99	1220						
MW 203-111199	11/11/99	1145						
MW 210-111199	11/11/99	1110						
MW 209-111199	11/11/99	1030						
MW 212-111199	11/11/99	0945						
MW 101B-111199	11/11/99							
Trip Blank-111199	11/11/99							
MW 202-111099	11/10/99	1325						
MW 208-111099	11/10/99	1250						
MW 207-111099	11/10/99	1145						
MW 206-111099	11/10/99	1120						
MW 201-111099	11/10/99	1045						
MW 103-111099	11/10/99	955						
MW 102-111099	11/10/99	0920						
Field Blank	11/11/99							

ecial Instructions: * Normal Turn * Note different Sampling Dates. * Fax results to Dan Wood @ The Payne Firm

ssible Hazard Identification: [X] Non-Hazard [ ] Flammable [ ] Skin Irritant [ ] Poison B [ ] Unknown

Sample Disposal: [ ] Return To Client [X] Disposal By Lab [ ] Archive For ____ Months

rn Around Time Required: [X] Normal [ ] Rush

QC Level: [ ] I. [ ] II. [ ] III.

Project Specific (Specify):

Relinquished By: [signature]	Date: 11/11/99	Time: 1730	1. Received By: Sharon Sanders	Date: 11-12-99	Time: 9:20
Relinquished By	Date	Time	2. Received By	Date	Time
Relinquished By	Date	Time	3. Received By	Date	Time

mments

Quanterra Incorporated
4101 Shuffel Drive, NW
North Canton, Ohio 44720

330 497-9396 Telephone
330 497-0772 Fax

ANALYTICAL REPORT

PROJECT NO. 279.44.05

SOUTH DAYTON LANDFILL

Lot #: A9B190136

Mark Burkich

The Payne Firm, Inc.

QUANTERRA INCORPORATED

Gary L. Wood
Project Manager

March 8, 1999

CASE NARRATIVE

The following report contains the analytical results for two water samples submitted to Quanterra-North Canton by The Payne Firm, Inc. from the South Dayton Landfill site, project number 279.44.05. The samples were received February 18, 1999, according to documented sample acceptance procedures.

Samples submitted for dissolved gasses analysis were performed at Quanterra-Austin. These results are presented in this report.

Quanterra-North Canton utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the method reference page in accordance with the method indicated. Results were provided by facsimile transmission to Scott Vance on March 8, 1999.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan. All data have been found to be compliant with laboratory protocol.

Supplemental QC Information

GC/MS VOLATILES

Sample(s) which contain results between the MDL and the RL are flagged with a "J". There is the possibility of false positive or misidentification at these quantitation levels. In analytical methods requiring confirmation of the analyte reported, confirmation will be performed only down to the standard reporting limit (SRL). The acceptance criteria for QC criteria may not be met at these quantitation levels.

GENERAL CHEMISTRY

There are samples reported with dilutions due to either high target analytes or matrix interference.

ANALYTICAL METHODS SUMMARY

A9B190136

PARAMETER	ANALYTICAL METHOD
Alkalinity	MCAWW 310.1
Ammonia Nitrogen	MCAWW 350.3
Chloride	MCAWW 300.0A
Dissolved Gasses in Water	RSK SOP-175
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Nitrate-Nitrite	MCAWW 353.2
Sulfate	MCAWW 300.0A
Total Organic Carbon	MCAWW 415.1
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Volatile Organics by GC/MS	SW846 8260B

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

RSK Sample Prep and Calculations for Dissolved Gas Analysis in Water Samples Using a GC Headspace Equilibration Technique, RSKSOP-175, REV. 0, 8/11/94, USEPA Research Lab

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

A9B190136

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
CQXLK	001	MW207/021699	02/16/99	10:55
CQXMC	002	MW201/021699	02/16/99	12:40

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PAYNE FIRM INC.

Client Sample ID: MW207/021699

GC/MS Volatiles

Lot-Sample #...: A9B190136-001 **Work Order #...:** CQXLK107 **Matrix.....:** WATER
Date Sampled...: 02/16/99 10:55 **Date Received..:** 02/18/99
Prep Date.....: 02/25/99 **Analysis Date..:** 02/25/99
Prep Batch #...: 9057225
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	**2.7 J**	**5.0**	**ug/L**
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	**4.0 J**	**5.0**	**ug/L**
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	91	(80 - 120)
Toluene-d8	97	(88 - 110)
Bromofluorobenzene	95	(86 - 115)
Dibromofluoromethane	87	(86 - 118)

(Continued on next page)

PAYNE FIRM INC.

Client Sample ID: MW207/021699

GC/MS Volatiles

Lot-Sample #...: A9B190136-001 Work Order #...: CQXLK107 Matrix.....: WATER

NOTE(S):

J Estimated result. Result is less than RL.

PAYNE FIRM INC.

Client Sample ID: MW207/021699

TOTAL Metals

Lot-Sample #...: A9B190136-001 **Matrix.....:** WATER
Date Sampled...: 02/16/99 10:55 **Date Received..:** 02/18/99

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9053105						
Arsenic	**0.012**	**0.010**	**mg/L**	**SW846 6010B**	**02/22/99**	**CQXLK10A**
		Dilution Factor: 1				
Barium	ND	0.20	mg/L	SW846 6010B	02/22/99	CQXLK10J
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	02/22/99	CQXLK10K
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	02/22/99	CQXLK10L
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	02/22/99	CQXLK10C
		Dilution Factor: 1				

PAYNE FIRM INC.

Client Sample ID: MW207/021699

DISSOLVED Metals

Lot-Sample #...: A9B190136-001 Matrix.....: WATER
Date Sampled...: 02/16/99 10:55 Date Received..: 02/18/99

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9053105						
Iron	2.5	0.10	mg/L	SW846 6010B	02/22/99	CQXLK10F
		Dilution Factor: 1				

PAYNE FIRM INC.

Client Sample ID: MW207/021699

General Chemistry

Lot-Sample #...: A9B190136-001 Work Order #...: CQXLK Matrix.....: WATER
Date Sampled...: 02/16/99 10:55 Date Received..: 02/18/99

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	19.5	1.0	mg/L	MCAWW 300.0A	02/19/99	9051180
	Dilution Factor: 1					
Nitrate-Nitrite	8.4	0.5	mg/L	MCAWW 353.2	02/26/99	9057289
	Dilution Factor: 5					
Nitrogen, as Ammonia	ND	0.2	mg/L	MCAWW 350.3	02/21/99	9052106
	Dilution Factor: 1					
Sulfate	46.1	1.0	mg/L	MCAWW 300.0A	02/19/99	90511
	Dilution Factor: 1					
Total Alkalinity	350	5.0	mg/L	MCAWW 310.1	02/26/99	9057328
	Dilution Factor: 1					
Total Organic Carbon	5	1	mg/L	MCAWW 415.1	02/24/99	9054250
	Dilution Factor: 1					

PAYNE FIRM INC.

Client Sample ID: MW201/021699

GC/MS Volatiles

Lot-Sample #...: A9B190136-002 **Work Order #...:** CQXMC107 **Matrix.....:** WATER
Date Sampled...: 02/16/99 12:40 **Date Received..:** 02/18/99
Prep Date.....: 02/25/99 **Analysis Date..:** 02/25/99
Prep Batch #...: 9057225
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	**3.1 J**	**5.0**	**ug/L**
cetone	ND	20	ug/L
arbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	**5.9**	**5.0**	**ug/L**
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	**17**	**5.0**	**ug/L**
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
enzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	**2.1 J**	**5.0**	**ug/L**
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	97	(80 - 120)
Toluene-d8	95	(88 - 110)
Bromofluorobenzene	109	(86 - 115)
Dibromofluoromethane	92	(86 - 118)

(Continued on next page)

PAYNE FIRM INC.

Client Sample ID: MW201/021699

GC Volatiles

Lot-Sample #...: A9B190136-002 **Work Order #...:** CQXMC106 **Matrix.....:** WATER
Date Sampled...: 02/16/99 12:40 **Date Received..:** 02/18/99
Prep Date.....: 02/24/99 **Analysis Date..:** 02/24/99
Prep Batch #...: 9057148
Dilution Factor: 1 **Method.....:** RSK SOP-175

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	**0.61**	**0.50**	**ug/L**
Ethane	ND	0.50	ug/L
Ethene	ND	0.50	ug/L

PAYNE FIRM INC.

Client Sample ID: MW201/021699

DISSOLVED Metals

Lot-Sample #...: A9B190136-002 **Matrix.....:** WATER
Date Sampled...: 02/16/99 12:40 **Date Received..:** 02/18/99

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9053105						
Iron	0.69	0.10	mg/L	SW846 6010B	02/22/99	CQXMC10F

Dilution Factor: 1

QUALITY CONTROL SECTION

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A9B190136 **Work Order #...:** CR5MC102 **Matrix.....:** WATER
LCS Lot-Sample#: A9B260000-225
Prep Date.....: 02/25/99 **Analysis Date..:** 02/25/99
Prep Batch #...: 9057225
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
1,1-Dichloroethene	**87**	**(70 - 122)**	**SW846 8260B**
Trichloroethene	**90**	**(82 - 112)**	**SW846 8260B**
Chlorobenzene	**93**	**(85 - 115)**	**SW846 8260B**
Toluene	**92**	**(86 - 119)**	**SW846 8260B**
Benzene	**95**	**(83 - 110)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	101	(80 - 120)
Toluene-d8	103	(88 - 110)
Bromofluorobenzene	101	(86 - 115)
Dibromofluoromethane	99	(86 - 118)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...: A9B190136 **Work Order #...:** CR574102-LCS **Matrix.....:** WATER
LCS Lot-Sample#: I9B260000-148 CR574103-LCSD
Prep Date.....: 02/24/99 **Analysis Date..:** 02/24/99
Prep Batch #...: 9057148
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Methane	**86**	**(70 - 130)**			**RSK SOP-175**
	86	**(70 - 130)**	**0.16**	**(0-30)**	**RSK SOP-175**
Ethane	**88**	**(70 - 130)**			**RSK SOP-175**
	88	**(70 - 130)**	**0.62**	**(0-30)**	**RSK SOP-175**
Ethene	**87**	**(70 - 130)**			**RSK SOP-175**
	88	**(70 - 130)**	**0.16**	**(0-30)**	**RSK SOP-175**

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

DISSOLVED Metals

Client Lot #...: A9B190136 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: A9B220000-105 **Prep Batch #...:** 9053105					
Iron	113	(80 - 120)	SW846 6010B	02/22-02/23/99	CR14N109
		Dilution Factor: 1			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Lot-Sample #...: A9B190136 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon		WO#:CR26F102-LCS/CR26F103-LCSD				LCS Lot-Sample#: A9B230000-253	
	98	(90 - 110)			MCAWW 415.1	02/24/99	9054253
	97	(90 - 110)	1.3	(0-20)	MCAWW 415.1	02/24/99	9054253
		Dilution Factor: 1					
Total Organic Carbon		WO#:CR269102-LCS/CR269103-LCSD				LCS Lot-Sample#: A9B230000-250	
	97	(90 - 110)			MCAWW 415.1	02/23/99	9054250
	98	(90 - 110)	1.4	(0-20)	MCAWW 415.1	02/23/99	9054250
		Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: A9B190136 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		Work Order #: CR13P102	LCS Lot-Sample#: A9B200000-180		
	98	(90 - 110)	MCAWW 300.0A	02/19/99	9051180
		Dilution Factor: 1			
Nitrate-Nitrite		Work Order #: CR3CG102	LCS Lot-Sample#: A9B240000-252		
	93	(85 - 115)	MCAWW 353.2	02/24/99	9055252
		Dilution Factor: 1			
Nitrate-Nitrite		Work Order #: CR62L102	LCS Lot-Sample#: A9B260000-289		
	98	(85 - 115)	MCAWW 353.2	02/26/99	9057289
		Dilution Factor: 1			
Nitrogen, as Ammonia		Work Order #: CR146102	LCS Lot-Sample#: A9B210000-106		
	99	(90 - 110)	MCAWW 350.3	02/21/99	9052106
		Dilution Factor: 1			
Sulfate		Work Order #: CR13Q102	LCS Lot-Sample#: A9B200000-181		
	98	(90 - 110)	MCAWW 300.0A	02/19/99	9051181
		Dilution Factor: 1			
Total Alkalinity		Work Order #: CR6HN102	LCS Lot-Sample#: A9B260000-328		
	98	(80 - 120)	MCAWW 310.1	02/26/99	9057328
		Dilution Factor: 1			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A9B190136 **Work Order #...:** CR5MC101 **Matrix.....:** WATER
MB Lot-Sample #: A9B260000-225

Prep Date.....: 02/25/99
Analysis Date..: 02/25/99 **Prep Batch #...:** 9057225
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	10	ug/L	SW846 8260B
Bromomethane	ND	10	ug/L	SW846 8260B
Vinyl chloride	ND	10	ug/L	SW846 8260B
Chloroethane	ND	10	ug/L	SW846 8260B
Methylene chloride	ND	5.0	ug/L	SW846 8260B
Acetone	ND	20	ug/L	SW846 8260B
Carbon disulfide	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethene (total)	ND	5.0	ug/L	SW846 8260B
Chloroform	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	5.0	ug/L	SW846 8260B
2-Butanone	ND	20	ug/L	SW846 8260B
,1,1-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	5.0	ug/L	SW846 8260B
Bromodichloromethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	5.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Trichloroethene	ND	5.0	ug/L	SW846 8260B
Dibromochloromethane	ND	5.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Benzene	ND	5.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Bromoform	ND	5.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	20	ug/L	SW846 8260B
2-Hexanone	ND	20	ug/L	SW846 8260B
Tetrachloroethene	ND	5.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	SW846 8260B
Toluene	ND	5.0	ug/L	SW846 8260B
Chlorobenzene	ND	5.0	ug/L	SW846 8260B
Ethylbenzene	ND	5.0	ug/L	SW846 8260B
Styrene	ND	5.0	ug/L	SW846 8260B
Xylenes (total)	ND	5.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	100	(80 - 120)
Toluene-d8	98	(88 - 110)
Bromofluorobenzene	99	(86 - 115)
ibromofluoromethane	93	(86 - 118)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: A9B190136 **Work Order #...:** CR574101 **Matrix.....:** WATER
MB Lot-Sample #: I9B260000-148

Prep Date.....: 02/24/99
Analysis Date..: 02/24/99 **Prep Batch #...:** 9057148
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Methane	ND	0.50	ug/L	RSK SOP-175
Ethane	ND	0.50	ug/L	RSK SOP-175
Ethene	ND	0.50	ug/L	RSK SOP-175

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A9B190136 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: A9B220000-105 **Prep Batch #...:** 9053105						
Arsenic	ND	0.010	mg/L	SW846 6010B	02/22/99	CR14N101
		Dilution Factor: 1				
Barium	ND	0.20	mg/L	SW846 6010B	02/22/99	CR14N104
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	02/22/99	CR14N105
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	02/22/99	CR14N106
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	02/22/99	CR14N102
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

DISSOLVED Metals

Client Lot #...: A9B190136 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: A9B220000-105 **Prep Batch #...:** 9053105						
Iron	ND	0.10	mg/L	SW846 6010B	02/22/99	CR14N103
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A9B190136 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		Work Order #: CR13P101		MB Lot-Sample #:	A9B200000-180	
	ND	1.0	mg/L	MCAWW 300.0A	02/19/99	9051180
		Dilution Factor: 1				
Nitrate-Nitrite		Work Order #: CR3CG101		MB Lot-Sample #:	A9B240000-252	
	ND	0.1	mg/L	MCAWW 353.2	02/24/99	9055252
		Dilution Factor: 1				
Nitrate-Nitrite		Work Order #: CR62L101		MB Lot-Sample #:	A9B260000-289	
	ND	0.1	mg/L	MCAWW 353.2	02/26/99	9057289
		Dilution Factor: 1				
Nitrogen, as Ammonia		Work Order #: CR146101		MB Lot-Sample #:	A9B210000-106	
	ND	0.2	mg/L	MCAWW 350.3	02/21/99	9052106
		Dilution Factor: 1				
Sulfate		Work Order #: CR13Q101		MB Lot-Sample #:	A9B200000-181	
	ND	1.0	mg/L	MCAWW 300.0A	02/19/99	9051181
		Dilution Factor: 1				
Total Alkalinity		Work Order #: CR6HN101		MB Lot-Sample #:	A9B260000-328	
	ND	5.0	mg/L	MCAWW 310.1	02/26/99	9057328
		Dilution Factor: 1				
Total Organic Carbon		Work Order #: CR269101		MB Lot-Sample #:	A9B230000-250	
	ND	1	mg/L	MCAWW 415.1	02/23/99	9054250
		Dilution Factor: 1				
Total Organic Carbon		Work Order #: CR26F101		MB Lot-Sample #:	A9B230000-253	
	ND	1	mg/L	MCAWW 415.1	02/24/99	9054253
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A9B190136 **Work Order #...:** CQVAM102-MS **Matrix.....:** WATER
MS Lot-Sample #: A9B170146-005 CQVAM103-MSD
Date Sampled...: 02/16/99 00:30 **Date Received..:** 02/17/99
Prep Date.....: 02/25/99 **Analysis Date..:** 02/25/99
Prep Batch #...: 9057225
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	**84**	**(75 - 113)**			**SW846 8260B**
	85	**(75 - 113)**	**0.89**	**(0-20)**	**SW846 8260B**
Trichloroethene	**86**	**(71 - 110)**			**SW846 8260B**
	86	**(71 - 110)**	**0.07**	**(0-22)**	**SW846 8260B**
Benzene	**89**	**(78 - 117)**			**SW846 8260B**
	89	**(78 - 117)**	**0.26**	**(0-17)**	**SW846 8260B**
Toluene	**85**	**(78 - 126)**			**SW846 8260B**
	89	**(78 - 126)**	**4.1**	**(0-24)**	**SW846 8260B**
Chlorobenzene	**84**	**(81 - 115)**			**SW846 8260B**
	87	**(81 - 115)**	**3.2**	**(0-18)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
,2-Dichloroethane-d4	99	(80 - 120)
	96	(80 - 120)
Toluene-d8	99	(88 - 110)
	94	(88 - 110)
Bromofluorobenzene	97	(86 - 115)
	99	(86 - 115)
Dibromofluoromethane	98	(86 - 118)
	92	(86 - 118)

OTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...: A9B190136 **Work Order #...:** CQWLF10F-MS **Matrix.....:** WATER
MS Lot-Sample #: A9B180169-001 CQWLF10G-MSD
Date Sampled...: 02/16/99 10:05 **Date Received..:** 02/18/99
Prep Date.....: 02/24/99 **Analysis Date..:** 02/24/99
Prep Batch #...: 9057148
Dilution Factor: 50

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Methane	**105**	**(70 - 130)**			**RSK SOP-175**
	102	**(70 - 130)**	**1.1**	**(0-30)**	**RSK SOP-175**
Ethane	**88**	**(70 - 130)**			**RSK SOP-175**
	87	**(70 - 130)**	**0.64**	**(0-30)**	**RSK SOP-175**
Ethene	**87**	**(70 - 130)**			**RSK SOP-175**
	87	**(70 - 130)**	**0.79**	**(0-30)**	**RSK SOP-175**

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A9B190136 **Matrix.....:** WATER
Date Sampled...: 02/17/99 11:30 **Date Received..:** 02/18/99

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: A9B190131-001 **Prep Batch #...:** 9053105							
Arsenic	103	(80 - 120)			SW846 6010B	02/22/99	CQXJP10N
	103	(80 - 120)	0.0	(0-20)	SW846 6010B	02/22/99	CQXJP10P
		Dilution Factor: 1					
Barium	104	(80 - 120)			SW846 6010B	02/22/99	CQXJP10V
	105	(80 - 120)	0.56	(0-20)	SW846 6010B	02/22/99	CQXJP10W
		Dilution Factor: 1					
Cadmium	104	(80 - 120)			SW846 6010B	02/22/99	CQXJP10X
	104	(80 - 120)	0.14	(0-20)	SW846 6010B	02/22/99	CQXJP110
		Dilution Factor: 1					
Chromium	105	(80 - 120)			SW846 6010B	02/22/99	CQXJP111
	104	(80 - 120)	1.0	(0-20)	SW846 6010B	02/22/99	CQXJP112
		Dilution Factor: 1					
Lead	102	(80 - 120)			SW846 6010B	02/22/99	CQXJP10Q
	102	(80 - 120)	0.39	(0-20)	SW846 6010B	02/22/99	CQXJP10R
		Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

DISSOLVED Metals

Client Lot #...: A9B190136 **Matrix.....:** WATER
Date Sampled...: 02/17/99 11:30 **Date Received..:** 02/18/99

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: A9B190131-001 **Prep Batch #...:** 9053105							
Iron	108	(80 - 120)			SW846 6010B	02/22/99	CQXJP10T
	117	(80 - 120)	4.9	(0-20)	SW846 6010B	02/22/99	CQXJP10U
		Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: A9B190136 **Matrix.....:** WATER
Date Sampled...: 02/16/99 08:00 **Date Received..:** 02/18/99

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		WO#:	CQXKN10N-MS/CQXKN10P-MSD			MS Lot-Sample #:	A9B190131-004
	99	(90 - 110)			MCAWW 300.0A	02/19/99	9051180
	99	(90 - 110)	0.19	(0-20)	MCAWW 300.0A	02/19/99	9051180
		Dilution Factor: 1					
Nitrate-Nitrite		WO#:	CQREA15U-MS/CQREA15V-MSD			MS Lot-Sample #:	A9B150103-007
	85	(85 - 115)			MCAWW 353.2	02/24/99	9055252
	87	(85 - 115)	2.2	(0-20)	MCAWW 353.2	02/24/99	9055252
		Dilution Factor: 1					
trate-Nitrite		WO#:	CR24X10G-MS/CR24X10H-MSD			MS Lot-Sample #:	A9B230146-001
	94	(85 - 115)			MCAWW 353.2	02/26/99	9057289
	104	(85 - 115)	11	(0-20)	MCAWW 353.2	02/26/99	9057289
		Dilution Factor: 1					
Nitrogen, as Ammonia		WO#:	CQWN7109-MS/CQWN710A-MSD			MS Lot-Sample #:	A9B180177-002
	107	(80 - 120)			MCAWW 350.3	02/21/99	9052106
	101	(80 - 120)	5.4	(0-20)	MCAWW 350.3	02/21/99	9052106
		Dilution Factor: 1					
Sulfate		WO#:	CQXKN10Q-MS/CQXKN10R-MSD			MS Lot-Sample #:	A9B190131-004
	97	(90 - 110)			MCAWW 300.0A	02/19/99	9051181
	97	(90 - 110)	0.19	(0-20)	MCAWW 300.0A	02/19/99	9051181
		Dilution Factor: 1					
Total Alkalinity		WO#:	CQWGW10Q-MS/CQWGW10R-MSD			MS Lot-Sample #:	A9B180154-001
	98	(80 - 120)			MCAWW 310.1	02/26/99	9057328
	98	(80 - 120)	0.0	(0-20)	MCAWW 310.1	02/26/99	9057328
		Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

The Payne Firm, c.
Environmental Consultants
11231 Cornell Park Drive
Cincinnati, Ohio 45242
513-489-2255 Fax: 513-489-2533

№ 021699279 44 05 Q

CHAIN OF CUSTODY RECORD

PROJ. NO.: 27944.05
PROJECT NAME: SOUTH DAYTON LANDFILL
SAMPLERS: (Signature) [signature]

STA. NO.	DATE '99	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	DISS. GASSES	VOC 8260	TOC	DISS. IRON	ALK, Cl, SO4	TOTAL METALS *	AMMONIA, NITRATE, NITRITES	REMARKS
														ATTN: GARY WOODS
	2/16	10:55		X	MW 207 / 021699	11	X	X	X	X	X	X	X	RESULTS TO MARK
	1	12:40		X	MW 201 / 021699	11	X	X	X	X	X	X	X	BERKICH WHEN AVAILABLE
														* ONLY As, Ba, Cr, Cd, Pb for ~~Total~~ Metals.

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	2/17/99	FED EX			
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	
		[signature]	2/19 9:45		

Quanterra Incorporated
4101 Shuffel Drive, NW
North Canton, Ohio 44720

330 497-9396 Telephone
330 497-0772 Fax

ANALYTICAL REPORT

PROJECT NO. 279.44.05

SOUTH DAYTON LANDFILL (GRILLOT)

Lot #: A9B190131

Mark Burkich

The Payne Firm, Inc.

QUANTERRA INCORPORATED

Gary L. Wood
Project Manager

March 4, 1999

CASE NARRATIVE

The following report contains the analytical results for five water samples and one quality control sample submitted to Quanterra-North Canton by The Payne Firm, Inc. from the South Dayton Landfill (Grillot) site, project number 279.44.05. The samples were received February 18, 1999, according to documented sample acceptance procedures.

Samples submitted for dissolved gasses analysis were performed at Quanterra-Austin. These results are presented in this report.

Quanterra-North Canton utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the method reference page in accordance with the method indicated.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan. All data have been found to be compliant with laboratory protocol.

Supplemental QC Information

GC/MS VOLATILES

Sample(s) which contain results between the MDL and the RL are flagged with a "J". There is the possibility of false positive or misidentification at these quantitation levels. In analytical methods requiring confirmation of the analyte reported, confirmation will be performed only down to the standard reporting limit (SRL). The acceptance criteria for QC criteria may not be met at these quantitation levels.

GENERAL CHEMISTRY

Matrix spike/matrix spike duplicate (MS/MSD) percent recoveries were outside the acceptance limits for some parameters. The acceptable laboratory control sample analysis data indicated that the analytical systems were operating within control and this condition is most likely due to matrix interference. See the Matrix Spike Sample Evaluation Reports for the affected parameters which will be flagged with N.

There are samples reported with dilutions due to either high target analytes or matrix interference.

ANALYTICAL METHODS SUMMARY

A9B190131

PARAMETER	ANALYTICAL METHOD
Alkalinity	MCAWW 310.1
Ammonia Nitrogen	MCAWW 350.3
Chloride	MCAWW 300.0A
Dissolved Gasses in Water	RSK SOP-175
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Nitrate-Nitrite	MCAWW 353.2
Sulfate	MCAWW 300.0A
Total Organic Carbon	MCAWW 415.1
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Volatile Organics by GC/MS	SW846 8260B

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

RSK Sample Prep and Calculations for Dissolved Gas Analysis in Water Samples Using a GC Headspace Equilibration Technique, RSKSOP-175, REV. 0, 8/11/94, USEPA Research Lab

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

A9B190131

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
CQXJP	001	MW102-021799	02/17/99	11:30
CQXKG	002	MW103-021799	02/17/99	12:20
CQXKK	003	MW202-021799	02/17/99	13:50
CQXKN	004	MW203-021799	02/17/99	15:40
CQXKP	005	MW204-021799	02/17/99	16:40
CQXKV	006	TRIP BLANK	02/17/99	

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PAYNE FIRM INC.

Client Sample ID: MW102-021799

GC/MS Volatiles

Lot-Sample #...: A9B190131-001 **Work Order #...:** CQXJP107 **Matrix.....:** WATER
Date Sampled...: 02/17/99 11:30 **Date Received..:** 02/18/99
Prep Date.....: 02/26/99 **Analysis Date..:** 02/26/99
Prep Batch #...: 9058166
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	**3.3 J**	**5.0**	**ug/L**
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	**0.67 J**	**5.0**	**ug/L**
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	**1.6 J**	**5.0**	**ug/L**
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	**0.85 J**	**5.0**	**ug/L**
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	95	(80 - 120)
Toluene-d8	96	(88 - 110)
Bromofluorobenzene	92	(86 - 115)
Dibromofluoromethane	91	(86 - 118)

(Continued on next page)

PAYNE FIRM INC.

Client Sample ID: MW102-021799

GC/MS Volatiles

Lot-Sample #...: A9B190131-001 Work Order #...: CQXJP107 Matrix.....: WATER

NOTE(S):

J Estimated result. Result is less than RL.

PAYNE FIRM INC.

Client Sample ID: MW102-021799

GC Volatiles

Lot-Sample #...: A9B190131-001 **Work Order #...:** CQXJP106 **Matrix.....:** WATER
Date Sampled...: 02/17/99 11:30 **Date Received..:** 02/18/99
Prep Date.....: 02/24/99 **Analysis Date..:** 02/24/99
Prep Batch #...: 9057148
Dilution Factor: 1 **Method.....:** RSK SOP-175

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	**0.65**	**0.50**	**ug/L**
Ethane	ND	0.50	ug/L
Ethene	ND	0.50	ug/L

PAYNE FIRM INC.

Client Sample ID: MW103-021799

GC/MS Volatiles

Lot-Sample #...: A9B190131-002 **Work Order #...:** CQXKG107 **Matrix.....:** WATER
Date Sampled...: 02/17/99 12:20 **Date Received..:** 02/18/99
Prep Date.....: 02/26/99 **Analysis Date..:** 02/26/99
Prep Batch #...: 9058166
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	**2.2 J**	**5.0**	**ug/L**
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	**4.0 J**	**5.0**	**ug/L**
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	**0.50 J**	**5.0**	**ug/L**
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	**0.70 J**	**5.0**	**ug/L**
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	93	(80 - 120)
Toluene-d8	97	(88 - 110)
Bromofluorobenzene	96	(86 - 115)
Dibromofluoromethane	89	(86 - 118)

(Continued on next page)

PAYNE FIRM INC.

Client Sample ID: MW103-021799

GC Volatiles

Lot-Sample #...: A9B190131-002 **Work Order #...:** CQXKG106 **Matrix.....:** WATER
Date Sampled...: 02/17/99 12:20 **Date Received..:** 02/18/99
Prep Date.....: 02/24/99 **Analysis Date..:** 02/24/99
Prep Batch #...: 9057148
Dilution Factor: 1 **Method.....:** RSK SOP-175

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	**0.57**	**0.50**	**ug/L**
Ethane	ND	0.50	ug/L
Ethene	ND	0.50	ug/L

PAYNE FIRM INC.

Client Sample ID: MW103-021799

TOTAL Metals

Lot-Sample #...: A9B190131-002 **Matrix.....:** WATER
Date Sampled...: 02/17/99 12:20 **Date Received..:** 02/18/99

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9053105						
Arsenic	ND	0.010	mg/L	SW846 6010B	02/22/99	CQXKG10A
		Dilution Factor: 1				
Barium	ND	0.20	mg/L	SW846 6010B	02/22/99	CQXKG10J
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	02/22/99	CQXKG10K
		Dilution Factor: 1				
Chromium	**0.055**	**0.010**	**mg/L**	**SW846 6010B**	**02/22/99**	**CQXKG10L**
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	02/22/99	CQXKG10C
		Dilution Factor: 1				

PAYNE FIRM INC.

Client Sample ID: MW202-021799

GC/MS Volatiles

Lot-Sample #...: A9B190131-003 **Work Order #...:** CQXKK107 **Matrix.....:** WATER
Date Sampled...: 02/17/99 13:50 **Date Received..:** 02/18/99
Prep Date.....: 02/26/99 **Analysis Date..:** 02/26/99
Prep Batch #...: 9058166
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	**3.1 J**	**5.0**	**ug/L**
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	**2.6 J**	**5.0**	**ug/L**
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	**39**	**5.0**	**ug/L**
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	**8.7**	**5.0**	**ug/L**
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	99	(80 - 120)
Toluene-d8	101	(88 - 110)
Bromofluorobenzene	98	(86 - 115)
Dibromofluoromethane	91	(86 - 118)

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PAYNE FIRM INC.

Client Sample ID: MW202-021799

GC/MS Volatiles

Lot-Sample #...: A9B190131-003 Work Order #...: CQXKK107 Matrix.....: WATER

NOTE(S):

J Estimated result. Result is less than RL.

PAYNE FIRM INC.

Client Sample ID: MW202-021799

General Chemistry

Lot-Sample #...: A9B190131-003 **Work Order #...:** CQXKK **Matrix.....:** WATER
Date Sampled...: 02/17/99 13:50 **Date Received..:** 02/18/99

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	121	2.0	mg/L	MCAWW 300.0A	02/19/99	9051180
	Dilution Factor: 2					
Nitrate-Nitrite	2.3	0.2	mg/L	MCAWW 353.2	02/26/99	9057289
	Dilution Factor: 2					
Nitrogen, as Ammonia	ND	0.2	mg/L	MCAWW 350.3	02/21/99	9052106
	Dilution Factor: 1					
Sulfate	66.5	2.0	mg/L	MCAWW 300.0A	02/19/99	905118
	Dilution Factor: 2					
Total Alkalinity	270	5.0	mg/L	MCAWW 310.1	03/02/99	9061154
	Dilution Factor: 1					
Total Organic Carbon	2	1	mg/L	MCAWW 415.1	02/24/99	9054250
	Dilution Factor: 1					

PAYNE FIRM INC.

Client Sample ID: MW203-021799

GC/MS Volatiles

Lot-Sample #...: A9B190131-004 **Work Order #...:** CQXKN107 **Matrix.....:** WATER
Date Sampled...: 02/17/99 15:40 **Date Received..:** 02/18/99
Prep Date.....: 02/26/99 **Analysis Date..:** 02/26/99
Prep Batch #...: 9058166
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	**2.3 J**	**10**	**ug/L**
Chloroethane	**2.5 J**	**10**	**ug/L**
Methylene chloride	**3.1 J**	**5.0**	**ug/L**
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	**1.3 J**	**5.0**	**ug/L**
1,2-Dichloroethene (total)	**7.6**	**5.0**	**ug/L**
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	**0.66 J**	**5.0**	**ug/L**
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	**5.4**	**5.0**	**ug/L**
Chlorobenzene	**24**	**5.0**	**ug/L**
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	94	(80 - 120)
Toluene-d8	91	(88 - 110)
Bromofluorobenzene	90	(86 - 115)
Dibromofluoromethane	86	(86 - 118)

(Continued on next page)

PAYNE FIRM INC.

Client Sample ID: MW203-021799

GC/MS Volatiles

Lot-Sample #...: A9B190131-004 **Work Order #...:** CQXKN107 **Matrix.....:** WATER

NOTE(S):

J Estimated result. Result is less than RL.

PAYNE FIRM INC.

Client Sample ID: MW203-021799

GC Volatiles

Lot-Sample #...: A9B190131-004 **Work Order #...:** CQXKN106 **Matrix.....:** WATER
Date Sampled...: 02/17/99 15:40 **Date Received..:** 02/18/99
Prep Date.....: 02/24/99 **Analysis Date..:** 02/24/99
Prep Batch #...: 9057148
Dilution Factor: 1 **Method.....:** RSK SOP-175

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	330 E	0.50	ug/L
Ethane	23	0.50	ug/L
Ethene	ND	0.50	ug/L

NOTE(S):

E Estimated result. Result concentration exceeds the calibration range.

PAYNE FIRM INC.

Client Sample ID: MW203-021799

TOTAL Metals

Lot-Sample #...: A9B190131-004 **Matrix.....:** WATER
Date Sampled...: 02/17/99 15:40 **Date Received..:** 02/18/99

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9053105						
Arsenic	**0.027**	**0.010**	**mg/L**	**SW846 6010B**	**02/22/99**	**CQXKN10A**
		Dilution Factor: 1				
Barium	ND	0.20	mg/L	SW846 6010B	02/22/99	CQXKN10J
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	02/22/99	CQXKN10K
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	02/22/99	CQXK[illegible]L
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	02/22/99	CQXKN10C
		Dilution Factor: 1				

PAYNE FIRM INC.

Client Sample ID: MW203-021799

DISSOLVED Metals

Lot-Sample #...: A9B190131-004 **Matrix.....:** WATER
Date Sampled...: 02/17/99 15:40 **Date Received..:** 02/18/99

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9053105						
Iron	4.2	0.10	mg/L	SW846 6010B	02/22/99	CQXKN10F
		Dilution Factor: 1				

PAYNE FIRM INC.

Client Sample ID: MW203-021799

General Chemistry

Lot-Sample #...: A9B190131-004 **Work Order #...:** CQXKN **Matrix.....:** WATER
Date Sampled...: 02/17/99 15:40 **Date Received..:** 02/18/99

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	**67.1**	**2.0**	**mg/L**	**MCAWW 300.0A**	**02/19/99**	**9051180**
	Dilution Factor: 2					
Nitrate-Nitrite	ND	0.1	mg/L	MCAWW 353.2	02/24/99	9055252
	Dilution Factor: 1					
Nitrogen, as Ammonia	**2.9**	**0.2**	**mg/L**	**MCAWW 350.3**	**02/21/99**	**9052106**
	Dilution Factor: 1					
Sulfate	**33.6**	**2.0**	**mg/L**	**MCAWW 300.0A**	**02/19/99**	**90511**
	Dilution Factor: 2					
Total Alkalinity	**430**	**5.0**	**mg/L**	**MCAWW 310.1**	**03/02/99**	**9061154**
	Dilution Factor: 1					
Total Organic Carbon	**11**	**1**	**mg/L**	**MCAWW 415.1**	**02/24/99**	**9054250**
	Dilution Factor: 1					

PAYNE FIRM INC.

Client Sample ID: MW204-021799

GC/MS Volatiles

Lot-Sample #...: A9B190131-005 **Work Order #...:** CQXKP107 **Matrix.....:** WATER
Date Sampled...: 02/17/99 16:40 **Date Received..:** 02/18/99
Prep Date.....: 02/26/99 **Analysis Date..:** 02/26/99
Prep Batch #...: 9058166
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	**2.1 J**	**10**	**ug/L**
Methylene chloride	**1.5 J**	**5.0**	**ug/L**
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	**5.6**	**5.0**	**ug/L**
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	96	(80 - 120)
Toluene-d8	97	(88 - 110)
Bromofluorobenzene	94	(86 - 115)
Dibromofluoromethane	89	(86 - 118)

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PAYNE FIRM INC.

Client Sample ID: MW204-021799

GC/MS Volatiles

Lot-Sample #...: A9B190131-005 **Work Order #...:** CQXKP107 **Matrix.....:** WATER

NOTE(S):

J Estimated result. Result is less than RL.

PAYNE FIRM INC.

Client Sample ID: MW204-021799

GC Volatiles

Lot-Sample #...: A9B190131-005 Work Order #...: CQXKP106 Matrix.....: WATER
Date Sampled...: 02/17/99 16:40 Date Received..: 02/18/99
Prep Date.....: 02/24/99 Analysis Date..: 02/24/99
Prep Batch #...: 9057148
Dilution Factor: 1 Method.....: RSK SOP-175

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	540 E	0.50	ug/L
Ethane	21	0.50	ug/L
Ethene	ND	0.50	ug/L

NOTE(S):

E Estimated result. Result concentration exceeds the calibration range.

PAYNE FIRM INC.

Client Sample ID: MW204-021799

GC Volatiles

Lot-Sample #...: A9B190131-005 Work Order #...: CQXKP206 Matrix.....: WATER
Date Sampled...: 02/17/99 16:40 Date Received..: 02/18/99
Prep Date.....: 02/24/99 Analysis Date..: 02/24/99
Prep Batch #...: 9057148
Dilution Factor: 50 Method.....: RSK SOP-175

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	2200 D	25	ug/L
Ethene	ND	25	ug/L
Ethane	ND	25	ug/L

NOTE(S):

D Result was obtained from the analysis of a dilution.

PAYNE FIRM INC.

Client Sample ID: MW204-021799

TOTAL Metals

Lot-Sample #...: A9B190131-005 **Matrix.....:** WATER
Date Sampled...: 02/17/99 16:40 **Date Received..:** 02/18/99

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9053105						
Arsenic	**0.028**	**0.010**	**mg/L**	**SW846 6010B**	**02/22/99**	**CQXKP10A**
		Dilution Factor: 1				
Barium	**0.70**	**0.20**	**mg/L**	**SW846 6010B**	**02/22/99**	**CQXKP10J**
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	02/22/99	CQXKP10K
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	02/22/99	CQXKP10L
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	02/22/99	CQXKP10C
		Dilution Factor: 1				

PAYNE FIRM INC.

Client Sample ID: MW204-021799

DISSOLVED Metals

Lot-Sample #...: A9B190131-005 **Matrix.....:** WATER
Date Sampled...: 02/17/99 16:40 **Date Received..:** 02/18/99

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9053105						
Iron	3.1	0.10	mg/L	SW846 6010B	02/22/99	CQXKP10F
		Dilution Factor: 1				

PAYNE FIRM INC.

Client Sample ID: MW204-021799

General Chemistry

Lot-Sample #...: A9B190131-005 **Work Order #...:** CQXKP **Matrix.....:** WATER
Date Sampled...: 02/17/99 16:40 **Date Received..:** 02/18/99

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	**59.2**	**1.0**	**mg/L**	**MCAWW 300.0A**	**02/19/99**	**9051180**
	Dilution Factor: 1					
Nitrate-Nitrite	ND	0.1	mg/L	MCAWW 353.2	02/24/99	9055252
	Dilution Factor: 1					
Nitrogen, as Ammonia	**4.4**	**0.2**	**mg/L**	**MCAWW 350.3**	**02/21/99**	**9052106**
	Dilution Factor: 1					
ılfate	**1.5**	**1.0**	**mg/L**	**MCAWW 300.0A**	**02/19/99**	**9051181**
	Dilution Factor: 1					
Total Alkalinity	**470**	**5.0**	**mg/L**	**MCAWW 310.1**	**03/02/99**	**9061154**
	Dilution Factor: 1					
Total Organic Carbon	**9**	**1**	**mg/L**	**MCAWW 415.1**	**02/24/99**	**9054250**
	Dilution Factor: 1					

PAYNE FIRM INC.

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #...: A9B190131-006 **Work Order #...:** CQXKV101 **Matrix.....:** WATER
Date Sampled...: 02/17/99 **Date Received..:** 02/18/99
Prep Date.....: 02/26/99 **Analysis Date..:** 02/26/99
Prep Batch #...: 9058166
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	**2.9 J**	**5.0**	**ug/L**
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	97	(80 - 120)
Toluene-d8	93	(88 - 110)
Bromofluorobenzene	93	(86 - 115)
Dibromofluoromethane	90	(86 - 118)

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PAYNE FIRM INC.

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #...: A9B190131-006 Work Order #...: CQXKV101 Matrix.....: WATER

NOTE(S):

J Estimated result. Result is less than RL.

QUALITY CONTROL SECTION

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

Quanterra® Incorporated conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. Quanterra requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. Failure to meet the established recovery guidelines requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). Failure of the RPDs to fall within the laboratory-generated acceptance windows requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the MS/MSD RPDs are within acceptance criteria, the batch is acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except for the common laboratory contaminants indicated below.

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	Metals
Methylene chloride	Phthalate Esters	Copper
Acetone		Iron
2-Butanone		Zinc
		Lead*

** for analyses run on TJA Trace ICP or GFAA only*

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...: A9B190131 **Work Order #...:** CR574102-LCS **Matrix.....:** WATER
LCS Lot-Sample#: I9B260000-148 CR574103-LCSD
Prep Date.....: 02/24/99 **Analysis Date..:** 02/24/99
Prep Batch #...: 9057148
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Methane	**86**	**(70 - 130)**			**RSK SOP-175**
	86	**(70 - 130)**	**0.16**	**(0-30)**	**RSK SOP-175**
Ethane	**88**	**(70 - 130)**			**RSK SOP-175**
	88	**(70 - 130)**	**0.62**	**(0-30)**	**RSK SOP-175**
Ethene	**87**	**(70 - 130)**			**RSK SOP-175**
	88	**(70 - 130)**	**0.16**	**(0-30)**	**RSK SOP-175**

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A9B190131 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: A9B220000-105 **Prep Batch #...:** 9053105					
Barium	106	(87 - 110)	SW846 6010B	02/22/99	CR14N10A
		Dilution Factor: 1			
Cadmium	108	(89 - 115)	SW846 6010B	02/22/99	CR14N10C
		Dilution Factor: 1			
Chromium	109	(86 - 112)	SW846 6010B	02/22/99	CR14N10D
		Dilution Factor: 1			
Arsenic	103	(80 - 120)	SW846 6010B	02/22/99	CR14N107
		Dilution Factor: 1			
Lead	106	(80 - 120)	SW846 6010B	02/22/99	CR14N108
		Dilution Factor: 1			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

DISSOLVED Metals

Client Lot #...: A9B190131 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: A9B220000-105 **Prep Batch #...:** 9053105					
Iron	113	(80 - 120)	SW846 6010B	02/22-02/23/99	CR14N109
		Dilution Factor: 1			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Lot-Sample #...: A9B190131 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon		WO#:CR269102-LCS/CR269103-LCSD				LCS Lot-Sample#: A9B230000-250	
	97	(90 - 110)			MCAWW 415.1	02/23/99	9054250
	98	(90 - 110)	1.4	(0-20)	MCAWW 415.1	02/23/99	9054250

Dilution Factor: 1

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: A9B190131 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		Work Order #: CR13P102	LCS Lot-Sample#: A9B200000-180		
	98	(90 - 110)	MCAWW 300.0A	02/19/99	9051180
		Dilution Factor: 1			
Nitrate-Nitrite		Work Order #: CR3A4102	LCS Lot-Sample#: A9B240000-250		
	104	(85 - 115)	MCAWW 353.2	02/24/99	9055250
		Dilution Factor: 1			
Nitrate-Nitrite		Work Order #: CR3CG102	LCS Lot-Sample#: A9B240000-252		
	93	(85 - 115)	MCAWW 353.2	02/24/99	9055252
		Dilution Factor: 1			
Nitrate-Nitrite		Work Order #: CR62L102	LCS Lot-Sample#: A9B260000-289		
	98	(85 - 115)	MCAWW 353.2	02/26/99	9057289
		Dilution Factor: 1			
Nitrogen, as Ammonia		Work Order #: CR146102	LCS Lot-Sample#: A9B210000-106		
	99	(90 - 110)	MCAWW 350.3	02/21/99	9052106
		Dilution Factor: 1			
Sulfate		Work Order #: CR13Q102	LCS Lot-Sample#: A9B200000-181		
	98	(90 - 110)	MCAWW 300.0A	02/19/99	9051181
		Dilution Factor: 1			
Total Alkalinity		Work Order #: CR8AE102	LCS Lot-Sample#: A9C020000-154		
	101	(80 - 120)	MCAWW 310.1	03/02/99	9061154
		Dilution Factor: 1			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A9B190131 **Work Order #...:** CR75T101 **Matrix.....:** WATER
MB Lot-Sample #: A9B270000-166

Prep Date.....: 02/26/99
Analysis Date..: 02/26/99 **Prep Batch #...:** 9058166
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	10	ug/L	SW846 8260B
Bromomethane	ND	10	ug/L	SW846 8260B
Vinyl chloride	ND	10	ug/L	SW846 8260B
Chloroethane	ND	10	ug/L	SW846 8260B
Methylene chloride	ND	5.0	ug/L	SW846 8260B
Acetone	ND	20	ug/L	SW846 8260B
rbon disulfide	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethene (total)	ND	5.0	ug/L	SW846 8260B
Chloroform	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	5.0	ug/L	SW846 8260B
2-Butanone	ND	20	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	5.0	ug/L	SW846 8260B
arbon tetrachloride	ND	5.0	ug/L	SW846 8260B
Bromodichloromethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	5.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Trichloroethene	ND	5.0	ug/L	SW846 8260B
Dibromochloromethane	ND	5.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Benzene	ND	5.0	ug/L	SW846 8260B
ans-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Bromoform	ND	5.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	20	ug/L	SW846 8260B
2-Hexanone	ND	20	ug/L	SW846 8260B
Tetrachloroethene	ND	5.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	SW846 8260B
Toluene	ND	5.0	ug/L	SW846 8260B
Chlorobenzene	ND	5.0	ug/L	SW846 8260B
Ethylbenzene	ND	5.0	ug/L	SW846 8260B
Styrene	ND	5.0	ug/L	SW846 8260B
Xylenes (total)	ND	5.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	90	(80 - 120)
Toluene-d8	92	(88 - 110)
Bromofluorobenzene	89	(86 - 115)
ibromofluoromethane	86	(86 - 118)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: A9B190131 **Work Order #...:** CR574101 **Matrix.....:** WATER
MB Lot-Sample #: I9B260000-148

Prep Date.....: 02/24/99
Analysis Date..: 02/24/99 **Prep Batch #...:** 9057148
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Methane	ND	0.50	ug/L	RSK SOP-175
Ethane	ND	0.50	ug/L	RSK SOP-175
Ethene	ND	0.50	ug/L	RSK SOP-175

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A9B190131 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: A9B220000-105 **Prep Batch #...:** 9053105						
Arsenic	ND	0.010	mg/L	SW846 6010B	02/22/99	CR14N101
		Dilution Factor: 1				
Barium	ND	0.20	mg/L	SW846 6010B	02/22/99	CR14N104
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	02/22/99	CR14N105
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	02/22/99	CR14N106
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	02/22/99	CR14N102
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

DISSOLVED Metals

Client Lot #...: A9B190131 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: A9B220000-105 **Prep Batch #...:** 9053105						
Iron	ND	0.10	mg/L	SW846 6010B	02/22/99	CR14N103
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A9B190131 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		Work Order #: CR13P101		MB Lot-Sample #:	A9B200000-180	
	ND	1.0	mg/L	MCAWW 300.0A	02/19/99	9051180
		Dilution Factor: 1				
Nitrate-Nitrite		Work Order #: CR3A4101		MB Lot-Sample #:	A9B240000-250	
	ND	0.1	mg/L	MCAWW 353.2	02/24/99	9055250
		Dilution Factor: 1				
Nitrate-Nitrite		Work Order #: CR3CG101		MB Lot-Sample #:	A9B240000-252	
	ND	0.1	mg/L	MCAWW 353.2	02/24/99	9055252
		Dilution Factor: 1				
Nitrate-Nitrite		Work Order #: CR62L101		MB Lot-Sample #:	A9B260000-289	
	ND	0.1	mg/L	MCAWW 353.2	02/26/99	9057289
		Dilution Factor: 1				
Nitrogen, as Ammonia		Work Order #: CR146101		MB Lot-Sample #:	A9B210000-106	
	ND	0.2	mg/L	MCAWW 350.3	02/21/99	9052106
		Dilution Factor: 1				
Sulfate		Work Order #: CR13Q101		MB Lot-Sample #:	A9B200000-181	
	ND	1.0	mg/L	MCAWW 300.0A	02/19/99	9051181
		Dilution Factor: 1				
Total Alkalinity		Work Order #: CR8AE101		MB Lot-Sample #:	A9C020000-154	
	ND	5.0	mg/L	MCAWW 310.1	03/02/99	9061154
		Dilution Factor: 1				
Total Organic Carbon		Work Order #: CR269101		MB Lot-Sample #:	A9B230000-250	
	ND	1	mg/L	MCAWW 415.1	02/23/99	9054250
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A9B190131 **Work Order #...:** CQXKG10N-MS **Matrix.....:** WATER
MS Lot-Sample #: A9B190131-002 CQXKG10P-MSD
Date Sampled...: 02/17/99 12:20 **Date Received..:** 02/18/99
Prep Date.....: 02/26/99 **Analysis Date..:** 02/26/99
Prep Batch #...: 9058166
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	**87**	**(75 - 113)**			**SW846 8260B**
	84	**(75 - 113)**	**3.4**	**(0-20)**	**SW846 8260B**
Trichloroethene	**95**	**(71 - 110)**			**SW846 8260B**
	91	**(71 - 110)**	**3.7**	**(0-22)**	**SW846 8260B**
Benzene	**97**	**(78 - 117)**			**SW846 8260B**
	94	**(78 - 117)**	**3.4**	**(0-17)**	**SW846 8260B**
Toluene	**88**	**(78 - 126)**			**SW846 8260B**
	84	**(78 - 126)**	**4.7**	**(0-24)**	**SW846 8260B**
Chlorobenzene	**90**	**(81 - 115)**			**SW846 8260B**
	87	**(81 - 115)**	**4.0**	**(0-18)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
.2-Dichloroethane-d4	101	(80 - 120)
	101	(80 - 120)
Toluene-d8	90	(88 - 110)
	88	(88 - 110)
Bromofluorobenzene	91	(86 - 115)
	90	(86 - 115)
Dibromofluoromethane	96	(86 - 118)
	96	(86 - 118)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...: A9B190131 **Work Order #...:** CQWLF10F-MS **Matrix.....:** WATER
MS Lot-Sample #: A9B180169-001 CQWLF10G-MSD
Date Sampled...: 02/16/99 10:05 **Date Received..:** 02/18/99
Prep Date.....: 02/24/99 **Analysis Date..:** 02/24/99
Prep Batch #...: 9057148
Dilution Factor: 50

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Methane	**105**	**(70 - 130)**			**RSK SOP-175**
	102	**(70 - 130)**	**1.1**	**(0-30)**	**RSK SOP-175**
Ethane	**88**	**(70 - 130)**			**RSK SOP-175**
	87	**(70 - 130)**	**0.64**	**(0-30)**	**RSK SOP-175**
Ethene	**87**	**(70 - 130)**			**RSK SOP-175**
	87	**(70 - 130)**	**0.79**	**(0-30)**	**RSK SOP-175**

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A9B190131 **Matrix.....:** WATER
Date Sampled...: 02/17/99 11:30 **Date Received..:** 02/18/99

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: A9B190131-001 **Prep Batch #...:** 9053105							
Arsenic	103	(80 - 120)			SW846 6010B	02/22/99	CQXJP10N
	103	(80 - 120)	0.0	(0-20)	SW846 6010B	02/22/99	CQXJP10P
		Dilution Factor: 1					
Barium	104	(80 - 120)			SW846 6010B	02/22/99	CQXJP10V
	105	(80 - 120)	0.56	(0-20)	SW846 6010B	02/22/99	CQXJP10W
		Dilution Factor: 1					
Cadmium	104	(80 - 120)			SW846 6010B	02/22/99	CQXJP10X
	104	(80 - 120)	0.14	(0-20)	SW846 6010B	02/22/99	CQXJP110
		Dilution Factor: 1					
Chromium	105	(80 - 120)			SW846 6010B	02/22/99	CQXJP111
	104	(80 - 120)	1.0	(0-20)	SW846 6010B	02/22/99	CQXJP112
		Dilution Factor: 1					
Lead	102	(80 - 120)			SW846 6010B	02/22/99	CQXJP10Q
	102	(80 - 120)	0.39	(0-20)	SW846 6010B	02/22/99	CQXJP10R
		Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

DISSOLVED Metals

Client Lot #...: A9B190131 **Matrix.....:** WATER
Date Sampled...: 02/17/99 11:30 **Date Received..:** 02/18/99

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: A9B190131-001 **Prep Batch #...:** 9053105							
Iron	108	(80 - 120)			SW846 6010B	02/22/99	CQXJP10T
	117	(80 - 120)	4.9	(0-20)	SW846 6010B	02/22/99	CQXJP10U
		Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

.lient Lot #...: A9B190131 Matrix.....: WATER
Date Sampled...: 02/17/99 16:45 Date Received..: 02/19/99

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		WO#: CQXKN10N-MS/CQXKN10P-MSD				MS Lot-Sample #: A9B190131-004	
	99	(90 - 110)			MCAWW 300.0A	02/19/99	9051180
	99	(90 - 110)	0.19	(0-20)	MCAWW 300.0A	02/19/99	9051180
		Dilution Factor: 1					
Nitrate-Nitrite		WO#: CQL54102-MS/CQL54103-MSD				MS Lot-Sample #: H9B080131-007	
	110	(85 - 115)			MCAWW 353.2	02/24/99	9055250
	126 N	(85 - 115)	0.65	(0-20)	MCAWW 353.2	02/24/99	9055250
		Dilution Factor: 1					
Nitrate-Nitrite		WO#: CQREA15U-MS/CQREA15V-MSD				MS Lot-Sample #: A9B150103-007	
	85	(85 - 115)			MCAWW 353.2	02/24/99	9055252
	87	(85 - 115)	2.2	(0-20)	MCAWW 353.2	02/24/99	9055252
		Dilution Factor: 1					
Nitrate-Nitrite		WO#: CR24X10G-MS/CR24X10H-MSD				MS Lot-Sample #: A9B230146-001	
	94	(85 - 115)			MCAWW 353.2	02/26/99	9057289
	104	(85 - 115)	11	(0-20)	MCAWW 353.2	02/26/99	9057289
		Dilution Factor: 1					
itrogen, as Ammonia		WO#: CQWN7109-MS/CQWN710A-MSD				MS Lot-Sample #: A9B180177-002	
	107	(80 - 120)			MCAWW 350.3	02/21/99	9052106
	101	(80 - 120)	5.4	(0-20)	MCAWW 350.3	02/21/99	9052106
		Dilution Factor: 1					
Sulfate		WO#: CQXKN10Q-MS/CQXKN10R-MSD				MS Lot-Sample #: A9B190131-004	
	97	(90 - 110)			MCAWW 300.0A	02/19/99	9051181
	97	(90 - 110)	0.19	(0-20)	MCAWW 300.0A	02/19/99	9051181
		Dilution Factor: 1					
Total Alkalinity		WO#: CQXK110G-MS/CQXK110H-MSD				MS Lot-Sample #: A9B190130-006	
	98	(80 - 120)			MCAWW 310.1	03/02/99	9061154
	99	(80 - 120)	0.73	(0-20)	MCAWW 310.1	03/02/99	9061154
		Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

The Payne Fir. Inc.
Environmental Consultants
11231 Cornell Park Drive
Cincinnati, Ohio 45242
513-489-2255 Fax: 513-489-2533

№

CHAIN OF CUSTODY RECORD

PROJ. NO.: 279.44.05
PROJECT NAME: South Dayton Landfill (Grillot)
SAMPLERS: (Signature) MARK BERKICH

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Diss Gases	VOC 8260	TOC	Diss. Iron	Alk, Cl, SO4	Metals - As, Ba, Cr, Cd, Pb	Ammonia, NO3 + NO2	REMARKS
	2/17	1130		X	MW102 - 021799	11	X	X	X	X	X	X	X	Attn Gary Woods
	2/17	1220		X	MW103 - 021799	11	X	X	X	X	X	X	X	Results to MARK
	2/17	1350		X	MW202 - 021799	11	X	X	X	X	X	X	X	BERKICH
	2/17	1540		X	MW203 - 021799	11	X	X	X	X	X	X	X	
	2/17	1640		X	MW204 - 021799	11	X	X	X	X	X	X	X	
														(*) Metals → Only As,
														Ba, Cr, Cd, Pb
														Normal Turn

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Mark Berkich	03/17/99 1750				
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	
		Jenny Lizard	99028 9:45		

Quanterra Incorporated
4101 Shuffel Drive, NW
North Canton, Ohio 44720

330 497-9396 Telephone
330 497-0772 Fax

ANALYTICAL REPORT

PROJECT NO. 279.44.05

SOUTH DAYTON LANDFILL (GRILLOT)

Lot #: A9B190166

Mark Burkich

The Payne Firm, Inc.

QUANTERRA INCORPORATED

Gary L. Wood
Project Manager

March 5, 1999

CASE NARRATIVE

The following report contains the analytical results for three water samples submitted to Quanterra-North Canton by The Payne Firm, Inc. from the South Dayton Landfill (Grillot) site, project number 279.44.05. The samples were received February 19, 1999, according to documented sample acceptance procedures.

Samples submitted for dissolved gasses analysis were performed at Quanterra-Austin. These results are presented in this report.

Quanterra-North Canton utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the method reference page in accordance with the method indicated.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan. All data have been found to be compliant with laboratory protocol.

Supplemental QC Information

GC/MS VOLATILES

Sample(s) which contain results between the MDL and the RL are flagged with a "J". There is the possibility of false positive or misidentification at these quantitation levels. In analytical methods requiring confirmation of the analyte reported, confirmation will be performed only down to the standard reporting limit (SRL). The acceptance criteria for QC criteria may not be met at these quantitation levels.

GENERAL CHEMISTRY

There are samples reported with dilutions due to either high target analytes or matrix interference.

ANALYTICAL METHODS SUMMARY

A9B190166

PARAMETER	ANALYTICAL METHOD
Alkalinity	MCAWW 310.1
Ammonia Nitrogen	MCAWW 350.3
Chloride	MCAWW 300.0A
Dissolved Gasses in Water	RSK SOP-175
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Nitrate-Nitrite	MCAWW 353.2
Sulfate	MCAWW 300.0A
Total Organic Carbon	MCAWW 415.1
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Volatile Organics by GC/MS	SW846 8260B

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

RSK Sample Prep and Calculations for Dissolved Gas Analysis in Water Samples Using a GC Headspace Equilibration Technique, RSKSOP-175, REV. 0, 8/11/94, USEPA Research Lab

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

A9B190166

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
CR006	001	MW206-021899	02/18/99	10:40
CR00T	002	MW208-021899	02/18/99	16:25
CR010	003	MW210-021899	02/18/99	13:40

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PAYNE FIRM INC.

Client Sample ID: MW206-021899

GC/MS Volatiles

Lot-Sample #...: A9B190166-001 **Work Order #...:** CR006105 **Matrix.....:** WATER
Date Sampled...: 02/18/99 10:40 **Date Received..:** 02/19/99
Prep Date.....: 02/26/99 **Analysis Date..:** 02/26/99
Prep Batch #...: 9058166
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	**0.52 J**	**5.0**	**ug/L**
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
?-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	**0.63 J**	**5.0**	**ug/L**
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	94	(80 - 120)
Toluene-d8	92	(88 - 110)
Bromofluorobenzene	89	(86 - 115)
Dibromofluoromethane	86	(86 - 118)

(Continued on next page)

PAYNE FIRM INC.

Client Sample ID: MW206-021899

GC Volatiles

Lot-Sample #...: A9B190166-001 **Work Order #...:** CR006104 **Matrix.....:** WATER
Date Sampled...: 02/18/99 10:40 **Date Received..:** 02/19/99
Prep Date.....: 02/24/99 **Analysis Date..:** 02/24/99
Prep Batch #...: 9057148
Dilution Factor: 1 **Method.....:** RSK SOP-175

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	**1.8**	**0.50**	**ug/L**
Ethane	ND	0.50	ug/L
Ethene	ND	0.50	ug/L

PAYNE FIRM INC.

Client Sample ID: MW206-021899

DISSOLVED Metals

Lot-Sample #...: A9B190166-001 **Matrix.....:** WATER
Date Sampled...: 02/18/99 10:40 **Date Received..:** 02/19/99

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9053105						
Iron	2.5	0.10	mg/L	SW846 6010B	02/22/99	CR00610
		Dilution Factor: 1				

PAYNE FIRM INC.

Client Sample ID: MW206-021899

General Chemistry

Lot-Sample #...: A9B190166-001 **Work Order #...:** CR006 **Matrix.....:** WATER
Date Sampled...: 02/18/99 10:40 **Date Received..:** 02/19/99

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	**28.0**	**1.0**	**mg/L**	**MCAWW 300.0A**	**02/23/99**	**9057251**
	Dilution Factor: 1					
Nitrate-Nitrite	**10**	**1.0**	**mg/L**	**MCAWW 353.2**	**02/26/99**	**9057289**
	Dilution Factor: 10					
Nitrogen, as Ammonia	ND	0.2	mg/L	MCAWW 350.3	02/21/99	9052106
	Dilution Factor: 1					
Sulfate	**54.4**	**1.0**	**mg/L**	**MCAWW 300.0A**	**02/23/99**	**9057249**
	Dilution Factor: 1					
Total Alkalinity	**350**	**5.0**	**mg/L**	**MCAWW 310.1**	**03/02/99**	**9061203**
	Dilution Factor: 1					
Total Organic Carbon	**2**	**1**	**mg/L**	**MCAWW 415.1**	**02/26/99**	**9061201**
	Dilution Factor: 1					

PAYNE FIRM INC.

Client Sample ID: MW208-021899

GC/MS Volatiles

Lot-Sample #...: A9B190166-002 **Work Order #...:** CR00T105 **Matrix.....:** WATER
Date Sampled...: 02/18/99 16:25 **Date Received..:** 02/19/99
Prep Date.....: 02/26/99 **Analysis Date..:** 02/26/99
Prep Batch #...: 9058166
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	**1.2 J**	**10**	**ug/L**
Chloroethane	ND	10	ug/L
Methylene chloride	**0.79 J**	**5.0**	**ug/L**
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	**2.3 J**	**5.0**	**ug/L**
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	**2.2 J**	**5.0**	**ug/L**
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	**1.5 J**	**5.0**	**ug/L**
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	95	(80 - 120)
Toluene-d8	90	(88 - 110)
Bromofluorobenzene	90	(86 - 115)
Dibromofluoromethane	88	(86 - 118)

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PAYNE FIRM INC.

Client Sample ID: MW208-021899

DISSOLVED Metals

Lot-Sample #...: A9B190166-002 **Matrix.....:** WATER
Date Sampled...: 02/18/99 16:25 **Date Received..:** 02/19/99

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9053105						
Iron	1.3	0.10	mg/L	SW846 6010B	02/22/99	CR00T10A

Dilution Factor: 1

PAYNE FIRM INC.

Client Sample ID: MW208-021899

General Chemistry

Lot-Sample #...: A9B190166-002 **Work Order #...:** CR00T **Matrix.....:** WATER
Date Sampled...: 02/18/99 16:25 **Date Received..:** 02/19/99

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	111	1.0	mg/L	MCAWW 300.0A	02/24/99	9057251
	Dilution Factor: 1					
Nitrate-Nitrite	0.3	0.1	mg/L	MCAWW 353.2	02/24/99	9055252
	Dilution Factor: 1					
Nitrogen, as Ammonia	0.3	0.2	mg/L	MCAWW 350.3	02/21/99	9052106
	Dilution Factor: 1					
Sulfate	59.6	1.0	mg/L	MCAWW 300.0A	02/24/99	9057249
	Dilution Factor: 1					
Total Alkalinity	500	5.0	mg/L	MCAWW 310.1	03/02/99	9061203
	Dilution Factor: 1					
Total Organic Carbon	3	1	mg/L	MCAWW 415.1	02/26/99	90612
	Dilution Factor: 1					

PAYNE FIRM INC.

Client Sample ID: MW210-021899

GC/MS Volatiles

Lot-Sample #...: A9B190166-003 **Work Order #...:** CR010105 **Matrix.....:** WATER
Date Sampled...: 02/18/99 13:40 **Date Received..:** 02/19/99
Prep Date.....: 02/26/99 **Analysis Date..:** 02/26/99
Prep Batch #...: 9058166
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	**0.67 J**	**5.0**	**ug/L**
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	**16**	**5.0**	**ug/L**
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	**87**	**5.0**	**ug/L**
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	**1.7 J**	**5.0**	**ug/L**
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	95	(80 - 120)
Toluene-d8	92	(88 - 110)
Bromofluorobenzene	91	(86 - 115)
Dibromofluoromethane	88	(86 - 118)

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PAYNE FIRM INC.

Client Sample ID: MW210-021899

TOTAL Metals

Lot-Sample #...: A9B190166-003 **Matrix.....:** WATER
Date Sampled...: 02/18/99 13:40 **Date Received..:** 02/19/99

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9053105						
Arsenic	ND	0.010	mg/L	SW846 6010B	02/22/99	CR010108
		Dilution Factor: 1				
Barium	ND	0.20	mg/L	SW846 6010B	02/22/99	CR01010C
		Dilution Factor: 1				

PAYNE FIRM INC.

PAYNE FIRM INC.

Client Sample ID: MW210-021899

GC Volatiles

Lot-Sample #...: A9B190166-003 **Work Order #...:** CR010204 **Matrix.....:** WATER
Date Sampled...: 02/18/99 13:40 **Date Received..:** 02/19/99
Prep Date.....: 02/24/99 **Analysis Date..:** 02/24/99
Prep Batch #...: 9057148
Dilution Factor: 2 **Method.....:** RSK SOP-175

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	**82 D**	**1.0**	**ug/L**
Ethane	**1.2 D**	**1.0**	**ug/L**
Ethene	ND	1.0	ug/L

NOTE(S):

D Result was obtained from the analysis of a dilution.

QUALITY CONTROL SECTION

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

Quanterra® Incorporated conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. Quanterra requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. Failure to meet the established recovery guidelines requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). Failure of the RPDs to fall within the laboratory-generated acceptance windows requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the MS/MSD RPDs are within acceptance criteria, the batch is acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except for the common laboratory contaminants indicated below.

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	Metals
Methylene chloride	Phthalate Esters	Copper
Acetone		Iron
2-Butanone		Zinc
		Lead*

** for analyses run on TJA Trace ICP or GFAA only*

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...: A9B190166 **Work Order #...:** CR574102-LCS **Matrix.....:** WATER
LCS Lot-Sample#: I9B260000-148 CR574103-LCSD
Prep Date.....: 02/24/99 **Analysis Date..:** 02/24/99
Prep Batch #...: 9057148
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Methane	86	(70 - 130)			RSK SOP-175
	86	(70 - 130)	0.16	(0-30)	RSK SOP-175
Ethane	88	(70 - 130)			RSK SOP-175
	88	(70 - 130)	0.62	(0-30)	RSK SOP-175
Ethene	87	(70 - 130)			RSK SOP-175
	88	(70 - 130)	0.16	(0-30)	RSK SOP-175

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A9B190166 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: A9B220000-105 **Prep Batch #...:** 9053105					
Barium	106	(87 - 110)	SW846 6010B	02/22/99	CR14N10A
		Dilution Factor: 1			
Cadmium	108	(89 - 115)	SW846 6010B	02/22/99	CR14N10C
		Dilution Factor: 1			
Chromium	109	(86 - 112)	SW846 6010B	02/22/99	CR14N10D
		Dilution Factor: 1			
Arsenic	103	(80 - 120)	SW846 6010B	02/22/99	CR14N107
		Dilution Factor: 1			
Lead	106	(80 - 120)	SW846 6010B	02/22/99	CR14N108
		Dilution Factor: 1			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

DISSOLVED Metals

Client Lot #...: A9B190166 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: A9B220000-105 **Prep Batch #...:** 9053105					
Iron	113	(80 - 120)	SW846 6010B	02/22-02/23/99	CR14N109
		Dilution Factor: 1			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Lot-Sample #...: A9B190166 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		WO#:CR5WF102-LCS/CR5WF103-LCSD				LCS Lot-Sample#: A9B260000-251	
	97	(90 - 110)			MCAWW 300.0A	02/23/99	9057251
	96	(90 - 110)	0.39	(0-20)	MCAWW 300.0A	02/23/99	9057251
		Dilution Factor: 1					
Sulfate		WO#:CR5WN102-LCS/CR5WN103-LCSD				LCS Lot-Sample#: A9B260000-249	
	96	(90 - 110)			MCAWW 300.0A	02/23/99	9057249
	96	(90 - 110)	0.16	(0-20)	MCAWW 300.0A	02/23/99	9057249
		Dilution Factor: 1					
Total Organic Carbon		WO#:CR8KN102-LCS/CR8KN103-LCSD				LCS Lot-Sample#: A9C020000-201	
	98	(90 - 110)			MCAWW 415.1	02/26/99	9061201
	98	(90 - 110)	0.21	(0-20)	MCAWW 415.1	02/26/99	9061201
		Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: A9B190166 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate-Nitrite		Work Order #: CR3CG102	LCS Lot-Sample#: A9B240000-252		
	93	(85 - 115)	MCAWW 353.2	02/24/99	9055252
		Dilution Factor: 1			
Nitrate-Nitrite		Work Order #: CR62L102	LCS Lot-Sample#: A9B260000-289		
	98	(85 - 115)	MCAWW 353.2	02/26/99	9057289
		Dilution Factor: 1			
Nitrogen, as Ammonia		Work Order #: CR146102	LCS Lot-Sample#: A9B210000-106		
	99	(90 - 110)	MCAWW 350.3	02/21/99	9052106
		Dilution Factor: 1			
Total Alkalinity		Work Order #: CR8KH102	LCS Lot-Sample#: A9C020000-203		
	97	(80 - 120)	MCAWW 310.1	03/02/99	9061203
		Dilution Factor: 1			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A9B190166 **Work Order #...:** CR75T101 **Matrix.....:** WATER
MB Lot-Sample #: A9B270000-166

Prep Date.....: 02/26/99
Analysis Date..: 02/26/99 **Prep Batch #...:** 9058166
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	10	ug/L	SW846 8260B
Bromomethane	ND	10	ug/L	SW846 8260B
Vinyl chloride	ND	10	ug/L	SW846 8260B
Chloroethane	ND	10	ug/L	SW846 8260B
Methylene chloride	ND	5.0	ug/L	SW846 8260B
Acetone	ND	20	ug/L	SW846 8260B
Carbon disulfide	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethene (total)	ND	5.0	ug/L	SW846 8260B
Chloroform	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	5.0	ug/L	SW846 8260B
2-Butanone	ND	20	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	5.0	ug/L	SW846 8260B
Bromodichloromethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	5.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Trichloroethene	ND	5.0	ug/L	SW846 8260B
Dibromochloromethane	ND	5.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Benzene	ND	5.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Bromoform	ND	5.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	20	ug/L	SW846 8260B
2-Hexanone	ND	20	ug/L	SW846 8260B
Tetrachloroethene	ND	5.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	SW846 8260B
Toluene	ND	5.0	ug/L	SW846 8260B
Chlorobenzene	ND	5.0	ug/L	SW846 8260B
Ethylbenzene	ND	5.0	ug/L	SW846 8260B
Styrene	ND	5.0	ug/L	SW846 8260B
Xylenes (total)	ND	5.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	90	(80 - 120)
Toluene-d8	92	(88 - 110)
Bromofluorobenzene	89	(86 - 115)
Dibromofluoromethane	86	(86 - 118)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: A9B190166 **Work Order #...:** CR574101 **Matrix.....:** WATER
MB Lot-Sample #: I9B260000-148

Prep Date.....: 02/24/99
Analysis Date..: 02/24/99 **Prep Batch #...:** 9057148
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Methane	ND	0.50	ug/L	RSK SOP-175
Ethane	ND	0.50	ug/L	RSK SOP-175
Ethene	ND	0.50	ug/L	RSK SOP-175

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A9B190166 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: A9B220000-105 **Prep Batch #...:** 9053105						
Arsenic	ND	0.010	mg/L	SW846 6010B	02/22/99	CR14N101
		Dilution Factor: 1				
Barium	ND	0.20	mg/L	SW846 6010B	02/22/99	CR14N104
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	02/22/99	CR14N105
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	02/22/99	CR14N106
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	02/22/99	CR14N102
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

DISSOLVED Metals

Client Lot #...: A9B190166 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: A9B220000-105 **Prep Batch #...:** 9053105						
Iron	ND	0.10	mg/L	SW846 6010B	02/22/99	CR14N103
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A9B190166 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		Work Order #: CR5WF101		MB Lot-Sample #:	A9B260000-251	
	ND	1.0	mg/L	MCAWW 300.0A	02/23/99	9057251
		Dilution Factor: 1				
Nitrate-Nitrite		Work Order #: CR3CG101		MB Lot-Sample #:	A9B240000-252	
	ND	0.1	mg/L	MCAWW 353.2	02/24/99	9055252
		Dilution Factor: 1				
Nitrate-Nitrite		Work Order #: CR62L101		MB Lot-Sample #:	A9B260000-289	
	ND	0.1	mg/L	MCAWW 353.2	02/26/99	9057289
		Dilution Factor: 1				
trogen, as Ammonia		Work Order #: CR146101		MB Lot-Sample #:	A9B210000-106	
	ND	0.2	mg/L	MCAWW 350.3	02/21/99	9052106
		Dilution Factor: 1				
Sulfate		Work Order #: CR5WN101		MB Lot-Sample #:	A9B260000-249	
	ND	1.0	mg/L	MCAWW 300.0A	02/23/99	9057249
		Dilution Factor: 1				
otal Alkalinity		Work Order #: CR8KH101		MB Lot-Sample #:	A9C020000-203	
	ND	5.0	mg/L	MCAWW 310.1	03/02/99	9061203
		Dilution Factor: 1				
Total Organic Carbon		Work Order #: CR8KN101		MB Lot-Sample #:	A9C020000-201	
	ND	1	mg/L	MCAWW 415.1	02/26/99	9061201
		Dilution Factor: 1				

OTE(S):

lculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A9B190166 **Work Order #...:** CQXKG10N-MS **Matrix.....:** WATER
MS Lot-Sample #: A9B190131-002 CQXKG10P-MSD
Date Sampled...: 02/17/99 12:20 **Date Received..:** 02/18/99
Prep Date.....: 02/26/99 **Analysis Date..:** 02/26/99
Prep Batch #...: 9058166
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	**87**	**(75 - 113)**			**SW846 8260B**
	84	**(75 - 113)**	**3.4**	**(0-20)**	**SW846 8260B**
Trichloroethene	**95**	**(71 - 110)**			**SW846 8260B**
	91	**(71 - 110)**	**3.7**	**(0-22)**	**SW846 8260B**
Chlorobenzene	**90**	**(81 - 115)**			**SW846 8260B**
	87	**(81 - 115)**	**4.0**	**(0-18)**	**SW846 8260B**
Toluene	**88**	**(78 - 126)**			**SW846 8260B**
	84	**(78 - 126)**	**4.7**	**(0-24)**	**SW846 8260B**
Benzene	**97**	**(78 - 117)**			**SW846 8260B**
	94	**(78 - 117)**	**3.4**	**(0-17)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Dichloroethane-d4	101	(80 - 120)
	101	(80 - 120)
Toluene-d8	90	(88 - 110)
	88	(88 - 110)
Bromofluorobenzene	91	(86 - 115)
	90	(86 - 115)
Dibromofluoromethane	96	(86 - 118)
	96	(86 - 118)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...: A9B190166 **Work Order #...:** CQWLF10F-MS **Matrix.....:** WATER
MS Lot-Sample #: A9B180169-001 CQWLF10G-MSD
Date Sampled...: 02/16/99 10:05 **Date Received..:** 02/18/99
Prep Date.....: 02/24/99 **Analysis Date..:** 02/24/99
Prep Batch #...: 9057148
Dilution Factor: 50

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Methane	**105**	**(70 - 130)**			**RSK SOP-175**
	102	**(70 - 130)**	**1.1**	**(0-30)**	**RSK SOP-175**
Ethane	**88**	**(70 - 130)**			**RSK SOP-175**
	87	**(70 - 130)**	**0.64**	**(0-30)**	**RSK SOP-175**
Ethene	**87**	**(70 - 130)**			**RSK SOP-175**
	87	**(70 - 130)**	**0.79**	**(0-30)**	**RSK SOP-175**

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A9B190166 **Matrix.....:** WATER
Date Sampled...: 02/17/99 11:30 **Date Received..:** 02/18/99

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: A9B190131-001 **Prep Batch #...:** 9053105							
Arsenic	103	(80 - 120)			SW846 6010B	02/22/99	CQXJP10N
	103	(80 - 120)	0.0	(0-20)	SW846 6010B	02/22/99	CQXJP10P
		Dilution Factor: 1					
Barium	104	(80 - 120)			SW846 6010B	02/22/99	CQXJP10V
	105	(80 - 120)	0.56	(0-20)	SW846 6010B	02/22/99	CQXJP10W
		Dilution Factor: 1					
Cadmium	104	(80 - 120)			SW846 6010B	02/22/99	CQXJP10X
	104	(80 - 120)	0.14	(0-20)	SW846 6010B	02/22/99	CQXJP110
		Dilution Factor: 1					
Chromium	105	(80 - 120)			SW846 6010B	02/22/99	CQXJP111
	104	(80 - 120)	1.0	(0-20)	SW846 6010B	02/22/99	CQXJP112
		Dilution Factor: 1					
Lead	102	(80 - 120)			SW846 6010B	02/22/99	CQXJP10Q
	102	(80 - 120)	0.39	(0-20)	SW846 6010B	02/22/99	CQXJP10R
		Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

DISSOLVED Metals

Client Lot #...: A9B190166 **Matrix.....:** WATER
Date Sampled...: 02/17/99 11:30 **Date Received..:** 02/18/99

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: A9B190131-001 **Prep Batch #...:** 9053105							
Iron	108	(80 - 120)			SW846 6010B	02/22/99	CQXJP10T
	117	(80 - 120)	4.9	(0-20)	SW846 6010B	02/22/99	CQXJP10U

Dilution Factor: 1

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: A9B190166 **Matrix.....:** WATER
Date Sampled...: 02/17/99 10:35 **Date Received..:** 02/18/99

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate-Nitrite		WO#:	CQREA15U-MS/CQREA15V-MSD			MS Lot-Sample #:	A9B150103-007
	85	(85 - 115)			MCAWW 353.2	02/24/99	9055252
	87	(85 - 115)	2.2	(0-20)	MCAWW 353.2	02/24/99	9055252
		Dilution Factor: 1					
Nitrate-Nitrite		WO#:	CR24X10G-MS/CR24X10H-MSD			MS Lot-Sample #:	A9B230146-001
	94	(85 - 115)			MCAWW 353.2	02/26/99	9057289
	104	(85 - 115)	11	(0-20)	MCAWW 353.2	02/26/99	9057289
		Dilution Factor: 1					
Nitrogen, as Ammonia		WO#:	CQWN7109-MS/CQWN710A-MSD			MS Lot-Sample #:	A9B180177-002
	107	(80 - 120)			MCAWW 350.3	02/21/99	9052106
	101	(80 - 120)	5.4	(0-20)	MCAWW 350.3	02/21/99	9052106
		Dilution Factor: 1					
Total Alkalinity		WO#:	CQWLX10D-MS/CQWLX10E-MSD			MS Lot-Sample #:	A9B180169-009
	95	(80 - 120)			MCAWW 310.1	03/02/99	9061203
	99	(80 - 120)	2.4	(0-20)	MCAWW 310.1	03/02/99	9061203
		Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

The Payne Firm Inc.
Environmental Consultants
11231 Cornell Park Drive
Cincinnati, Ohio 45242
513-489-2255 Fax: 513-489-2533

№

CHAIN OF CUSTODY RECORD

PROJ. NO.: 279.44.05 FL

PROJECT NAME: South Dayton Land Fill (Grillet)

SAMPLERS: (Signature) Mark Berkich

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Diss Gases	VOC 8260	TOC	Diss Iron	Alk, Cl, SO4	Metals - As, Ba, Cr, Cd, Pb	Ammonia, NO3, NO2	REMARKS
	2/18			X	MW 206-021899	11	X	X	X	X	X	X	X	Attn: Gary Wood
	2/18			X	MW 208-021899	11	X	X	X	X	X	X	X	Results to Mark Berkich
	2/18			X	MW 210-021899	11	X	X	X	X	X	X	X	
														(*) Metals - Only As, Ba, Cr, Cd, Pb
														Normal Turn

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Mark Berkich	2/18/99 1740				
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	
		Anne Guard	990219 9:20		

Quanterra Incorporated
4101 Shuffel Drive, NW
North Canton, Ohio 44720

330 497-9396 Telephone
330 497-0772 Fax

ANALYTICAL REPORT

PROJECT NO. 279.44.05FL

SOUTH DAYTON LANDFILL(GRILLOT)

Lot #: A9B200118

Mark Burkich

The Payne Firm, Inc.

QUANTERRA INCORPORATED

Gary L. Wood
Project Manager

March 5, 1999

CASE NARRATIVE

The following report contains the analytical results for four water samples and one quality control sample submitted to Quanterra-North Canton by The Payne Firm, Inc. from the South Dayton Landfill (Grillot) site, project number 279.44.05FL. The samples were received February 20, 1999, according to documented sample acceptance procedures.

Samples submitted for dissolved gasses analysis were performed at Quanterra-Austin. These results are presented in this report.

Quanterra-North Canton utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the method reference page in accordance with the method indicated.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan. All data have been found to be compliant with laboratory protocol.

Supplemental QC Information

GC/MS VOLATILES

Methylene chloride was detected in the method blank for batch 906111. This is a common laboratory contaminant with concentrations less than five times the requested reporting limit. All affected sample results are qualified with a "B".

The MS/MSD failed recovery criteria associated with batch 9061141. The check sample associated with this batch was in control. This is believed to be a matrix effect; therefore, no further corrective action was taken.

Sample(s) which contain results between the MDL and the RL are flagged with a "J". There is the possibility of false positive or misidentification at these quantitation levels. In analytical methods requiring confirmation of the analyte reported, confirmation will be performed only down to the standard reporting limit (SRL). The acceptance criteria for QC criteria may not be met at these quantitation levels.

METALS

Matrix spike recovery and relative percent difference (RPD) data were not calculated for some analytes due to the sample concentration reading greater than four times the spike amount. See the Matrix Spike Report for the affected analytes which will be flagged with NC, MSB.

ANALYTICAL METHODS SUMMARY

A9B200118

PARAMETER	ANALYTICAL METHOD
Alkalinity	MCAWW 310.1
Ammonia Nitrogen	MCAWW 350.3
Chloride	MCAWW 300.0A
Dissolved Gasses in Water	RSK SOP-175
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Nitrate-Nitrite	MCAWW 353.2
Sulfate	MCAWW 300.0A
Total Organic Carbon	MCAWW 415.1
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Volatile Organics by GC/MS	SW846 8260B

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

RSK Sample Prep and Calculations for Dissolved Gas Analysis in Water Samples Using a GC Headspace Equilibration Technique, RSKSOP-175, REV. 0, 8/11/94, USEPA Research Lab

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

A9B200118

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
CR0T8	001	MW101A-021999	02/19/99	13:20
CR0T9	002	MW212-021999	02/19/99	12:10
CR0TC	003	D1-021999	02/19/99	13:30
CR0TD	004	RINSATE	02/19/99	13:40
CR0TE	005	TRIP BLANK	02/19/99	

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.

This report must not be reproduced, except in full, without the written approval of the laboratory.

Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PAYNE FIRM INC.

Client Sample ID: MW101A-021999

GC Volatiles

Lot-Sample #...: A9B200118-001 **Work Order #...:** CR0T8104 **Matrix.....:** WATER
Date Sampled...: 02/19/99 13:20 **Date Received..:** 02/20/99
Prep Date.....: 02/24/99 **Analysis Date..:** 02/24/99
Prep Batch #...: 9057148
Dilution Factor: 1 **Method.....:** RSK SOP-175

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	290 E	0.50	ug/L
Ethane	5.1	0.50	ug/L
Ethene	6.7	0.50	ug/L

NOTE(S):

E Estimated result. Result concentration exceeds the calibration range.

PAYNE FIRM INC.

Client Sample ID: MW101A-021999

GC Volatiles

Lot-Sample #...: A9B200118-001 **Work Order #...:** CR0T8204 **Matrix.....:** WATER
Date Sampled...: 02/19/99 13:20 **Date Received..:** 02/20/99
Prep Date.....: 02/25/99 **Analysis Date..:** 02/25/99
Prep Batch #...: 9057176
Dilution Factor: 10 **Method.....:** RSK SOP-175

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	690 D	5.0	ug/L
Ethane	ND	5.0	ug/L
Ethene	5.8 D	5.0	ug/L

NOTE(S):

Result was obtained from the analysis of a dilution.

PAYNE FIRM INC.

Client Sample ID: MW101A-021999

TOTAL Metals

Lot-Sample #...: A9B200118-001 **Matrix.....:** WATER
Date Sampled...: 02/19/99 13:20 **Date Received..:** 02/20/99

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9053106						
Arsenic	ND	0.010	mg/L	SW846 6010B	02/22-02/23/99	CROT8108
		Dilution Factor: 1				
Barium	**0.24**	**0.20**	**mg/L**	**SW846 6010B**	**02/22-02/23/99**	**CROT810C**
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	02/22-02/23/99	CROT810D
		Dilution Factor: 1				
Chromium	**0.026**	**0.010**	**mg/L**	**SW846 6010B**	**02/22-02/23/99**	**CROT810E**
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	02/22-02/23/99	CROT8109
		Dilution Factor: 1				

PAYNE FIRM INC.

Client Sample ID: MW101A-021999

DISSOLVED Metals

Lot-Sample #...: A9B200118-001 **Matrix.....:** WATER
Date Sampled...: 02/19/99 13:20 **Date Received..:** 02/20/99

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9053106						
Iron	1.6	0.10	mg/L	SW846 6010B	02/22-02/23/99	CROT810A
		Dilution Factor: 1				

PAYNE FIRM INC.

Client Sample ID: MW101A-021999

General Chemistry

Lot-Sample #...: A9B200118-001 Work Order #...: CR0T8 Matrix.....: WATER
Date Sampled...: 02/19/99 13:20 Date Received..: 02/20/99

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	14.7	1.0	mg/L	MCAWW 300.0A	02/24/99	9057251
	Dilution Factor: 1					
Nitrate-Nitrite	ND	0.1	mg/L	MCAWW 353.2	02/24/99	9055254
	Dilution Factor: 1					
Nitrogen, as Ammonia	0.6	0.2	mg/L	MCAWW 350.3	02/21/99	9052106
	Dilution Factor: 1					
Sulfate	30.2	1.0	mg/L	MCAWW 300.0A	02/24/99	9057251
	Dilution Factor: 1					
Total Alkalinity	450	5.0	mg/L	MCAWW 310.1	03/02/99	9061203
	Dilution Factor: 1					
Total Organic Carbon	4	1	mg/L	MCAWW 415.1	02/27/99	9061209
	Dilution Factor: 1					

PAYNE FIRM INC.

Client Sample ID: MW212-021999

GC/MS Volatiles

Lot-Sample #...: A9B200118-002 **Work Order #...:** CR0T9105 **Matrix.....:** WATER
Date Sampled...: 02/19/99 12:10 **Date Received..:** 02/20/99
Prep Date.....: 02/26/99 **Analysis Date..:** 02/26/99
Prep Batch #...: 9058166
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	**2.1 J**	**5.0**	**ug/L**
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	99	(80 - 120)
Toluene-d8	94	(88 - 110)
Bromofluorobenzene	94	(86 - 115)
Dibromofluoromethane	91	(86 - 118)

(Continued on next page)

PAYNE FIRM INC.

Client Sample ID: MW212-021999

GC/MS Volatiles

Lot-Sample #...: A9B200118-002 Work Order #...: CR0T9105 Matrix.....: WATER

NOTE(S):

J Estimated result. Result is less than RL.

PAYNE FIRM INC.

Client Sample ID: MW212-021999

GC Volatiles

Lot-Sample #...:	A9B200118-002	**Work Order #...:**	CR0T9104	**Matrix.....:**	WATER
Date Sampled...:	02/19/99 12:10	**Date Received..:**	02/20/99		
Prep Date.....:	02/24/99	**Analysis Date..:**	02/24/99		
Prep Batch #...:	9057148				
Dilution Factor:	1	**Method.....:**	RSK SOP-175		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	**300 E**	**0.50**	**ug/L**
Ethane	**1.2**	**0.50**	**ug/L**
Ethene	ND	0.50	ug/L

NOTE(S):

E Estimated result. Result concentration exceeds the calibration range.

PAYNE FIRM INC.

Client Sample ID: MW212-021999

GC Volatiles

Lot-Sample #...: A9B200118-002 Work Order #...: CR0T9204 Matrix.....: WATER
Date Sampled...: 02/19/99 12:10 Date Received..: 02/20/99
Prep Date.....: 02/25/99 Analysis Date..: 02/25/99
Prep Batch #...: 9057176
Dilution Factor: 25 Method.....: RSK SOP-175

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	1300 D	12	ug/L
Ethane	ND	12	ug/L
Ethene	ND	12	ug/L

NOTE(S):

D Result was obtained from the analysis of a dilution.

PAYNE FIRM INC.

Client Sample ID: MW212-021999

TOTAL Metals

Lot-Sample #...: A9B200118-002 **Matrix.....:** WATER
Date Sampled...: 02/19/99 12:10 **Date Received..:** 02/20/99

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9053106						
Arsenic	ND	0.010	mg/L	SW846 6010B	02/22-02/23/99	CROT9108
		Dilution Factor: 1				
Barium	ND	0.20	mg/L	SW846 6010B	02/22-02/23/99	CROT910C
		Dilution Factor: 1				
admium	ND	0.0050	mg/L	SW846 6010B	02/22-02/23/99	CROT910D
		Dilution Factor: 1				
Chromium	**0.013**	**0.010**	**mg/L**	**SW846 6010B**	**02/22-02/23/99**	**CROT910E**
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	02/22-02/23/99	CROT9109
		Dilution Factor: 1				

PAYNE FIRM INC.

Client Sample ID: MW212-021999

DISSOLVED Metals

Lot-Sample #...: A9B200118-002 **Matrix.....:** WATER
Date Sampled...: 02/19/99 12:10 **Date Received..:** 02/20/99

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9053106						
Iron	1.2	0.10	mg/L	SW846 6010B	02/22-02/23/99	CR0T910A
		Dilution Factor: 1				

PAYNE FIRM INC.

Client Sample ID: D1-021999

GC/MS Volatiles

Lot-Sample #...: A9B200118-003 **Work Order #...:** CR0TC105 **Matrix.....:** WATER
Date Sampled...: 02/19/99 13:30 **Date Received..:** 02/20/99
Prep Date.....: 02/26/99 **Analysis Date..:** 02/26/99
Prep Batch #...: 9058166
Dilution Factor: 1.66 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	17	ug/L
Bromomethane	ND	17	ug/L
Vinyl chloride	**51**	**17**	**ug/L**
Chloroethane	ND	17	ug/L
Methylene chloride	ND	8.3	ug/L
Acetone	ND	33	ug/L
Carbon disulfide	ND	8.3	ug/L
1,1-Dichloroethene	ND	8.3	ug/L
1,1-Dichloroethane	**16**	**8.3**	**ug/L**
1,2-Dichloroethene (total)	**220**	**8.3**	**ug/L**
Chloroform	ND	8.3	ug/L
1,2-Dichloroethane	ND	8.3	ug/L
2-Butanone	ND	33	ug/L
1,1,1-Trichloroethane	ND	8.3	ug/L
Carbon tetrachloride	ND	8.3	ug/L
Bromodichloromethane	ND	8.3	ug/L
1,2-Dichloropropane	ND	8.3	ug/L
cis-1,3-Dichloropropene	ND	8.3	ug/L
Trichloroethene	ND	8.3	ug/L
Dibromochloromethane	ND	8.3	ug/L
1,1,2-Trichloroethane	ND	8.3	ug/L
Benzene	ND	8.3	ug/L
trans-1,3-Dichloropropene	ND	8.3	ug/L
Bromoform	ND	8.3	ug/L
4-Methyl-2-pentanone	ND	33	ug/L
2-Hexanone	ND	33	ug/L
Tetrachloroethene	ND	8.3	ug/L
1,1,2,2-Tetrachloroethane	ND	8.3	ug/L
Toluene	**7.6 J**	**8.3**	**ug/L**
Chlorobenzene	ND	8.3	ug/L
Ethylbenzene	ND	8.3	ug/L
Styrene	ND	8.3	ug/L
Xylenes (total)	ND	8.3	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	98	(80 - 120)
Toluene-d8	94	(88 - 110)
Bromofluorobenzene	90	(86 - 115)
Dibromofluoromethane	91	(86 - 118)

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PAYNE FIRM INC.

Client Sample ID: D1-021999

GC/MS Volatiles

Lot-Sample #...: A9B200118-003 Work Order #...: CR0TC105 Matrix.....: WATER

NOTE(S):

J Estimated result. Result is less than RL.

PAYNE FIRM INC.

Client Sample ID: D1-021999

GC Volatiles

Lot-Sample #...:	A9B200118-003	**Work Order #...:**	CR0TC104	**Matrix.....:**	WATER
Date Sampled...:	02/19/99 13:30	**Date Received..:**	02/20/99		
Prep Date.....:	02/24/99	**Analysis Date..:**	02/24/99		
Prep Batch #...:	9057148				
Dilution Factor:	1	**Method.....:**	RSK SOP-175		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	**290 E**	**0.50**	**ug/L**
Ethane	**5.4**	**0.50**	**ug/L**
Ethene	**6.9**	**0.50**	**ug/L**

NOTE(S):

E Estimated result. Result concentration exceeds the calibration range.

PAYNE FIRM INC.

Client Sample ID: D1-021999

GC Volatiles

Lot-Sample #...: A9B200118-003 **Work Order #...:** CR0TC204 **Matrix.....:** WATER
Date Sampled...: 02/19/99 13:30 **Date Received..:** 02/20/99
Prep Date.....: 02/25/99 **Analysis Date..:** 02/25/99
Prep Batch #...: 9057176
Dilution Factor: 20 **Method.....:** RSK SOP-175

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	**710 D**	**10**	**ug/L**
Ethane	ND	10	ug/L
Ethene	ND	10	ug/L

NOTE(S):

D Result was obtained from the analysis of a dilution.

PAYNE FIRM INC.

Client Sample ID: D1-021999

TOTAL Metals

Lot-Sample #...: A9B200118-003 **Matrix.....:** WATER
Date Sampled...: 02/19/99 13:30 **Date Received..:** 02/20/99

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9053106						
Arsenic	ND	0.010	mg/L	SW846 6010B	02/22-02/23/99	CROTC108
		Dilution Factor: 1				
Barium	**0.22**	**0.20**	**mg/L**	**SW846 6010B**	**02/22-02/23/99**	**CROTC10C**
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	02/22-02/23/99	CROTC10D
		Dilution Factor: 1				
Chromium	**0.015**	**0.010**	**mg/L**	**SW846 6010B**	**02/22-02/23/99**	**CROTC10E**
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	02/22-02/23/99	CROTC109
		Dilution Factor: 1				

PAYNE FIRM INC.

Client Sample ID: D1-021999

DISSOLVED Metals

Lot-Sample #...: A9B200118-003 **Matrix.....:** WATER
Date Sampled...: 02/19/99 13:30 **Date Received..:** 02/20/99

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9053106						
Iron	1.6	0.10	mg/L	SW846 6010B	02/22-02/23/99	CROTC10A

Dilution Factor: 1

PAYNE FIRM INC.

Client Sample ID: D1-021999

General Chemistry

Lot-Sample #...: A9B200118-003 **Work Order #...:** CR0TC **Matrix.....:** WATER
Date Sampled...: 02/19/99 13:30 **Date Received..:** 02/20/99

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	**14.8**	**1.0**	**mg/L**	**MCAWW 300.0A**	**02/24/99**	**9057251**
	Dilution Factor: 1					
Nitrate-Nitrite	ND	0.1	mg/L	MCAWW 353.2	02/24/99	9055254
	Dilution Factor: 1					
Nitrogen, as Ammonia	**0.7**	**0.2**	**mg/L**	**MCAWW 350.3**	**02/21/99**	**9052106**
	Dilution Factor: 1					
Sulfate	**30.1**	**1.0**	**mg/L**	**MCAWW 300.0A**	**02/24/99**	**9057249**
	Dilution Factor: 1					
Total Alkalinity	**740**	**5.0**	**mg/L**	**MCAWW 310.1**	**03/02/99**	**9061203**
	Dilution Factor: 1					
Total Organic Carbon	ND	1	mg/L	MCAWW 415.1	02/27/99	9061201
	Dilution Factor: 1					

PAYNE FIRM INC.

Client Sample ID: RINSATE

GC/MS Volatiles

Lot-Sample #...: A9B200118-004 **Work Order #...:** CR0TD101 **Matrix.....:** WATER
Date Sampled...: 02/19/99 13:40 **Date Received..:** 02/20/99
Prep Date.....: 02/26/99 **Analysis Date..:** 02/26/99
Prep Batch #...: 9058166
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	**0.49 J**	**5.0**	**ug/L**
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	98	(80 - 120)
Toluene-d8	95	(88 - 110)
Bromofluorobenzene	93	(86 - 115)
Dibromofluoromethane	89	(86 - 118)

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PAYNE FIRM INC.

Client Sample ID: RINSATE

GC/MS Volatiles

Lot-Sample #...: A9B200118-004 Work Order #...: CR0TD101 Matrix.....: WATER

NOTE(S):

J Estimated result. Result is less than RL.

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

Quanterra® Incorporated conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. Quanterra requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. Failure to meet the established recovery guidelines requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). Failure of the RPDs to fall within the laboratory-generated acceptance windows requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the MS/MSD RPDs are within acceptance criteria, the batch is acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except for the common laboratory contaminants indicated below.

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	Metals
Methylene chloride	Phthalate Esters	Copper
Acetone		Iron
2-Butanone		Zinc
		Lead*

** for analyses run on TJA Trace ICP or GFAA only*

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A9B200118 **Work Order #...:** CR75T102 **Matrix.....:** WATER
LCS Lot-Sample#: A9B270000-166
Prep Date.....: 02/26/99 **Analysis Date..:** 02/26/99
Prep Batch #...: 9058166
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
1,1-Dichloroethene	**83**	**(70 - 122)**	**SW846 8260B**
Trichloroethene	**88**	**(82 - 112)**	**SW846 8260B**
Benzene	**91**	**(83 - 110)**	**SW846 8260B**
Toluene.	**88**	**(86 - 119)**	**SW846 8260B**
Chlorobenzene	**89**	**(85 - 115)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	94	(80 - 120)
Toluene-d8	91	(88 - 110)
Bromofluorobenzene	90	(86 - 115)
Dibromofluoromethane	91	(86 - 118)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A9B200118 **Work Order #...:** CR89V102 **Matrix.....:** WATER
LCS Lot-Sample#: A9C020000-141
Prep Date.....: 03/01/99 **Analysis Date..:** 03/01/99
Prep Batch #...: 9061141
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
1,1-Dichloroethene	**86**	**(70 - 122)**	**SW846 8260B**
Trichloroethene	**91**	**(82 - 112)**	**SW846 8260B**
Benzene	**91**	**(83 - 110)**	**SW846 8260B**
Toluene	**87**	**(86 - 119)**	**SW846 8260B**
Chlorobenzene	**89**	**(85 - 115)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	95	(80 - 120)
Toluene-d8	91	(88 - 110)
Bromofluorobenzene	92	(86 - 115)
Dibromofluoromethane	93	(86 - 118)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...: A9B200118 **Work Order #...:** CR574102-LCS **Matrix.....:** WATER
LCS Lot-Sample#: I9B260000-148 CR574103-LCSD
Prep Date.....: 02/24/99 **Analysis Date..:** 02/24/99
Prep Batch #...: 9057148
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Methane	**86**	**(70 - 130)**			**RSK SOP-175**
	86	**(70 - 130)**	**0.16**	**(0-30)**	**RSK SOP-175**
Ethane	**88**	**(70 - 130)**			**RSK SOP-175**
	88	**(70 - 130)**	**0.62**	**(0-30)**	**RSK SOP-175**
Ethene	**87**	**(70 - 130)**			**RSK SOP-175**
	88	**(70 - 130)**	**0.16**	**(0-30)**	**RSK SOP-175**

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...: A9B200118 **Work Order #...:** CR5CP102-LCS **Matrix.....:** WATER
LCS Lot-Sample#: I9B260000-176 CR5CP103-LCSD
Prep Date.....: 02/25/99 **Analysis Date..:** 02/25/99
Prep Batch #...: 9057176
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Methane	**88**	**(70 - 130)**			**RSK SOP-175**
	88	**(70 - 130)**	**0.77**	**(0-30)**	**RSK SOP-175**
Ethane	**91**	**(70 - 130)**			**RSK SOP-175**
	90	**(70 - 130)**	**0.91**	**(0-30)**	**RSK SOP-175**
Ethene	**90**	**(70 - 130)**			**RSK SOP-175**
	90	**(70 - 130)**	**1.0**	**(0-30)**	**RSK SOP-175**

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A9B200118 **Work Order #...:** CR75T101 **Matrix.....:** WATER
MB Lot-Sample #: A9B270000-166

Prep Date.....: 02/26/99
Analysis Date..: 02/26/99 **Prep Batch #...:** 9058166
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	10	ug/L	SW846 8260B
Bromomethane	ND	10	ug/L	SW846 8260B
Vinyl chloride	ND	10	ug/L	SW846 8260B
Chloroethane	ND	10	ug/L	SW846 8260B
Methylene chloride	ND	5.0	ug/L	SW846 8260B
Acetone	ND	20	ug/L	SW846 8260B
Carbon disulfide	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethene (total)	ND	5.0	ug/L	SW846 8260B
Chloroform	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	5.0	ug/L	SW846 8260B
2-Butanone	ND	20	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	5.0	ug/L	SW846 8260B
Bromodichloromethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	5.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Trichloroethene	ND	5.0	ug/L	SW846 8260B
Dibromochloromethane	ND	5.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Benzene	ND	5.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Bromoform	ND	5.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	20	ug/L	SW846 8260B
2-Hexanone	ND	20	ug/L	SW846 8260B
Tetrachloroethene	ND	5.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	SW846 8260B
Toluene	ND	5.0	ug/L	SW846 8260B
Chlorobenzene	ND	5.0	ug/L	SW846 8260B
Ethylbenzene	ND	5.0	ug/L	SW846 8260B
Styrene	ND	5.0	ug/L	SW846 8260B
Xylenes (total)	ND	5.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	90	(80 - 120)
Toluene-d8	92	(88 - 110)
Bromofluorobenzene	89	(86 - 115)
Dibromofluoromethane	86	(86 - 118)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: A9B200118 **Work Order #...:** CR574101 **Matrix.....:** WATER
MB Lot-Sample #: I9B260000-148

Prep Date.....: 02/24/99
Analysis Date..: 02/24/99 **Prep Batch #...:** 9057148
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Methane	ND	0.50	ug/L	RSK SOP-175
Ethane	ND	0.50	ug/L	RSK SOP-175
Ethene	ND	0.50	ug/L	RSK SOP-175

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: A9B200118 **Work Order #...:** CR5CP101 **Matrix.....:** WATER
MB Lot-Sample #: I9B260000-176

Prep Date.....: 02/25/99
Analysis Date..: 02/25/99 **Prep Batch #...:** 9057176
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Methane	ND	0.50	ug/L	RSK SOP-175
Ethane	ND	0.50	ug/L	RSK SOP-175
Ethene	ND	0.50	ug/L	RSK SOP-175

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A9B200118 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: A9B220000-106 **Prep Batch #...:** 9053106						
Arsenic	ND	0.010	mg/L	SW846 6010B	02/22-02/23/99	CR14Q11A
		Dilution Factor: 1				
Barium	ND	0.20	mg/L	SW846 6010B	02/22-02/23/99	CR14Q117
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	02/22-02/23/99	CR14Q118
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	02/22-02/23/99	CR14Q119
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	02/22-02/23/99	CR14Q11C
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

DISSOLVED Metals

Client Lot #...: A9B200118 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: A9B220000-106 **Prep Batch #...:** 9053106						
Iron	ND	0.10	mg/L	SW846 6010B	02/22-02/23/99	CR14Q116
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A9B200118 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		Work Order #: CR5WF101		MB Lot-Sample #:	A9B260000-251	
	ND	1.0	mg/L	MCAWW 300.0A	02/23/99	9057251
		Dilution Factor: 1				
Nitrate-Nitrite		Work Order #: CR3CA101		MB Lot-Sample #:	A9B240000-254	
	ND	0.1	mg/L	MCAWW 353.2	02/24/99	9055254
		Dilution Factor: 1				
Nitrogen, as Ammonia		Work Order #: CR146101		MB Lot-Sample #:	A9B210000-106	
	ND	0.2	mg/L	MCAWW 350.3	02/21/99	9052106
		Dilution Factor: 1				
Sulfate		Work Order #: CR5WN101		MB Lot-Sample #:	A9B260000-249	
	ND	1.0	mg/L	MCAWW 300.0A	02/23/99	9057249
		Dilution Factor: 1				
Total Alkalinity		Work Order #: CR8KH101		MB Lot-Sample #:	A9C020000-203	
	ND	5.0	mg/L	MCAWW 310.1	03/02/99	9061203
		Dilution Factor: 1				
otal Organic Carbon		Work Order #: CR8KN101		MB Lot-Sample #:	A9C020000-201	
	ND	1	mg/L	MCAWW 415.1	02/26/99	9061201
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A9B200118 **Work Order #...:** CQXKG10N-MS **Matrix.....:** WATER
MS Lot-Sample #: A9B190131-002 CQXKG10P-MSD
Date Sampled...: 02/17/99 12:20 **Date Received..:** 02/18/99
Prep Date.....: 02/26/99 **Analysis Date..:** 02/26/99
Prep Batch #...: 9058166
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	**87**	**(75 - 113)**			**SW846 8260B**
	84	**(75 - 113)**	**3.4**	**(0-20)**	**SW846 8260B**
Trichloroethene	**95**	**(71 - 110)**			**SW846 8260B**
	91	**(71 - 110)**	**3.7**	**(0-22)**	**SW846 8260B**
hlorobenzene	**90**	**(81 - 115)**			**SW846 8260B**
	87	**(81 - 115)**	**4.0**	**(0-18)**	**SW846 8260B**
Toluene	**88**	**(78 - 126)**			**SW846 8260B**
	84	**(78 - 126)**	**4.7**	**(0-24)**	**SW846 8260B**
Benzene	**97**	**(78 - 117)**			**SW846 8260B**
	94	**(78 - 117)**	**3.4**	**(0-17)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	101	(80 - 120)
	101	(80 - 120)
Toluene-d8	90	(88 - 110)
	88	(88 - 110)
Bromofluorobenzene	91	(86 - 115)
	90	(86 - 115)
Dibromofluoromethane	96	(86 - 118)
	96	(86 - 118)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A9B200118 **Work Order #...:** CR26A12N-MS **Matrix.....:** WATER
MS Lot-Sample #: A9B230158-001 CR26A12P-MSD
Date Sampled...: 02/20/99 13:00 **Date Received..:** 02/22/99
Prep Date.....: 03/01/99 **Analysis Date..:** 03/01/99
Prep Batch #...: 9061141
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	**79**	**(75 - 113)**			**SW846 8260B**
	80	**(75 - 113)**	**0.95**	**(0-20)**	**SW846 8260B**
Trichloroethene	**85**	**(71 - 110)**			**SW846 8260B**
	85	**(71 - 110)**	**0.35**	**(0-22)**	**SW846 8260B**
Benzene	**89**	**(78 - 117)**			**SW846 8260B**
	86	**(78 - 117)**	**3.6**	**(0-17)**	**SW846 8260B**
Toluene	**80**	**(78 - 126)**			**SW846 8260B**
	80	**(78 - 126)**	**0.22**	**(0-24)**	**SW846 8260B**
Chlorobenzene	**83**	**(81 - 115)**			**SW846 8260B**
	82	**(81 - 115)**	**1.5**	**(0-18)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
,2-Dichloroethane-d4	97	(80 - 120)
	97	(80 - 120)
Toluene-d8	87 *	(88 - 110)
	88	(88 - 110)
Bromofluorobenzene	90	(86 - 115)
	91	(86 - 115)
Dibromofluoromethane	92	(86 - 118)
	93	(86 - 118)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

* Surrogate recovery is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...: A9B200118 **Work Order #...:** CQWLF10F-MS **Matrix.....:** WATER
MS Lot-Sample #: A9B180169-001 CQWLF10G-MSD
Date Sampled...: 02/16/99 10:05 **Date Received..:** 02/18/99
Prep Date.....: 02/24/99 **Analysis Date..:** 02/24/99
Prep Batch #...: 9057148
Dilution Factor: 50

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Methane	105	(70 - 130)			RSK SOP-175
	102	(70 - 130)	1.1	(0-30)	RSK SOP-175
Ethane	88	(70 - 130)			RSK SOP-175
	87	(70 - 130)	0.64	(0-30)	RSK SOP-175
Ethene	87	(70 - 130)			RSK SOP-175
	87	(70 - 130)	0.79	(0-30)	RSK SOP-175

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...: A9B200118 **Work Order #...:** CR0XX105-MS **Matrix.....:** WATER
MS Lot-Sample #: I9B200126-005 CR0XX106-MSD
Date Sampled...: 02/16/99 15:00 **Date Received..:** 02/20/99
Prep Date.....: 02/25/99 **Analysis Date..:** 02/25/99
Prep Batch #...: 9057176
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Methane	91	(70 - 130)			RSK SOP-175
	91	(70 - 130)	0.73	(0-30)	RSK SOP-175
Ethane	94	(70 - 130)			RSK SOP-175
	92	(70 - 130)	1.6	(0-30)	RSK SOP-175
Ethene	94	(70 - 130)			RSK SOP-175
	89	(70 - 130)	5.4	(0-30)	RSK SOP-175

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A9B200118 **Matrix.....:** WATER
Date Sampled...: 02/19/99 11:00 **Date Received..:** 02/19/99

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: A9B200102-001 **Prep Batch #...:** 9053106							
Arsenic	96	(80 - 120)			SW846 6010B	02/22-02/24/99	CROLR133
	97	(80 - 120)	1.3	(0-20)	SW846 6010B	02/22-02/24/99	CROLR134
		Dilution Factor: 2					
Barium	106	(80 - 120)			SW846 6010B	02/22-02/23/99	CROLR12R
	108	(80 - 120)	1.0	(0-20)	SW846 6010B	02/22-02/23/99	CROLR12T
		Dilution Factor: 1					
Cadmium	80	(80 - 120)			SW846 6010B	02/22-02/24/99	CROLR12V
	80	(80 - 120)	0.81	(0-20)	SW846 6010B	02/22-02/24/99	CROLR12W
		Dilution Factor: 2					
Chromium	89	(80 - 120)			SW846 6010B	02/22-02/24/99	CROLR130
	89	(80 - 120)	0.71	(0-20)	SW846 6010B	02/22-02/24/99	CROLR131
		Dilution Factor: 2					
Lead	94	(80 - 120)			SW846 6010B	02/22-02/24/99	CROLR136
	96	(80 - 120)	1.9	(0-20)	SW846 6010B	02/22-02/24/99	CROLR137
		Dilution Factor: 2					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

DISSOLVED Metals

Client Lot #...: A9B200118 **Matrix.....:** WATER
Date Sampled...: 02/19/99 11:00 **Date Received..:** 02/19/99

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: A9B200102-001 Prep Batch #...: 9053106							
Iron	NC,MSB	(80 - 120)			SW846 6010B	02/22-02/24/99	CROLR12N
	NC,MSB	(80 - 120)		(0-20)	SW846 6010B	02/22-02/24/99	CROLR12P

Dilution Factor: 1

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

NC The recovery and/or RPD were not calculated.

MSB The recovery and RPD were not calculated because the sample amount was greater than four times the spike amount.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: A9B200118 **Matrix.....:** WATER
Date Sampled...: 02/17/99 10:35 **Date Received..:** 02/18/99

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate-Nitrite		WO#:	CR11211C-MS/CR11211D-MSD			MS Lot-Sample #:	A9B200132-001
	69	(85 - 115)			MCAWW 353.2	02/24/99	9055254
	87	(85 - 115)	23	(0-20)	MCAWW 353.2	02/24/99	9055254
		Dilution Factor: 1					
Nitrogen, as Ammonia		WO#:	CQWN7109-MS/CQWN710A-MSD			MS Lot-Sample #:	A9B180177-002
	107	(80 - 120)			MCAWW 350.3	02/21/99	9052106
	101	(80 - 120)	5.4	(0-20)	MCAWW 350.3	02/21/99	9052106
		Dilution Factor: 1					
tal Alkalinity		WO#:	CQWLX10D-MS/CQWLX10E-MSD			MS Lot-Sample #:	A9B180169-009
	95	(80 - 120)			MCAWW 310.1	03/02/99	9061203
	99	(80 - 120)	2.4	(0-20)	MCAWW 310.1	03/02/99	9061203
		Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

The Payne Firm, Inc.
Environmental Consultants
11231 Cornell Park Drive
Cincinnati, Ohio 45242
513-489-2255 Fax: 513-489-2533

№

CHAIN OF CUSTODY RECORD

PROJ. NO.: 274.44.05.FL
PROJECT NAME: South Dayton Landfill (Grillet)
SAMPLERS: (Signature) [signature]

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Diss Gases	VOC 8260	TOC	Diss Iron	Alk, Cl, SO4	Metals - As, Ba, Cr, Cd, Pb	Ammonia, NO3, NO2	REMARKS
	2/19	13:20		X	MW101A-021999	11	X	X	X	X	X	X	X	Attn: Gary Weeks
	2/19	12:10		X	MW212-021999	11	X	X	X	X	X	X	X	Send Results to
	2/19	13:30		X	D1-021999	11	X	X	X	X	X	X	X	MARK BERKICH
	2/19	13:40		X	Rinsate	2		X						
	2/19			X	Trip Blank	1		X						* Metals - Only As, Ba, Cr
														Cd, Pb.
														Normal Turn

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	2/19/99 18:20	FED EX.			
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) [signature]	Date / Time 0220 10:00	Remarks	

Quanterra Incorporated
4101 Shuffel Drive, NW
North Canton, Ohio 44720

330 497-9396 Telephone
330 497-0772 Fax

ANALYTICAL REPORT

PROJECT NO. 279.44.05

SOUTH DAYTON LANDFILL (GRILLOT)

Lot #: A9B230146

Mark Burkich

The Payne Firm, Inc.

QUANTERRA INCORPORATED

Gary L. Wood
Project Manager

March 11, 1999

CASE NARRATIVE

The following report contains the analytical results for one water sample submitted to Quanterra-North Canton by The Payne Firm, Inc. from the South Dayton Landfill (Grillot) site, project number 279.44.05. The sample was received February 23, 1999, according to documented sample acceptance procedures.

Sample submitted for dissolved gasses analysis was performed at Quanterra-Austin. The result of this analysis is presented in this report.

Sample submitted for total alkalinity analysis was analyzed after the recommended holding time had been exceeded.

Quanterra-North Canton utilizes USEPA approved methods in all analytical work. The sample presented in this report was analyzed for the parameter(s) listed on the method reference page in accordance with the method indicated. Preliminary results were provided by facsimile transmission to Scott Vance on March 8, 1999.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan. All data have been found to be compliant with laboratory protocol.

Supplemental QC Information

GC/MS VOLATILES

Methylene chloride was detected in the method blank for batch 9061141. This is a common laboratory contaminant with concentrations less than five times the requested reporting limit. All affected sample results are qualified with a "B".

The MS/MSD failed surrogate recovery criteria associated with batch 9061141. The check sample associated with this batch was in control. This is believed to be a matrix effect; therefore, no further corrective action was taken.

METALS

Due to a problem with the * spike program, not all elements are included on the Matrix Spike Sample Report. The Matrix Spike Sample Report for the batch is included to prove that we perform a Matrix Spike/Matrix Spike Duplicate per QC batch requirements.

CASE NARRATIVE (CONTINUED)

GENERAL CHEMISTRY

Matrix spike/matrix spike duplicate (MS/MSD) percent recoveries were outside the acceptance limits for some parameters. The acceptable laboratory control sample analysis data indicated that the analytical systems were operating within control and this condition is most likely due to matrix interference. See the Matrix Spike Sample Evaluation Reports for the affected parameters which will be flagged with N.

SAMPLE SUMMARY

A9B230146

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
CR24X	001	MW209-022299	02/22/99	11:25

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PAYNE FIRM INC.

Client Sample ID: MW209-022299

GC/MS Volatiles

Lot-Sample #...: A9B230146-001 **Work Order #...:** CR24X105 **Matrix.....:** WATER
Date Sampled...: 02/22/99 11:25 **Date Received..:** 02/23/99
Prep Date.....: 03/01/99 **Analysis Date..:** 03/01/99
Prep Batch #...: 9061141
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	**8.0 B**	**5.0**	**ug/L**
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	**6.5**	**5.0**	**ug/L**
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	93	(80 - 120)
Toluene-d8	95	(88 - 110)
Bromofluorobenzene	90	(86 - 115)
Dibromofluoromethane	88	(86 - 118)

(Continued on next page)

PAYNE FIRM INC.

Client Sample ID: MW209-022299

GC/MS Volatiles

Lot-Sample #...: A9B230146-001 Work Order #...: CR24X105 Matrix.....: WATER

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

PAYNE FIRM INC.

Client Sample ID: MW209-022299

GC Volatiles

Lot-Sample #...: A9B230146-001 **Work Order #...:** CR24X204 **Matrix.....:** WATER
Date Sampled...: 02/22/99 11:25 **Date Received..:** 02/23/99
Prep Date.....: 02/26/99 **Analysis Date..:** 02/26/99
Prep Batch #...: 9057320
Dilution Factor: 10 **Method.....:** RSK SOP-175

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	**590 D**	**5.0**	**ug/L**
Ethane	ND	5.0	ug/L
Ethene	ND	5.0	ug/L

NOTE(S):

D Result was obtained from the analysis of a dilution.

PAYNE FIRM INC.

Client Sample ID: MW209-022299

DISSOLVED Metals

Lot-Sample #...: A9B230146-001 **Matrix.....:** WATER
Date Sampled...: 02/22/99 11:25 **Date Received..:** 02/23/99

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9056121						
Iron	3.0	0.10	mg/L	SW846 6010B	02/25-02/26/99	CR24X10A
		Dilution Factor: 1				

PAYNE FIRM INC.

Client Sample ID: MW209-022299

General Chemistry

Lot-Sample #...: A9B230146-001 **Work Order #...:** CR24X **Matrix.....:** WATER
Date Sampled...: 02/22/99 11:25 **Date Received..:** 02/23/99

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	**39.1**	**1.0**	**mg/L**	**MCAWW 300.0A**	**02/25/99**	**9057199**
	Dilution Factor: 1					
Nitrate-Nitrite	ND	0.1	mg/L	MCAWW 353.2	02/26/99	9057289
	Dilution Factor: 1					
Nitrogen, as Ammonia	**1.0**	**0.2**	**mg/L**	**MCAWW 350.3**	**02/25/99**	**9056266**
	Dilution Factor: 1					
Sulfate	**78.0**	**1.0**	**mg/L**	**MCAWW 300.0A**	**02/25/99**	**9057[illegible]**
	Dilution Factor: 1					
Total Alkalinity	**340**	**5.0**	**mg/L**	**MCAWW 310.1**	**03/09/99**	**9069157**
	Dilution Factor: 1					
Total Organic Carbon	**4**	**1**	**mg/L**	**MCAWW 415.1**	**02/25/99**	**9057285**
	Dilution Factor: 1					

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

Quanterra® Incorporated conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. Quanterra requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. Failure to meet the established recovery guidelines requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). Failure of the RPDs to fall within the laboratory-generated acceptance windows requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the MS/MSD RPDs are within acceptance criteria, the batch is acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except for the common laboratory contaminants indicated below.

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	Metals
Methylene chloride	Phthalate Esters	Copper
Acetone		Iron
2-Butanone		Zinc
		Lead*

** for analyses run on TJA Trace ICP or GFAA only*

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

Quanterra® Incorporated conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. Quanterra requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. Failure to meet the established recovery guidelines requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). Failure of the RPDs to fall within the laboratory-generated acceptance windows requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the MS/MSD RPDs are within acceptance criteria, the batch is acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except for the common laboratory contaminants indicated below.

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	Metals
Methylene chloride	Phthalate Esters	Copper
Acetone		Iron
2-Butanone		Zinc
		Lead*

** for analyses run on TJA Trace ICP or GFAA only*

QUALITY CONTROL ELEMENTS OF SW-846 METHODS
(Continued)

The listed volatile and semivolatile compounds may be present in concentrations up to 5 times the reporting limits. The listed metals may be present in concentrations up to 2 times the reporting limit or must be twenty fold less than the results of the environmental samples. Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. When these values fail to meet acceptance criteria, the data is reviewed to determine the cause. If, in the analyst's judgment, sample matrix effects are indicated, no corrective action is performed. Otherwise, the MS/MSD and the environmental sample used to prepare them are reprepared and reanalyzed.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample are spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

The acceptance criteria do not apply to samples that are diluted. If the dilution is more than 5X, the recoveries will be reported as diluted out. All other surrogate recoveries will be reported. If the LCS, LCSD, or the Method Blank surrogates fail to meet recovery criteria (exception for dilutions), the entire batch of samples is reprepared and reanalyzed.

If the surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank and the associated sample(s) are ND, the batch is acceptable. If the surrogate recoveries are outside criteria for environmental or MS/MSD samples, the batch may be acceptable based on the analyst's judgment that sample matrix effects are indicated.

For the GC/MS BNA methods, the surrogate criteria is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide/PCB, PAH, TPH, and Herbicide methods, the surrogate criteria is that one of two surrogate compounds meet acceptance criteria.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A9B230146 **Work Order #...:** CR89V102 **Matrix.....:** WATER
LCS Lot-Sample#: A9C020000-141
Prep Date.....: 03/01/99 **Analysis Date..:** 03/01/99
Prep Batch #...: 9061141
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
1,1-Dichloroethene	**86**	**(70 - 122)**	**SW846 8260B**
Trichloroethene	**91**	**(82 - 112)**	**SW846 8260B**
Benzene	**91**	**(83 - 110)**	**SW846 8260B**
Toluene	**87**	**(86 - 119)**	**SW846 8260B**
Chlorobenzene	**89**	**(85 - 115)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	95	(80 - 120)
Toluene-d8	91	(88 - 110)
Bromofluorobenzene	92	(86 - 115)
Dibromofluoromethane	93	(86 - 118)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

Quanterra® Incorporated conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. Quanterra requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. Failure to meet the established recovery guidelines requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). Failure of the RPDs to fall within the laboratory-generated acceptance windows requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the MS/MSD RPDs are within acceptance criteria, the batch is acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except for the common laboratory contaminants indicated below.

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	Metals
Methylene chloride	Phthalate Esters	Copper
Acetone		Iron
2-Butanone		Zinc
		Lead*

** for analyses run on TJA Trace ICP or GFAA only*

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A9B230146 **Work Order #...:** CR89V102 **Matrix.....:** WATER
LCS Lot-Sample#: A9C020000-141
Prep Date.....: 03/01/99 **Analysis Date..:** 03/01/99
Prep Batch #...: 9061141
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
1,1-Dichloroethene	**86**	**(70 - 122)**	**SW846 8260B**
Trichloroethene	**91**	**(82 - 112)**	**SW846 8260B**
Benzene	**91**	**(83 - 110)**	**SW846 8260B**
Toluene	**87**	**(86 - 119)**	**SW846 8260B**
Chlorobenzene	**89**	**(85 - 115)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	95	(80 - 120)
Toluene-d8	91	(88 - 110)
Bromofluorobenzene	92	(86 - 115)
Dibromofluoromethane	93	(86 - 118)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...: A9B230146 **Work Order #...:** CR6GK102-LCS **Matrix.....:** WATER
LCS Lot-Sample#: I9B260000-320 CR6GK103-LCSD
Prep Date.....: 02/26/99 **Analysis Date..:** 02/26/99
Prep Batch #...: 9057320
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Methane	**96**	**(70 - 130)**			**RSK SOP-175**
	87	**(70 - 130)**	**9.4**	**(0-30)**	**RSK SOP-175**
Ethane	**89**	**(70 - 130)**			**RSK SOP-175**
	90	**(70 - 130)**	**0.65**	**(0-30)**	**RSK SOP-175**
Ethene	**88**	**(70 - 130)**			**RSK SOP-175**
	88	**(70 - 130)**	**0.55**	**(0-30)**	**RSK SOP-175**

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A9B230146 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: A9B250000-121 **Prep Batch #...:** 9056121					
Chromium	98	(86 - 112)	SW846 6010B	02/25-02/26/99	CR3VD10T
		Dilution Factor: 1			
Barium	103	(87 - 110)	SW846 6010B	02/25-02/26/99	CR3VD11F
		Dilution Factor: 1			
Cadmium	97	(89 - 115)	SW846 6010B	02/25-02/26/99	CR3VD11H
		Dilution Factor: 1			
Arsenic	98	(80 - 120)	SW846 6010B	02/25-02/26/99	CR3VD118
		Dilution Factor: 1			
Lead	95	(80 - 120)	SW846 6010B	02/25-02/26/99	CR3VD119
		Dilution Factor: 1			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

DISSOLVED Metals

Client Lot #...: A9B230146 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: A9B250000-121 **Prep Batch #...:** 9056121					
Iron	110	(80 - 120)	SW846 6010B	02/25-02/26/99	CR3VD122
		Dilution Factor: 1			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Lot-Sample #...: A9B230146 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon		WO#:CR8H7102-LCS/CR8H7103-LCSD				LCS Lot-Sample#: A9B260000-285	
	91	(90 - 110)			MCAWW 415.1	02/25/99	9057285
	97	(90 - 110)	6.7	(0-20)	MCAWW 415.1	02/25/99	9057285

Dilution Factor: 1

NOTE(S):

alculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: A9B230146 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		Work Order #: CR5HJ102	LCS Lot-Sample#: A9B260000-199		
	98	(90 - 110)	MCAWW 300.0A	02/25/99	9057199
		Dilution Factor: 1			
Nitrate-Nitrite		Work Order #: CR62L102	LCS Lot-Sample#: A9B260000-289		
	98	(85 - 115)	MCAWW 353.2	02/26/99	9057289
		Dilution Factor: 1			
Nitrogen, as Ammonia		Work Order #: CR4TE102	LCS Lot-Sample#: A9B250000-266		
	102	(90 - 110)	MCAWW 350.3	02/25/99	9056266
		Dilution Factor: 1			
Sulfate		Work Order #: CR5J9102	LCS Lot-Sample#: A9B260000-202		
	98	(90 - 110)	MCAWW 300.0A	02/25/99	9057202
		Dilution Factor: 1			
Total Alkalinity		Work Order #: CRG2F102	LCS Lot-Sample#: A9C100000-157		
	107	(80 - 120)	MCAWW 310.1	03/09/99	9069157
		Dilution Factor: 1			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A9B230146 **Work Order #...:** CR89V101 **Matrix.....:** WATER
MB Lot-Sample #: A9C020000-141

Prep Date.....: 03/01/99
Analysis Date..: 03/01/99 **Prep Batch #...:** 9061141
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	10	ug/L	SW846 8260B
Bromomethane	ND	10	ug/L	SW846 8260B
Vinyl chloride	ND	10	ug/L	SW846 8260B
loroethane	ND	10	ug/L	SW846 8260B
ethylene chloride	**1.5 J**	**5.0**	**ug/L**	**SW846 8260B**
Acetone	ND	20	ug/L	SW846 8260B
Carbon disulfide	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethene (total)	ND	5.0	ug/L	SW846 8260B
loroform	ND	5.0	ug/L	SW846 8260B
2-Dichloroethane	ND	5.0	ug/L	SW846 8260B
2-Butanone	ND	20	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	5.0	ug/L	SW846 8260B
Bromodichloromethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	5.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Trichloroethene	ND	5.0	ug/L	SW846 8260B
romochloromethane	ND	5.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Benzene	ND	5.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Bromoform	ND	5.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	20	ug/L	SW846 8260B
2-Hexanone	ND	20	ug/L	SW846 8260B
Tetrachloroethene	ND	5.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	SW846 8260B
Toluene	ND	5.0	ug/L	SW846 8260B
Chlorobenzene	ND	5.0	ug/L	SW846 8260B
Ethylbenzene	ND	5.0	ug/L	SW846 8260B
Styrene	ND	5.0	ug/L	SW846 8260B
Xylenes (total)	ND	5.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Dichloroethane-d4	93	(80 - 120)
oluene-d8	96	(88 - 110)
Bromofluorobenzene	91	(86 - 115)
Dibromofluoromethane	91	(86 - 118)

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A9B230146 **Work Order #...:** CR89V101 **Matrix.....:** WATER

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Estimated result. Result is less than RL.

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: A9B230146 **Work Order #...:** CR6GK101 **Matrix.....:** WATER
MB Lot-Sample #: I9B260000-320

Prep Date.....: 02/26/99
Analysis Date..: 02/26/99 **Prep Batch #...:** 9057320
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Methane	ND	0.50	ug/L	RSK SOP-175
Ethane	ND	0.50	ug/L	RSK SOP-175
Ethene	ND	0.50	ug/L	RSK SOP-175

OTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A9B230146 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: A9B250000-121 **Prep Batch #...:** 9056121						
Arsenic	ND	0.010	mg/L	SW846 6010B	02/25-02/26/99	CR3VD10G
		Dilution Factor: 1				
Barium	ND	0.20	mg/L	SW846 6010B	02/25-02/26/99	CR3VD10N
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	02/25-02/26/99	CR3VD10Q
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	02/25-02/26/99	CR3VD[illegible]2
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	02/25-02/26/99	CR3VD10H
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

DISSOLVED Metals

Client Lot #...: A9B230146 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: A9B250000-121 **Prep Batch #...:** 9056121						
Iron	ND	0.10	mg/L	SW846 6010B	02/25-02/26/99	CR3VD11R
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A9B230146 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		Work Order #: CR5HJ101		MB Lot-Sample #:	A9B260000-199	
	ND	1.0	mg/L	MCAWW 300.0A	02/25/99	9057199
		Dilution Factor: 1				
Nitrate-Nitrite		Work Order #: CR62L101		MB Lot-Sample #:	A9B260000-289	
	ND	0.1	mg/L	MCAWW 353.2	02/26/99	9057289
		Dilution Factor: 1				
Nitrogen, as Ammonia		Work Order #: CR4TE101		MB Lot-Sample #:	A9B250000-266	
	ND	0.2	mg/L	MCAWW 350.3	02/25/99	9056266
		Dilution Factor: 1				
Sulfate		Work Order #: CR5J9101		MB Lot-Sample #:	A9B260000-202	
	ND	1.0	mg/L	MCAWW 300.0A	02/25/99	9057202
		Dilution Factor: 1				
Total Alkalinity		Work Order #: CRG2F101		MB Lot-Sample #:	A9C100000-157	
	ND	5.0	mg/L	MCAWW 310.1	03/09/99	9069157
		Dilution Factor: 1				
Total Organic Carbon		Work Order #: CR8H7101		MB Lot-Sample #:	A9B260000-285	
	ND	1	mg/L	MCAWW 415.1	02/25/99	9057285
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A9B230146 **Work Order #...:** CR26A12N-MS **Matrix.....:** WATER
MS Lot-Sample #: A9B230158-001 CR26A12P-MSD
Date Sampled...: 02/20/99 13:00 **Date Received..:** 02/22/99
Prep Date.....: 03/01/99 **Analysis Date..:** 03/01/99
Prep Batch #...: 9061141
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	**79**	**(75 - 113)**			**SW846 8260B**
	80	**(75 - 113)**	**0.95**	**(0-20)**	**SW846 8260B**
-ichloroethene	**85**	**(71 - 110)**			**SW846 8260B**
	85	**(71 - 110)**	**0.35**	**(0-22)**	**SW846 8260B**
Benzene	**89**	**(78 - 117)**			**SW846 8260B**
	86	**(78 - 117)**	**3.6**	**(0-17)**	**SW846 8260B**
Toluene	**80**	**(78 - 126)**			**SW846 8260B**
	80	**(78 - 126)**	**0.22**	**(0-24)**	**SW846 8260B**
Chlorobenzene	**83**	**(81 - 115)**			**SW846 8260B**
	82	**(81 - 115)**	**1.5**	**(0-18)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	97	(80 - 120)
	97	(80 - 120)
Toluene-d8	87 *	(88 - 110)
	88	(88 - 110)
Bromofluorobenzene	90	(86 - 115)
	91	(86 - 115)
.bromofluoromethane	92	(86 - 118)
	93	(86 - 118)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

* Surrogate recovery is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...: A9B230146 **Work Order #...:** CR29012P-MS **Matrix.....:** WATER
MS Lot-Sample #: A9B230168-002 CR29012Q-MSD
Date Sampled...: 02/22/99 15:40 **Date Received..:** 02/23/99
Prep Date.....: 02/26/99 **Analysis Date..:** 02/26/99
Prep Batch #...: 9057320
Dilution Factor: 5

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Methane	**86**	**(70 - 130)**			**RSK SOP-175**
	76	**(70 - 130)**	**5.7**	**(0-30)**	**RSK SOP-175**
Ethane	**89**	**(70 - 130)**			**RSK SOP-175**
	89	**(70 - 130)**	**0.03**	**(0-30)**	**RSK SOP-175**
Ethene	**88**	**(70 - 130)**			**RSK SOP-175**
	89	**(70 - 130)**	**0.39**	**(0-30)**	**RSK SOP-175**

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A9B230146 **Matrix.....:** WATER
Date Sampled...: 02/22/99 15:00 **Date Received..:** 02/24/99

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: A9B240146-001 **Prep Batch #...:** 9056121							
Arsenic	88	(80 - 120)			SW846 6010B	02/25-02/26/99	CR36311R
	91	(80 - 120)	2.3	(0-20)	SW846 6010B	02/25-02/26/99	CR36311T
		Dilution Factor: 1					
Barium	93	(80 - 120)			SW846 6010B	02/25-02/26/99	CR363126
	96	(80 - 120)	3.1	(0-20)	SW846 6010B	02/25-02/26/99	CR363127
		Dilution Factor: 1					
Cadmium	87	(80 - 120)			SW846 6010B	02/25-02/26/99	CR36312A
	88	(80 - 120)	1.8	(0-20)	SW846 6010B	02/25-02/26/99	CR36312C
		Dilution Factor: 1					
Chromium	91	(80 - 120)			SW846 6010B	02/25-02/26/99	CR36310W
	93	(80 - 120)	2.8	(0-20)	SW846 6010B	02/25-02/26/99	CR36310X
		Dilution Factor: 1					
Lead	85	(80 - 120)			SW846 6010B	02/25-02/26/99	CR36311U
	86	(80 - 120)	1.9	(0-20)	SW846 6010B	02/25-02/26/99	CR36311V
		Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: A9B230146 **Matrix.....:** WATER
Date Sampled...: 02/23/99 12:40 **Date Received..:** 02/23/99

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		WO#: CR4JT10J-MS/CR4JT10K-MSD				MS Lot-Sample #:	A9B240132-006
	98	(90 - 110)			MCAWW 300.0A	02/25/99	9057199
	87 N	(90 - 110)	2.8	(0-20)	MCAWW 300.0A	02/25/99	9057199
		Dilution Factor: 1					
Chloride		WO#: CR4M811N-MS/CR4M811P-MSD				MS Lot-Sample #:	A9B240137-008
	94	(90 - 110)			MCAWW 300.0A	02/25/99	9057199
	98	(90 - 110)	0.95	(0-20)	MCAWW 300.0A	02/25/99	9057199
		Dilution Factor: 1					
Nitrate-Nitrite		WO#: CR24X10G-MS/CR24X10H-MSD				MS Lot-Sample #:	A9B230146-001
	94	(85 - 115)			MCAWW 353.2	02/26/99	9057289
	104	(85 - 115)	11	(0-20)	MCAWW 353.2	02/26/99	9057289
		Dilution Factor: 1					
Nitrogen, as Ammonia		WO#: CR2CV12U-MS/CR2CV12V-MSD				MS Lot-Sample #:	A9B230178-001
	94	(80 - 120)			MCAWW 350.3	02/25/99	9056266
	90	(80 - 120)	3.4	(0-20)	MCAWW 350.3	02/25/99	9056266
		Dilution Factor: 1					
Sulfate		WO#: CR4JT10U-MS/CR4JT10V-MSD				MS Lot-Sample #:	A9B240132-006
	96	(90 - 110)			MCAWW 300.0A	02/25/99	9057202
	89 N	(90 - 110)	3.0	(0-20)	MCAWW 300.0A	02/25/99	9057202
		Dilution Factor: 1					
Sulfate		WO#: CR4M811V-MS/CR4M811W-MSD				MS Lot-Sample #:	A9B240137-008
	90	(90 - 110)			MCAWW 300.0A	02/25/99	9057202
	93	(90 - 110)	1.1	(0-20)	MCAWW 300.0A	02/25/99	9057202
		Dilution Factor: 1					
Total Alkalinity		WO#: CR2F6110-MS/CR2F6111-MSD				MS Lot-Sample #:	A9B230178-011
	106	(80 - 120)			MCAWW 310.1	03/09/99	9069157
	108	(80 - 120)	1.4	(0-20)	MCAWW 310.1	03/09/99	9069157
		Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

The Payne Firm, Inc.
Environmental Consultants
11231 Cornell Park Drive
Cincinnati, Ohio 45242
513-489-2255 Fax: 513-489-2533

CHAIN OF CUSTODY RECORD

PROJ. NO. 274.44.05 [illegible]

PROJECT NAME South Dayton Landfill Grillot

SAMPLERS: (Signature) [illegible]

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Diss. Gasses	VOC 8260	TOC	Diss. Iron	Metals - As, Ba, Cr, Cd, Pb	Ammonia, NO_3, NO_2	Alkalinity, Cl, SO_4	REMARKS
	2/22	1125	—	X	MW 209-022299	11	X	X	X	X	X	X	X	Attn: Gary Woods
														Manual Turn
														Results to Mark
														Berkich
														T Metals - Only As, Ba,
														Cr, Cd, Pb

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[illegible]	2/23/99 1000				
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	
		[illegible]	990223 945		

Quanterra Incorporated
4101 Shuffel Drive, NW
North Canton, Ohio 44720

330 497-9396 Telephone
330 497-0772 Fax

Quanterra
Environmental Services

FILE

ANALYTICAL REPORT

ORIGINAL TO
279.44.07
COPIES TO

PROJECT NO. 279.44.07

GRILLOT

Lot #: A8E280129

Mark Burkich

The Payne Firm, Inc.

QUANTERRA INCORPORATED

Debora A. Hula
Project Manager

June 18, 1998

CASE NARRATIVE

The following report contains the analytical results for three water samples submitted to Quanterra-North Canton by The Payne Firm, Inc. from the Grillot Site, project number 279.44.07. The samples were received May 28, 1998, according to documented sample acceptance procedures.

The dissolved gases analysis was performed by the Quanterra Austin, Texas Facility.

Quanterra-North Canton utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameters listed on the Analytical Methods Summary page in accordance with the methods indicated.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan. All data have been found to be compliant with laboratory protocol.

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

Sample MW 204-052798 submitted for metals analysis was further preserved upon receipt at the laboratory.

GC/MS VOLATILES

Methylene chloride were detected in the method blank associated with batch 8156252. This is a common laboratory contaminant with concentrations less than five times the requested reporting limit. All affected sample results have been qualified with B.

The matrix spike/matrix spike duplicate associated with batch 8156252 failed recovery criteria. The laboratory control sample associated with this batch was in control. This is believed to be a matrix effect; therefore, no further corrective action was taken.

Sample(s) which contain results between the MDL and the RL are flagged with "J". There is the possibility of false positive or misidentification at these quantitation levels. In analytical methods requiring confirmation of the analyte reported, confirmation will be performed only down to the standard reporting limit (SRL). The acceptance criteria for quality control criteria may not be met at these quantitation levels.

CASE NARRATIVE (continued)

GC VOLATILES

Methane for samples MW 203-052798 and MW204-052798 exceeded the calibration range. The samples were re-analyzed at a dilution and both sets of data are reported.

METALS

Matrix spike/spike duplicate spike recoveries were outside the acceptance limits for some analytes. The acceptable laboratory control sample analysis data indicated that the analytical system was operating within control and this condition is most likely due to matrix interference. See the Matrix Spike Report for the affected analytes which will be flagged with "N".

GENERAL CHEMISTRY

Matrix spike and/or matrix spike duplicate spike recoveries were outside the acceptance limits for the following analytes/batches. In every case, the acceptable LCS analysis data indicated that the analytical system was operating within control and this condition is most likely due to matrix interference.

- Sulfate - Batch 8149226
- Total Organic Carbon - Batch 8155141

Matrix spike recovery and relative percent difference (RPD) data were not calculated for Sulfate associated with batch 8149226 due to the sample concentration reading greater than four times the spike amount. See the Matrix Spike Report for the affected analytes, which have been flagged with "NC, MSB".

ANALYTICAL METHODS SUMMARY

A8E280129

PARAMETER	ANALYTICAL METHOD
Alkalinity	MCAWW 310.1
Ammonia Nitrogen	MCAWW 350.3
Chloride	MCAWW 300.0A
Dissolved Gasses in Water	EPA-9 RSK-175
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Mercury in Liquid Waste (Manual Cold-Vapor)	SW846 7470A
Nitrate as N	MCAWW 300.0A
Nitrite as N	MCAWW 300.0A
Sulfate	MCAWW 300.0A
Total Organic Carbon	MCAWW 415.1
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Volatile Organics by GC/MS	SW846 8260B

References:

EPA-9 Sample Prep and Calculations for Dissolved Gas Analysis in Water Samples Using a GC Headspace Equilibration Technique, RSKSOP-175, REV. 0, 8/11/94, USEPA Research Lab

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

A8E280129

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
CHH3A	001	MW 202-052798	05/27/98	10:50
CHH3X	002	MW 203-052798	05/27/98	13:15
CHH40	003	MW 204-052798	05/27/98	15:00

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PAYNE FIRM INC.

Client Sample ID: MW 202-052798

GC/MS Volatiles

Lot-Sample #...: A8E280129-001 **Work Order #...:** CHH3A107 **Matrix.....:** WATER
Date Sampled...: 05/27/98 10:50 **Date Received..:** 05/28/98
Prep Date.....: 06/04/98 **Analysis Date..:** 06/04/98
Prep Batch #...: 8155317
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	**2.6 J**	**5.0**	**ug/L**
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	**38**	**5.0**	**ug/L**
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	**8.3**	**5.0**	**ug/L**
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	117	(80 - 120)
Toluene-d8	105	(88 - 110)
Bromofluorobenzene	99	(86 - 115)
Dibromofluoromethane	111	(86 - 118)

(Continued on next page)

PAYNE FIRM INC.

Client Sample ID: MW 202-052798

GC/MS Volatiles

Lot-Sample #...: A8E280129-001 Work Order #...: CHH3A107 Matrix.....: WATER

NOTE(S):

J Estimated result. Result is less than RL.

PAYNE FIRM INC.

Client Sample ID: MW 202-052798

GC Volatiles

Lot-Sample #...: A8E280129-001 **Work Order #...:** CHH3A106 **Matrix.....:** WATER
Date Sampled...: 05/27/98 10:50 **Date Received..:** 05/28/98
Prep Date.....: 06/10/98 **Analysis Date..:** 06/10/98
Prep Batch #...: 8162182
Dilution Factor: 1 **Method.....:** EPA-9 RSK-175

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	**0.50**	**0.50**	**ug/L**
Ethane	ND	0.50	ug/L
Ethene	ND	0.50	ug/L

PAYNE FIRM INC.

Client Sample ID: MW 202-052798

DISSOLVED Metals

Lot-Sample #...: A8E280129-001 Matrix.....: WATER
Date Sampled...: 05/27/98 10:50 Date Received..: 05/28/98

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 8154321						
Iron	1.1	0.10	mg/L	SW846 6010B	06/04-06/05/98	CHH3A10E

Dilution Factor: 1

PAYNE FIRM INC.

Client Sample ID: MW 202-052798

TOTAL Metals

Lab-Sample #...: A8E280129-001 **Matrix.....:** WATER
Date Sampled...: 05/27/98 10:50 **Date Received..:** 05/28/98

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 8154321						
Silver	ND	0.010	mg/L	SW846 6010B	06/04-06/05/98	CHH3A10K
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	06/04-06/05/98	CHH3A10A
		Dilution Factor: 1				
Barium	ND	0.20	mg/L	SW846 6010B	06/04-06/05/98	CHH3A10L
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	06/04-06/05/98	CHH3A10M
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	06/04-06/05/98	CHH3A10N
		Dilution Factor: 1				
Mercury	ND	0.00020	mg/L	SW846 7470A	06/04-06/05/98	CHH3A10P
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	06/04-06/05/98	CHH3A10C
		Dilution Factor: 1				
Selenium	**0.015**	**0.0050**	**mg/L**	**SW846 6010B**	**06/04-06/05/98**	**CHH3A10D**
		Dilution Factor: 1				

PAYNE FIRM INC.

Client Sample ID: MW 202-052798

General Chemistry

Lot-Sample #...: A8E280129-001 **Work Order #...:** CHH3A **Matrix.....:** WATER
Date Sampled...: 05/27/98 10:50 **Date Received..:** 05/28/98

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	**145**	**1.0**	**mg/L**	**MCAWW 300.0A**	**05/28/98**	**8149224**
	Dilution Factor: 1					
Nitrate	**2.1**	**0.50**	**mg/L**	**MCAWW 300.0A**	**05/29/98**	**8149225**
	Dilution Factor: 1					
Nitrite	ND	0.50	mg/L	MCAWW 300.0A	05/29/98	8152246
	Dilution Factor: 1					
Nitrogen, as Ammonia	ND	0.2	mg/L	MCAWW 350.3	06/09/98	8160284
	Dilution Factor: 1					
Sulfate	**72.2**	**1.0**	**mg/L**	**MCAWW 300.0A**	**05/28/98**	**8149226**
	Dilution Factor: 1					
Total Alkalinity	**380**	**5.0**	**mg/L**	**MCAWW 310.1**	**06/02/98**	**8152279**
	Dilution Factor: 1					
Total Organic Carbon	ND	1	mg/L	MCAWW 415.1	06/04/98	815514
	Dilution Factor: 1					

PAYNE FIRM INC.

Client Sample ID: MW 203-052798

GC/MS Volatiles

Lot-Sample #...: A8E280129-002 **Work Order #...:** CHH3X107 **Matrix.....:** WATER
Date Sampled...: 05/27/98 13:15 **Date Received..:** 05/28/98
Prep Date.....: 06/04/98 **Analysis Date..:** 06/04/98
Prep Batch #...: 8155317
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1-Dichloroethane	ND	5.0	ug/L
2-Dichloroethene (total)	**5.0**	**5.0**	**ug/L**
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
arbon tetrachloride	ND	5.0	ug/L
romodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	**4.9 J**	**5.0**	**ug/L**
Chlorobenzene	**26**	**5.0**	**ug/L**
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	112	(80 - 120)
Toluene-d8	102	(88 - 110)
Bromofluorobenzene	100	(86 - 115)
ibromofluoromethane	109	(86 - 118)

(Continued on next page)

PAYNE FIRM INC.

Client Sample ID: MW 203-052798

GC/MS Volatiles

Lot-Sample #...: A8E280129-002 **Work Order #...:** CHH3X107 **Matrix.....:** WATER

NOTE(S):

J Estimated result. Result is less than RL.

PAYNE FIRM INC.

Client Sample ID: MW 203-052798

GC Volatiles

Lot-Sample #...: A8E280129-002 **Work Order #...:** CHH3X106 **Matrix.....:** WATER
Date Sampled...: 05/27/98 13:15 **Date Received..:** 05/28/98
Prep Date.....: 06/10/98 **Analysis Date..:** 06/10/98
Prep Batch #...: 8162182
Dilution Factor: 1 **Method.....:** EPA-9 RSK-175

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	280 E	0.50	ug/L
Ethane	20	0.50	ug/L
Ethene	0.58	0.50	ug/L

NOTE(S):

E Estimated result. Result concentration exceeds the calibration range.

PAYNE FIRM INC.

Client Sample ID: MW 203-052798

GC Volatiles

Lot-Sample #...: A8E280129-002 **Work Order #...:** CHH3X206 **Matrix.....:** WATER
Date Sampled...: 05/27/98 13:15 **Date Received..:** 05/28/98
Prep Date.....: 06/10/98 **Analysis Date..:** 06/10/98
Prep Batch #...: 8162264
Dilution Factor: 25 **Method.....:** EPA-9 RSK-175

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	**910 D**	**12**	**ug/L**
Ethane	**18 D**	**12**	**ug/L**
Ethene	ND D	12	ug/L

NOTE(S):

D Result was obtained from the analysis of a dilution.

PAYNE FIRM INC.

Client Sample ID: MW 203-052798

DISSOLVED Metals

Lot-Sample #...: A8E280129-002 **Matrix.....:** WATER
Date Sampled...: 05/27/98 13:15 **Date Received..:** 05/28/98

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 8154321						
Iron	2.1	0.10	mg/L	SW846 6010B	06/04-06/05/98	CHH3X10E
		Dilution Factor: 1				

PAYNE FIRM INC.

Client Sample ID: MW 203-052798

TOTAL Metals

Lot-Sample #...: A8E280129-002 **Matrix.....:** WATER
Date Sampled...: 05/27/98 13:15 **Date Received..:** 05/28/98

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 8154321						
Silver	ND	0.010	mg/L	SW846 6010B	06/04-06/05/98	CHH3X10F
		Dilution Factor: 1				
Arsenic	**0.019**	**0.010**	**mg/L**	**SW846 6010B**	**06/04-06/05/98**	**CHH3X10A**
		Dilution Factor: 1				
Barium	ND	0.20	mg/L	SW846 6010B	06/04-06/05/98	CHH3X10G
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	06/04-06/05/98	CHH3X10[illegible]
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	06/04-06/05/98	CHH3X10J
		Dilution Factor: 1				
Mercury	ND	0.00020	mg/L	SW846 7470A	06/04-06/05/98	CHH3X10K
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	06/04-06/05/98	CHH3X10C
		Dilution Factor: 1				
Selenium	ND	0.0050	mg/L	SW846 6010B	06/04-06/05/98	CHH3X10D
		Dilution Factor: 1				

PAYNE FIRM INC.

Client Sample ID: MW 203-052798

General Chemistry

Lot-Sample #...: A8E280129-002 **Work Order #...:** CHH3X **Matrix.....:** WATER
Date Sampled...: 05/27/98 13:15 **Date Received..:** 05/28/98

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	**75.5**	**1.0**	**mg/L**	**MCAWW 300.0A**	**05/28/98**	**8149224**
	Dilution Factor: 1					
Nitrate	ND	0.50	mg/L	MCAWW 300.0A	05/29/98	8149225
	Dilution Factor: 1					
Nitrite	ND	0.50	mg/L	MCAWW 300.0A	05/29/98	8152246
	Dilution Factor: 1					
rogen, as Ammonia	**3.3**	**0.2**	**mg/L**	**MCAWW 350.3**	**06/09/98**	**8160284**
	Dilution Factor: 1					
Sulfate	**34.5**	**1.0**	**mg/L**	**MCAWW 300.0A**	**05/28/98**	**8149226**
	Dilution Factor: 1					
Total Alkalinity	**540**	**5.0**	**mg/L**	**MCAWW 310.1**	**06/02/98**	**8152279**
	Dilution Factor: 1					
tal Organic Carbon	**7**	**1**	**mg/L**	**MCAWW 415.1**	**06/04/98**	**8155141**
	Dilution Factor: 1					

PAYNE FIRM INC.

Client Sample ID: MW 204-052798

GC/MS Volatiles

Lot-Sample #...: A8E280129-003 **Work Order #...:** CHH40107 **Matrix.....:** WATER
Date Sampled...: 05/27/98 15:00 **Date Received..:** 05/28/98
Prep Date.....: 06/04/98 **Analysis Date..:** 06/04/98
Prep Batch #...: 8156252
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	**2.9 J**	**10**	**ug/L**
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
romodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	**4.3 J**	**5.0**	**ug/L**
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	97	(80 - 120)
Toluene-d8	97	(88 - 110)
Bromofluorobenzene	94	(86 - 115)
Dibromofluoromethane	102	(86 - 118)

(Continued on next page)

PAYNE FIRM INC.

Client Sample ID: MW 204-052798

GC/MS Volatiles

Lot-Sample #...: A8E280129-003 Work Order #...: CHH40107 Matrix.....: WATER

NOTE(S):

J Estimated result. Result is less than RL.

PAYNE FIRM INC.

Client Sample ID: MW 204-052798

GC Volatiles

Lot-Sample #...: A8E280129-003 **Work Order #...:** CHH40106 **Matrix.....:** WATER
Date Sampled...: 05/27/98 15:00 **Date Received..:** 05/28/98
Prep Date.....: 06/10/98 **Analysis Date..:** 06/10/98
Prep Batch #...: 8162182
Dilution Factor: 1 **Method.....:** EPA-9 RSK-175

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	**370 E**	**0.50**	**ug/L**
Ethane	**16**	**0.50**	**ug/L**
Ethene	ND	0.50	ug/L

NOTE(S):

E Estimated result. Result concentration exceeds the calibration range.

PAYNE FIRM INC.

Client Sample ID: MW 204-052798

TOTAL Metals

Lab-Sample #...: A8E280129-003 **Matrix.....:** WATER
Date Sampled...: 05/27/98 15:00 **Date Received..:** 05/28/98

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 8154321						
Silver	ND	0.010	mg/L	SW846 6010B	06/04-06/05/98	CHH4010F
		Dilution Factor: 1				
Arsenic	**0.033**	**0.010**	**mg/L**	**SW846 6010B**	**06/04-06/05/98**	**CHH4010A**
		Dilution Factor: 1				
Barium	**0.85**	**0.20**	**mg/L**	**SW846 6010B**	**06/04-06/05/98**	**CHH4010G**
		Dilution Factor: 1				
[illegible]nium	ND	0.0050	mg/L	SW846 6010B	06/04-06/05/98	CHH4010H
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	06/04-06/05/98	CHH4010J
		Dilution Factor: 1				
Mercury	ND	0.00020	mg/L	SW846 7470A	06/04-06/05/98	CHH4010K
		Dilution Factor: 1				
[illegible]ad	**0.0049**	**0.0030**	**mg/L**	**SW846 6010B**	**06/04-06/05/98**	**CHH4010C**
		Dilution Factor: 1				
Selenium	ND	0.0050	mg/L	SW846 6010B	06/04-06/05/98	CHH4010D
		Dilution Factor: 1				

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

Quanterra® Incorporated conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. Quanterra requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. Failure to meet the established recovery guidelines requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). Failure of the RPDs to fall within the laboratory-generated acceptance windows requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the MS/MSD RPDs are within acceptance criteria, the batch is acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except for the common laboratory contaminants indicated below.

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	Metals
Methylene chloride	Phthalate Esters	Copper
Acetone		Iron
2-Butanone		Zinc
		Lead*

** for analyses run on TJA Trace ICP or GFAA only*

METHOD BLANK (continued)

The listed volatile and semivolatile compounds may be present in concentrations up to 5 times the reporting limits. The listed metals may be present in concentrations up to 2 times the reporting limit or must be twenty fold less than the results of the environmental samples. Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. When these values fail to meet acceptance criteria, the data is reviewed to determine the cause. If, in the analyst's judgment, sample matrix effects are indicated, no corrective action is performed. Otherwise, the MS/MSD and the environmental sample used to prepare them are reprepared and reanalyzed.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample are spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

The acceptance criteria do not apply to samples that are diluted. If the dilution is more than 5X, the recoveries will be reported as diluted out. All other surrogate recoveries will be reported. If the LCS, LCSD, or the Method Blank surrogates fail to meet recovery criteria (exception for dilutions), the entire batch of samples is reprepared and reanalyzed.

If the surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank and the associated sample(s) are ND, the batch is acceptable. If the surrogate recoveries are outside criteria for environmental or MS/MSD samples, the batch may be acceptable based on the analyst's judgment that sample matrix effects are indicated.

For the GC/MS BNA methods, the surrogate criteria is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide/PCB, PAH, TPH, and Herbicide methods, the surrogate criteria is that one of two surrogate compounds meet acceptance criteria.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

DISSOLVED Metals

Client Lot #...: A8E280129 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: A8F030000-321 **Prep Batch #...:** 8154321					
Iron	114	(80 - 120)	SW846 6010B	06/04-06/05/98	CHNNG13F

Dilution Factor: 1

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: A8E280129 **Work Order #...:** CHWX2101 **Matrix.....:** WATER
MB Lot-Sample #: I8F110000-182

Prep Date.....: 06/10/98
Analysis Date..: 06/10/98 **Prep Batch #...:** 8162182
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Methane	ND	0.50	ug/L	EPA-9 RSK-175
Ethane	ND	0.50	ug/L	EPA-9 RSK-175
Ethene	ND	0.50	ug/L	EPA-9 RSK-175

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: A8E280129 **Work Order #...:** CHXF6101 **Matrix.....:** WATER
MB Lot-Sample #: I8F110000-264

Prep Date.....: 06/10/98
Analysis Date..: 06/10/98 **Prep Batch #...:** 8162264
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Methane	ND	0.50	ug/L	EPA-9 RSK-175
Ethane	ND	0.50	ug/L	EPA-9 RSK-175
Ethene	ND	0.50	ug/L	EPA-9 RSK-175

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

ient Lot #...: A8E280129 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: A8F030000-321 Prep Batch #...: 8154321						
Arsenic	ND	0.010	mg/L	SW846 6010B	06/04-06/05/98	CHNNG11U
		Dilution Factor: 1				
Barium	ND	0.20	mg/L	SW846 6010B	06/04-06/05/98	CHNNG121
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	06/04-06/05/98	CHNNG122
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	06/04-06/05/98	CHNNG123
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	06/04-06/05/98	CHNNG11V
		Dilution Factor: 1				
Mercury	ND	0.00020	mg/L	SW846 7470A	06/04-06/05/98	CHNNG124
		Dilution Factor: 1				
Selenium	ND	0.0050	mg/L	SW846 6010B	06/04-06/05/98	CHNNG11W
		Dilution Factor: 1				
Silver	ND	0.010	mg/L	SW846 6010B	06/04-06/05/98	CHNNG120
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

DISSOLVED Metals

Client Lot #...: A8E280129 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: A8F030000-321 Prep Batch #...: 8154321						
Iron	ND	0.10	mg/L	SW846 6010B	06/04-06/05/98	CHNNG11X
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A8E280129 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		Work Order #: CHJQ2101		MB Lot-Sample #:	A8E290000-224	
	ND	1.0	mg/L	MCAWW 300.0A	05/28/98	8149224
		Dilution Factor: 1				
Nitrate		Work Order #: CHJQ3101		MB Lot-Sample #:	A8E290000-225	
	ND	0.50	mg/L	MCAWW 300.0A	05/29/98	8149225
		Dilution Factor: 1				
Nitrite		Work Order #: CHL8C101		MB Lot-Sample #:	A8F010000-246	
	ND	0.50	mg/L	MCAWW 300.0A	05/29/98	8152246
		Dilution Factor: 1				
Nitrogen, as Ammonia		Work Order #: CHVFM101		MB Lot-Sample #:	A8F090000-284	
	ND	0.2	mg/L	MCAWW 350.3	06/09/98	8160284
		Dilution Factor: 1				
Sulfate		Work Order #: CHJQ4101		MB Lot-Sample #:	A8E290000-226	
	ND	1.0	mg/L	MCAWW 300.0A	05/28/98	8149226
		Dilution Factor: 1				
Total Alkalinity		Work Order #: CHLEH101		MB Lot-Sample #:	A8F010000-279	
	ND	5.0	mg/L	MCAWW 310.1	06/02/98	8152279
		Dilution Factor: 1				
Total Organic Carbon		Work Order #: CHP4X101		MB Lot-Sample #:	A8F040000-141	
	ND	1	mg/L	MCAWW 415.1	06/04/98	8155141
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A8E280129 **Work Order #...:** CHE08103-MS **Matrix.....:** WATER
MS Lot-Sample #: A8E220182-012 CHE08104-MSD
Date Sampled...: 05/21/98 10:50 **Date Received..:** 05/22/98
Prep Date.....: 06/03/98 **Analysis Date..:** 06/03/98
Prep Batch #...: 8155317
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	**98**	**(75 - 113)**			**SW846 8260B**
	98	**(75 - 113)**	**0.63**	**(0-20)**	**SW846 8260B**
Trichloroethene	**110**	**(71 - 110)**			**SW846 8260B**
	110	**(71 - 110)**	**0.44**	**(0-22)**	**SW846 8260B**
Chlorobenzene	**109**	**(81 - 115)**			**SW846 8260B**
	107	**(81 - 115)**	**2.4**	**(0-18)**	**SW846 8260B**
Toluene	**106**	**(78 - 126)**			**SW846 8260B**
	104	**(78 - 126)**	**1.3**	**(0-24)**	**SW846 8260B**
Benzene	**107**	**(78 - 117)**			**SW846 8260B**
	106	**(78 - 117)**	**1.2**	**(0-17)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	119	(80 - 120)
	118	(80 - 120)
Toluene-d8	105	(88 - 110)
	107	(88 - 110)
Bromofluorobenzene	94	(86 - 115)
	97	(86 - 115)
Dibromofluoromethane	109	(86 - 118)
	111	(86 - 118)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A8E280129 **Work Order #...:** CH4FA12V-MS **Matrix.....:** WATER
MS Lot-Sample #: A8E120162-001 CH4FA12W-MSD
Date Sampled...: 05/12/98 15:13 **Date Received..:** 05/13/98
Prep Date.....: 06/04/98 **Analysis Date..:** 06/04/98
Prep Batch #...: 8156252
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	104	(75 - 113)			SW846 8260B
	110	(75 - 113)	5.2	(0-20)	SW846 8260B
Trichloroethene	113 a	(71 - 110)			SW846 8260B
	114 a	(71 - 110)	0.89	(0-22)	SW846 8260B
Benzene	103	(78 - 117)			SW846 8260B
	105	(78 - 117)	1.9	(0-17)	SW846 8260B
Toluene	102	(78 - 126)			SW846 8260B
	104	(78 - 126)	1.9	(0-24)	SW846 8260B
Chlorobenzene	106	(81 - 115)			SW846 8260B
	109	(81 - 115)	3.3	(0-18)	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	101	(80 - 120)
	103	(80 - 120)
Toluene-d8	100	(88 - 110)
	101	(88 - 110)
Bromofluorobenzene	89	(86 - 115)
	88	(86 - 115)
Dibromofluoromethane	103	(86 - 118)
	105	(86 - 118)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...: A8E280129 **Work Order #...:** CHH3X10L-MS **Matrix.....:** WATER
MS Lot-Sample #: A8E280129-002 CHH3X10M-MSD
Date Sampled...: 05/27/98 13:15 **Date Received..:** 05/28/98
Prep Date.....: 06/10/98 **Analysis Date..:** 06/10/98
Prep Batch #...: 8162264
Dilution Factor: 25

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Methane	159 a,D	(70 - 130)			EPA-9 RSK-175
	142 a,D	(70 - 130)	9.3	(0-30)	EPA-9 RSK-175
Ethane	91 D	(70 - 130)			EPA-9 RSK-175
	87 D	(70 - 130)	4.1	(0-30)	EPA-9 RSK-175
Ethene	90 D	(70 - 130)			EPA-9 RSK-175
	88 D	(70 - 130)	3.3	(0-30)	EPA-9 RSK-175

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

a Spiked analyte recovery is outside stated control limits.

D Result was obtained from the analysis of a dilution.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...: A8E280129 **Work Order #...:** CHHG815L-MS **Matrix.....:** WATER
MS Lot-Sample #: D8E280166-003 CHHG815M-MSD
Date Sampled...: 05/27/98 10:45 **Date Received..:** 05/28/98
Prep Date.....: 06/10/98 **Analysis Date..:** 06/10/98
Prep Batch #...: 8162182
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Methane	80	(70 - 130)			EPA-9 RSK-175
	79	(70 - 130)	0.92	(0-30)	EPA-9 RSK-175
Ethane	84	(70 - 130)			EPA-9 RSK-175
	83	(70 - 130)	0.67	(0-30)	EPA-9 RSK-175
Ethene	84	(70 - 130)			EPA-9 RSK-175
	83	(70 - 130)	1.3	(0-30)	EPA-9 RSK-175

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

ient Lot #...: A8E280129 Matrix.....: WATER
Date Sampled...: 05/27/98 13:00 Date Received..: 05/28/98

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: A8E280120-001 Prep Batch #...: 8154321							
Arsenic	108	(80 - 120)			SW846 6010B	06/04-06/05/98	CHH0V13D
	112	(80 - 120)	3.7	(0-20)	SW846 6010B	06/04-06/05/98	CHH0V13E
		Dilution Factor: 1					
Barium	108	(80 - 120)			SW846 6010B	06/04-06/05/98	CHH0V13V
	111	(80 - 120)	2.6	(0-20)	SW846 6010B	06/04-06/05/98	CHH0V13W
		Dilution Factor: 1					
Cadmium	106	(80 - 120)			SW846 6010B	06/04-06/05/98	CHH0V140
	111	(80 - 120)	3.9	(0-20)	SW846 6010B	06/04-06/05/98	CHH0V141
		Dilution Factor: 1					
Chromium	107	(80 - 120)			SW846 6010B	06/04-06/05/98	CHH0V143
	111	(80 - 120)	3.3	(0-20)	SW846 6010B	06/04-06/05/98	CHH0V144
		Dilution Factor: 1					
Lead	106	(80 - 120)			SW846 6010B	06/04-06/05/98	CHH0V13G
	110	(80 - 120)	3.2	(0-20)	SW846 6010B	06/04-06/05/98	CHH0V13H
		Dilution Factor: 1					
Mercury	125 N	(80 - 120)			SW846 7470A	06/04-06/05/98	CHH0V146
	116	(80 - 120)	7.1	(0-20)	SW846 7470A	06/04-06/05/98	CHH0V147
		Dilution Factor: 1					
Selenium	110	(80 - 120)			SW846 6010B	06/04-06/05/98	CHH0V13K
	114	(80 - 120)	3.3	(0-20)	SW846 6010B	06/04-06/05/98	CHH0V13L
		Dilution Factor: 1					
Silver	115	(80 - 120)			SW846 6010B	06/04-06/05/98	CHH0V13R
	120	(80 - 120)	4.1	(0-20)	SW846 6010B	06/04-06/05/98	CHH0V13T
		Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

DISSOLVED Metals

Client Lot #...: A8E280129 Matrix.....: WATER
Date Sampled...: 05/27/98 13:00 Date Received..: 05/28/98

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: A8E280120-001 Prep Batch #...: 8154321							
Iron	108	(80 - 120)			SW846 6010B	06/04-06/05/98	CHH0V13N
	114	(80 - 120)	3.2	(0-20)	SW846 6010B	06/04-06/05/98	CHH0V13P
		Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

ıent Lot #...: A8E280129 Matrix.....: WATER
Date Sampled...: 05/13/98 08:30 Date Received..: 05/14/98

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		WO#: CHH3A10F-MS/CHH3A10G-MSD				MS Lot-Sample #:	A8E280129-001
	68 N	(90 - 110)			MCAWW 300.0A	05/28/98	8149224
	68 N	(90 - 110)	0.05	(0-20)	MCAWW 300.0A	05/28/98	8149224
		Dilution Factor: 1					
Nitrate		WO#: CHHWN10L-MS/CHHWN10M-MSD				MS Lot-Sample #:	A8E290126-001
	100	(90 - 110)			MCAWW 300.0A	05/29/98	8149225
	98	(90 - 110)	1.8	(0-20)	MCAWW 300.0A	05/29/98	8149225
		Dilution Factor: 1					
Nitrite		WO#: CHHWN10N-MS/CHHWN10P-MSD				MS Lot-Sample #:	A8E290126-001
	96	(90 - 110)			MCAWW 300.0A	05/29/98	8152246
	97	(90 - 110)	0.74	(0-20)	MCAWW 300.0A	05/29/98	8152246
		Dilution Factor: 1					
Nitrogen, as Ammonia		WO#: CHCG8108-MS/CHCG8109-MSD				MS Lot-Sample #:	A8E210145-002
	100	(80 - 120)			MCAWW 350.3	06/09/98	8160284
	103	(80 - 120)	1.6	(0-20)	MCAWW 350.3	06/09/98	8160284
		Dilution Factor: 1					
lfate		WO#: CHH3A10Q-MS/CHH3A10R-MSD				MS Lot-Sample #:	A8E280129-001
	88 N	(90 - 110)			MCAWW 300.0A	05/28/98	8149226
	88 N	(90 - 110)	0.17	(0-20)	MCAWW 300.0A	05/28/98	8149226
		Dilution Factor: 1					
Sulfate		WO#: CH5W310C-MS/CH5W310D-MSD				MS Lot-Sample #:	A8E140140-009
	10 N,MSB	(90 - 110)			MCAWW 300.0A	05/28/98	8149226
	10 N,MSB	(90 - 110)	0.05	(0-20)	MCAWW 300.0A	05/28/98	8149226
		Dilution Factor: 1					
Total Alkalinity		WO#: CHH3A10H-MS/CHH3A10J-MSD				MS Lot-Sample #:	A8E280129-001
	92	(80 - 120)			MCAWW 310.1	06/02/98	8152279
	93	(80 - 120)	0.57	(0-20)	MCAWW 310.1	06/02/98	8152279
		Dilution Factor: 1					
Total Organic Carbon		WO#: CHCVV12X-MS/CHCVV130-MSD				MS Lot-Sample #:	H8E210191-003
	85 N	(90 - 110)			MCAWW 415.1	06/04/98	8155141
	86 N	(90 - 110)	0.42	(0-20)	MCAWW 415.1	06/04/98	8155141
		Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

MSB The recovery and RPD were not calculated because the sample amount was greater than four times the spike amount.

Chain Custody Record

QUA-4124

Client	Project Manager	Date	Chain Of Custody Number
Payne Firm, Inc	Dan Reed	5-27-98	09361

Address	Telephone Number (Area Code)/Fax Number	Lab Number	Page 1 of 1
1231 Cornell Park Drive	513 489-2255 / 513 489-2533		

City	State	Zip Code	Site Contact
Cincinnati	OH	45242	

Project Name	Carrier/Waybill Number
Grillet	

Contract/Purchase Order/Quote No.: 279.44.07

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Preservative	Condition on Receipt	Diss Gases	VOC 8260	TOC	Diss. Iron	Ammonia	Nitrate, Nitrite, Ar, Cl, Sulfate	RCRA Metals Total
MW 202 052798	5-27-98	1030	Water	3070 ml		12	See Instructions		X	X	X	X	X	X	X
MW 203 052798	"	1315	Water	3070 ml		12	"		X	X	X	X	X	X	X
MW 204 052798	"	1500	Water	3070 ml			"		X	X	X	X	X	X	X

Special Instructions: VOC 8260 and Diss Gases preserved w/HCl, TOC preserved w/H_2SO_4, Diss Iron preserv w/HNO_3, Ammonia w/H_2SO_4, RCRA Metals w/...

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal: ☐ Return To Client ☑ Disposal By Lab ☐ Archive For _____ Months

Turn Around Time Required: ☒ Normal ☐ Rush

QC Level: ☐ I. ☐ II. ☐ III.

Project Specific (Specify):

	Date	Time		Date	Time
1. Relinquished By: Mark Berkish	5/27/98		1. Received By		
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By: [signature]	5-28-98	10:00

Comments

DISTRIBUTION: WHITE - Stays with Sample; CANARY - Returned to Client with Report; PINK - Field Copy

Quanterra Incorporated
4101 Shuffel Drive, NW
North Canton, Ohio 44720

330 497-9396 Telephone
330 497-0772 Fax

Quanterra Environmental Services

FILE COPY

ANALYTICAL REPORT

ORIGINAL TO
279.44.05

PROJECT NO. 279.44.07

GRILLIOT

Lot #: A8E290126

Mark Burkich

The Payne Firm, Inc.

QUANTERRA INCORPORATED

Debora A. Hula
Project Manager

June 17, 1998

CASE NARRATIVE

The following report contains the analytical results for seven water samples and one water quality control sample submitted to Quanterra-North Canton by The Payne Firm, Inc. from the Grilliot Site, project number 279.44.07. The samples were received May 29, 1998, according to documented sample acceptance procedures.

The dissolved gases analysis was performed by the Quanterra Austin, Texas Facility.

Quanterra-North Canton utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameters listed on the Analytical Methods Summary page in accordance with the methods indicated.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan. All data have been found to be compliant with laboratory protocol.

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

Samples QAQC1-052898 and QAQC2-052898 are marked for metals analysis on the chain-of-custody, although no container was received for metals analysis. The samples were logged per the bottles received.

One 40ml Volatile vial for sample QAQC2-052898 and two 40ml Volatile vials for sample QAQC TB-052898 were received with air bubbles.

GC/MS VOLATILES

Methylene chloride were detected in the method blank associated with batch 8156252. This is a common laboratory contaminant with concentrations less than five times the requested reporting limit. All affected sample results have been qualified with B.

The matrix spike/matrix spike duplicate associated with batches 8156252 and 8160231 failed recovery criteria. The laboratory control sample associated with this batch was in control. This is believed to be a matrix effect; therefore, no further corrective action was taken.

Sample(s) which contain results between the MDL and the RL are flagged with "J". There is the possibility of false positive or misidentification at these quantitation levels. In analytical methods requiring confirmation of the analyte reported, confirmation will be performed only down to the standard reporting limit (SRL). The acceptance criteria for quality control criteria may not be met at these quantitation levels.

CASE NARRATIVE (continued)

GC VOLATILES

Methane for samples MW101-052898, QA/QC3-052898 exceeded the calibration range. The samples were re-analyzed at a dilution and both sets of data are reported.

METALS

Matrix spike/spike duplicate spike recoveries were outside the acceptance limits for some analytes. The acceptable laboratory control sample analysis data indicated that the analytical system was operating within control and this condition is most likely due to matrix interference. See the Matrix Spike Report for the affected analytes which will be flagged with "N".

GENERAL CHEMISTRY

Matrix spike and/or matrix spike duplicate spike recoveries were outside the acceptance limits for the following analytes/batches. In every case, the acceptable LCS analysis data indicated that the analytical system was operating within control and this condition is most likely due to matrix interference.

- Chloride - Batch 8152254
- Sulfate - Batch 8152251
- Total Organic Carbon - Batches 8155141 & 8156182

ANALYTICAL METHODS SUMMARY

A8K290126

PARAMETER	ANALYTICAL METHOD
Alkalinity	MCAWW 310.1
Ammonia Nitrogen	MCAWW 350.3
Chloride	MCAWW 300.0A
Dissolved Gasses in Water	EPA-9 RSK-175
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Mercury in Liquid Waste (Manual Cold-Vapor)	SW846 7470A
Nitrate as N	MCAWW 300.0A
Nitrite as N	MCAWW 300.0A
Sulfate	MCAWW 300.0A
Total Organic Carbon	MCAWW 415.1
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Volatile Organics by GC/MS	SW846 8260B

References:

EPA-9 Sample Prep and Calculations for Dissolved Gas Analysis in Water Samples Using a GC Headspace Equilibration Technique, RSKSOP-175, REV. 0, 8/11/94, USEPA Research Lab

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

A8E290126

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
CHHWN	001	MW101-052898	05/28/98	
CHHWW	002	MW102-052898	05/28/98	
CHHX0	003	MW103-052898	05/28/98	
CHHX1	004	MW201-052898	05/28/98	
CHHX3	005	QA/QC3-052898	05/28/98	
CHHXE	006	QA/QC2-052898	05/28/98	
CHHXG	007	QA/QC1-052898	05/28/98	
CHHXH	008	QA/QC TB-052898	05/28/98	

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PAYNE FIRM INC.

Client Sample ID: MW101-052898

GC/MS Volatiles

Lot-Sample #...: A8E290126-001 **Work Order #...:** CHHWN107 **Matrix.....:** WATER
Date Sampled...: 05/28/98 **Date Received..:** 05/29/98
Prep Date.....: 06/04/98 **Analysis Date..:** 06/04/98
Prep Batch #...: 8156252
Dilution Factor: 1.66 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	17	ug/L
Bromomethane	ND	17	ug/L
Vinyl chloride	**88**	**17**	**ug/L**
Chloroethane	ND	17	ug/L
Methylene chloride	ND	8.3	ug/L
Acetone	ND	33	ug/L
Carbon disulfide	ND	8.3	ug/L
1,1-Dichloroethene	ND	8.3	ug/L
1,1-Dichloroethane	**20**	**8.3**	**ug/L**
1,2-Dichloroethene (total)	**270**	**8.3**	**ug/L**
Chloroform	ND	8.3	ug/L
1,2-Dichloroethane	ND	8.3	ug/L
2-Butanone	ND	33	ug/L
1,1,1-Trichloroethane	ND	8.3	ug/L
Carbon tetrachloride	ND	8.3	ug/L
Bromodichloromethane	ND	8.3	ug/L
1,2-Dichloropropane	ND	8.3	ug/L
cis-1,3-Dichloropropene	ND	8.3	ug/L
Trichloroethene	ND	8.3	ug/L
Dibromochloromethane	ND	8.3	ug/L
1,1,2-Trichloroethane	ND	8.3	ug/L
Benzene	ND	8.3	ug/L
trans-1,3-Dichloropropene	ND	8.3	ug/L
Bromoform	**0.60 J**	**8.3**	**ug/L**
4-Methyl-2-pentanone	ND	33	ug/L
2-Hexanone	ND	33	ug/L
Tetrachloroethene	ND	8.3	ug/L
1,1,2,2-Tetrachloroethane	ND	8.3	ug/L
Toluene	**7.2 J**	**8.3**	**ug/L**
Chlorobenzene	ND	8.3	ug/L
Ethylbenzene	ND	8.3	ug/L
Styrene	**0.78 J**	**8.3**	**ug/L**
Xylenes (total)	ND	8.3	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	95	(80 - 120)
Toluene-d8	97	(88 - 110)
Bromofluorobenzene	96	(86 - 115)
Dibromofluoromethane	101	(86 - 118)

(Continued on next page)

PAYNE FIRM INC.

Client Sample ID: MW101-052898

GC/MS Volatiles

Lot-Sample #...: A8E290126-001 **Work Order #...:** CHHWN107 **Matrix.....:** WATER

NOTE(S):

J Estimated result. Result is less than RL.

PAYNE FIRM INC.

Client Sample ID: MW101-052898

GC Volatiles

Lot-Sample #...:	A8E290126-001	**Work Order #...:**	CHHWN106	**Matrix.....:**	WATER
Date Sampled...:	05/28/98	**Date Received..:**	05/29/98		
Prep Date.....:	06/10/98	**Analysis Date..:**	06/10/98		
Prep Batch #...:	8162182				
Dilution Factor:	1	**Method.....:**	EPA-9 RSK-175		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	**270 E**	**0.50**	**ug/L**
Ethane	**5.6**	**0.50**	**ug/L**
Ethene	**4.0**	**0.50**	**ug/L**

NOTE(S):

E Estimated result. Result concentration exceeds the calibration range.

PAYNE FIRM INC.

Client Sample ID: MW101-052898

GC Volatiles

Lot-Sample #...:	A8E290126-001	**Work Order #...:**	CHHWN206	**Matrix.....:**	WATER
Date Sampled...:	05/28/98	**Date Received..:**	05/29/98		
Prep Date.....:	06/10/98	**Analysis Date..:**	06/10/98		
Prep Batch #...:	8162182				
Dilution Factor:	20	**Method.....:**	EPA-9 RSK-175		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	**830 D**	**10**	**ug/L**
Ethane	ND D	10	ug/L
Ethene	ND D	10	ug/L

NOTE(S):

D Result was obtained from the analysis of a dilution.

PAYNE FIRM INC.

Client Sample ID: MW101-052898

DISSOLVED Metals

Lot-Sample #...: A8E290126-001 **Matrix.....:** WATER
Date Sampled...: 05/28/98 **Date Received..:** 05/29/98

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 8156136						
Iron	1.0	0.10	mg/L	SW846 6010B	06/05-06/09/98	CHNWN10K

Dilution Factor: 1

PAYNE FIRM INC.

Client Sample ID: MW101-052898

TOTAL Metals

Lot-Sample #...: A8E290126-001 **Matrix.....:** WATER
Date Sampled...: 05/28/98 **Date Received..:** 05/29/98

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 8156136						
Silver	ND	0.010	mg/L	SW846 6010B	06/05-06/09/98	CHHWN10E
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	06/05-06/09/98	CHHWN10A
		Dilution Factor: 1				
Barium	ND	0.20	mg/L	SW846 6010B	06/05-06/09/98	CHHWN10F
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	06/05-06/09/98	CHHWN10G
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	06/05-06/09/98	CHHWN10H
		Dilution Factor: 1				
Mercury	ND	0.00020	mg/L	SW846 7470A	06/05/98	CHHWN10I
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	06/05-06/09/98	CHHWN10C
		Dilution Factor: 1				
Selenium	ND	0.0050	mg/L	SW846 6010B	06/05-06/09/98	CHHWN10D
		Dilution Factor: 1				

PAYNE FIRM INC.

Client Sample ID: MW101-052898

General Chemistry

Lot-Sample #...: A8E290126-001 **Work Order #...:** CHHWN **Matrix.....:** WATER
Date Sampled...: 05/28/98 **Date Received..:** 05/29/98

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	16.2	1.0	mg/L	MCAWW 300.0A	05/29/98	8152254
	Dilution Factor: 1					
Nitrate	ND	0.50	mg/L	MCAWW 300.0A	05/29/98	8149225
	Dilution Factor: 1					
Nitrite	ND	0.50	mg/L	MCAWW 300.0A	05/29/98	8152246
	Dilution Factor: 1					
trogen, as Ammonia	0.9	0.2	mg/L	MCAWW 350.3	06/09/98	8160284
	Dilution Factor: 1					
Sulfate	31.1	1.0	mg/L	MCAWW 300.0A	05/29/98	8152251
	Dilution Factor: 1					
Total Alkalinity	530	5.0	mg/L	MCAWW 310.1	06/02/98	8152279
	Dilution Factor: 1					
otal Organic Carbon	3	1	mg/L	MCAWW 415.1	06/04/98	8155141
	Dilution Factor: 1					

PAYNE FIRM INC.

Client Sample ID: MW102-052898

GC/MS Volatiles

Lot-Sample #...: A8E290126-002 **Work Order #...:** CHHWW107 **Matrix.....:** WATER
Date Sampled...: 05/28/98 **Date Received..:** 05/29/98
Prep Date.....: 06/05/98 **Analysis Date..:** 06/05/98
Prep Batch #...: 8160231
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	**0.66 J**	**5.0**	**ug/L**
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	**6.9**	**5.0**	**ug/L**
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	116	(80 - 120)
Toluene-d8	105	(88 - 110)
Bromofluorobenzene	91	(86 - 115)
Dibromofluoromethane	110	(86 - 118)

(Continued on next page)

PAYNE FIRM INC.

Client Sample ID: MW102-052898

GC/MS Volatiles

Lot-Sample #...: A8E290126-002 **Work Order #...:** CHHWW107 **Matrix.....:** WATER

NOTE(S):

J Estimated result. Result is less than RL.

PAYNE FIRM INC.

Client Sample ID: MW102-052898

GC Volatiles

Lot-Sample #...: A8E290126-002 **Work Order #...:** CHHWW106 **Matrix.....:** WATER
Date Sampled...: 05/28/98 **Date Received..:** 05/29/98
Prep Date.....: 06/10/98 **Analysis Date..:** 06/10/98
Prep Batch #...: 8162182
Dilution Factor: 1 **Method.....:** EPA-9 RSK-175

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	ND	0.50	ug/L
Ethane	ND	0.50	ug/L
Ethene	ND	0.50	ug/L

PAYNE FIRM INC.

Client Sample ID: MW102-052898

DISSOLVED Metals

Lot-Sample #...: A8E290126-002 **Matrix.....:** WATER
Date Sampled...: 05/28/98 **Date Received..:** 05/29/98

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 8156136						
Iron	0.32	0.10	mg/L	SW846 6010B	06/05-06/09/98	CHHW10K

Dilution Factor: 1

PAYNE FIRM INC.

Client Sample ID: MW102-052898

TOTAL Metals

Lot-Sample #...: A8E290126-002 **Matrix.....:** WATER
Date Sampled...: 05/28/98 **Date Received..:** 05/29/98

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 8156136						
Silver	ND	0.010	mg/L	SW846 6010B	06/05-06/09/98	CHHWW10E
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	06/05-06/09/98	CHHWW10A
		Dilution Factor: 1				
Barium	ND	0.20	mg/L	SW846 6010B	06/05-06/09/98	CHHWW10F
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	06/05-06/09/98	CHHWW10G
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	06/05-06/09/98	CHHWW10H
		Dilution Factor: 1				
Mercury	ND	0.00020	mg/L	SW846 7470A	06/05/98	CHHWW10J
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	06/05-06/09/98	CHHWW10C
		Dilution Factor: 1				
Selenium	ND	0.0050	mg/L	SW846 6010B	06/05-06/09/98	CHHWW10D
		Dilution Factor: 1				

PAYNE FIRM INC.

Client Sample ID: MW102-052898

General Chemistry

Lot-Sample #...: A8E290126-002 **Work Order #...:** CHHWW **Matrix.....:** WATER
Date Sampled...: 05/28/98 **Date Received..:** 05/29/98

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	**27.1**	**1.0**	**mg/L**	**MCAWW 300.0A**	**05/29/98**	**8152254**
	Dilution Factor: 1					
Nitrate	**4.3**	**0.50**	**mg/L**	**MCAWW 300.0A**	**05/29/98**	**8149225**
	Dilution Factor: 1					
Nitrite	ND	0.50	mg/L	MCAWW 300.0A	05/29/98	8152246
	Dilution Factor: 1					
trogen, as Ammonia	ND	0.2	mg/L	MCAWW 350.3	06/09/98	8160284
	Dilution Factor: 1					
Sulfate	**44.8**	**1.0**	**mg/L**	**MCAWW 300.0A**	**05/29/98**	**8152251**
	Dilution Factor: 1					
Total Alkalinity	**350**	**5.0**	**mg/L**	**MCAWW 310.1**	**06/02/98**	**8152279**
	Dilution Factor: 1					
Total Organic Carbon	ND	1	mg/L	MCAWW 415.1	06/04/98	8155141
	Dilution Factor: 1					

PAYNE FIRM INC.

Client Sample ID: MW103-052898

GC/MS Volatiles

Lot-Sample #...: A8E290126-003 **Work Order #...:** CHHX0107 **Matrix.....:** WATER
Date Sampled...: 05/28/98 **Date Received..:** 05/29/98
Prep Date.....: 06/05/98 **Analysis Date..:** 06/05/98
Prep Batch #...: 8160231
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	**5.1**	**5.0**	**ug/L**
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	**1.0 J**	**5.0**	**ug/L**
Toluene	**6.7**	**5.0**	**ug/L**
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	118	(80 - 120)
Toluene-d8	103	(88 - 110)
Bromofluorobenzene	89	(86 - 115)
Dibromofluoromethane	110	(86 - 118)

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PAYNE FIRM INC.

Client Sample ID: MW103-052898

GC/MS Volatiles

Lot-Sample #...: A8E290126-003 **Work Order #...:** CHHX0107 **Matrix.....:** WATER

NOTE(S):

J Estimated result. Result is less than RL.

PAYNE FIRM INC.

Client Sample ID: MW103-052898

GC Volatiles

Lot-Sample #...: A8E290126-003 **Work Order #...:** CHHX0106 **Matrix.....:** WATER
Date Sampled...: 05/28/98 **Date Received..:** 05/29/98
Prep Date.....: 06/10/98 **Analysis Date..:** 06/10/98
Prep Batch #...: 8162182
Dilution Factor: 1 **Method.....:** EPA-9 RSK-175

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	ND	0.50	ug/L
Ethane	ND	0.50	ug/L
Ethene	ND	0.50	ug/L

PAYNE FIRM INC.

Client Sample ID: MW103-052898

DISSOLVED Metals

Lot-Sample #...: A8E290126-003 **Matrix.....:** WATER
Date Sampled...: 05/28/98 **Date Received..:** 05/29/98

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 8156136						
Iron	1.0	0.10	mg/L	SW846 6010B	06/05-06/09/98	CHHX010K
		Dilution Factor: 1				

PAYNE FIRM INC.

Client Sample ID: MW103-052898

TOTAL Metals

Lot-Sample #...: A8E290126-003 **Matrix.....:** WATER
Date Sampled...: 05/28/98 **Date Received..:** 05/29/98

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 8156136						
Silver	ND	0.010	mg/L	SW846 6010B	06/05-06/09/98	CHHX010E
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	06/05-06/09/98	CHHX010A
		Dilution Factor: 1				
Barium	ND	0.20	mg/L	SW846 6010B	06/05-06/09/98	CHHX010F
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	06/05-06/09/98	CHHX010G
		Dilution Factor: 1				
Chromium	**0.011**	**0.010**	**mg/L**	**SW846 6010B**	**06/05-06/09/98**	**CHHX010H**
		Dilution Factor: 1				
Mercury	ND	0.00020	mg/L	SW846 7470A	06/05/98	CHHX010
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	06/05-06/09/98	CHHX010C
		Dilution Factor: 1				
Selenium	ND	0.0050	mg/L	SW846 6010B	06/05-06/09/98	CHHX010D
		Dilution Factor: 1				

PAYNE FIRM INC.

Client Sample ID: MW103-052898

General Chemistry

Lot-Sample #...: A8E290126-003 **Work Order #...:** CHHX0 **Matrix.....:** WATER
Date Sampled...: 05/28/98 **Date Received..:** 05/29/98

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	**32.0**	**1.0**	**mg/L**	**MCAWW 300.0A**	**05/29/98**	**8152254**
	Dilution Factor: 1					
Nitrate	**4.6**	**0.50**	**mg/L**	**MCAWW 300.0A**	**05/29/98**	**8149225**
	Dilution Factor: 1					
Nitrite	ND	0.50	mg/L	MCAWW 300.0A	05/29/98	8152246
	Dilution Factor: 1					
Nitrogen, as Ammonia	ND	0.2	mg/L	MCAWW 350.3	06/09/98	8160284
	Dilution Factor: 1					
Sulfate	**41.9**	**1.0**	**mg/L**	**MCAWW 300.0A**	**05/29/98**	**8152251**
	Dilution Factor: 1					
Total Alkalinity	**290**	**5.0**	**mg/L**	**MCAWW 310.1**	**06/02/98**	**8152279**
	Dilution Factor: 1					
Total Organic Carbon	ND	1	mg/L	MCAWW 415.1	06/04/98	8155141
	Dilution Factor: 1					

PAYNE FIRM INC.

Client Sample ID: MW201-052898

GC/MS Volatiles

Lot-Sample #...: A8E290126-004 **Work Order #...:** CHHX1107 **Matrix.....:** WATER
Date Sampled...: 05/28/98 **Date Received..:** 05/29/98
Prep Date.....: 06/10/98 **Analysis Date..:** 06/10/98
Prep Batch #...: 8163204
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	**7.3**	**5.0**	**ug/L**
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	**18**	**5.0**	**ug/L**
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	**3.5 J**	**5.0**	**ug/L**
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	91	(80 - 120)
Toluene-d8	88	(88 - 110)
Bromofluorobenzene	89	(86 - 115)
bromofluoromethane	94	(86 - 118)

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PAYNE FIRM INC.

Client Sample ID: MW201-052898

GC/MS Volatiles

Lot-Sample #...: A8E290126-004 **Work Order #...:** CHHX1107 **Matrix.....:** WATER

NOTE(S):

J Estimated result. Result is less than RL.

PAYNE FIRM INC.

Client Sample ID: MW201-052898

GC Volatiles

Lot-Sample #...: A8E290126-004 **Work Order #...:** CHHX1106 **Matrix.....:** WATER
Date Sampled...: 05/28/98 **Date Received..:** 05/29/98
Prep Date.....: 06/10/98 **Analysis Date..:** 06/10/98
Prep Batch #...: 8162182
Dilution Factor: 1 **Method.....:** EPA-9 RSK-175

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	**1.4**	**0.50**	**ug/L**
Ethane	ND	0.50	ug/L
Ethene	ND	0.50	ug/L

PAYNE FIRM INC.

Client Sample ID: MW201-052898

DISSOLVED Metals

Lot-Sample #...: A8E290126-004 **Matrix.....:** WATER
Date Sampled...: 05/28/98 **Date Received..:** 05/29/98

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 8156136						
Iron	1.0	0.10	mg/L	SW846 6010B	06/05-06/09/98	CHHX110K

Dilution Factor: 1

PAYNE FIRM INC.

Client Sample ID: MW201-052898

TOTAL Metals

Lot-Sample #...: A8E290126-004 **Matrix.....:** WATER
Date Sampled...: 05/28/98 **Date Received..:** 05/29/98

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 8156136						
Silver	ND	0.010	mg/L	SW846 6010B	06/05-06/09/98	CHHX110E
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	06/05-06/09/98	CHHX110A
		Dilution Factor: 1				
Barium	**0.20**	**0.20**	**mg/L**	**SW846 6010B**	**06/05-06/09/98**	**CHHX110F**
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	06/05-06/09/98	CHHX110G
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	06/05-06/09/98	CHHX110H
		Dilution Factor: 1				
Mercury	ND	0.00020	mg/L	SW846 7470A	06/05/98	CHHX110J
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	06/05-06/09/98	CHHX110C
		Dilution Factor: 1				
Selenium	ND	0.0050	mg/L	SW846 6010B	06/05-06/09/98	CHHX110D
		Dilution Factor: 1				

PAYNE FIRM INC.

Client Sample ID: MW201-052898

General Chemistry

Lot-Sample #...: A8E290126-004 **Work Order #...:** CHHX1 **Matrix.....:** WATER
Date Sampled...: 05/28/98 **Date Received..:** 05/29/98

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	**95.1**	**1.0**	**mg/L**	**MCAWW 300.0A**	**05/29/98**	**8152254**
	Dilution Factor: 1					
Nitrate	**0.65**	**0.50**	**mg/L**	**MCAWW 300.0A**	**05/29/98**	**8149225**
	Dilution Factor: 1					
Nitrite	ND	0.50	mg/L	MCAWW 300.0A	05/29/98	8152246
	Dilution Factor: 1					
crogen, as Ammonia	ND	0.2	mg/L	MCAWW 350.3	06/09/98	8160284
	Dilution Factor: 1					
Sulfate	**50.2**	**1.0**	**mg/L**	**MCAWW 300.0A**	**05/29/98**	**8152251**
	Dilution Factor: 1					
Total Alkalinity	**460**	**5.0**	**mg/L**	**MCAWW 310.1**	**06/02/98**	**8152279**
	Dilution Factor: 1					
Total Organic Carbon	ND	1	mg/L	MCAWW 415.1	06/04/98	8155141
	Dilution Factor: 1					

PAYNE FIRM INC.

Client Sample ID: QA/QC3-052898

GC/MS Volatiles

Lot-Sample #...: A8E290126-005 **Work Order #...:** CHHX3107 **Matrix.....:** WATER
Date Sampled...: 05/28/98 **Date Received..:** 05/29/98
Prep Date.....: 06/05/98 **Analysis Date..:** 06/05/98
Prep Batch #...: 8160231
Dilution Factor: 1.66 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	17	ug/L
Bromomethane	ND	17	ug/L
Vinyl chloride	**88**	**17**	**ug/L**
Chloroethane	ND	17	ug/L
Methylene chloride	ND	8.3	ug/L
Acetone	ND	33	ug/L
Carbon disulfide	ND	8.3	ug/L
1,1-Dichloroethene	ND	8.3	ug/L
1,1-Dichloroethane	**21**	**8.3**	**ug/L**
1,2-Dichloroethene (total)	**260**	**8.3**	**ug/L**
Chloroform	ND	8.3	ug/L
1,2-Dichloroethane	ND	8.3	ug/L
2-Butanone	ND	33	ug/L
1,1-Trichloroethane	ND	8.3	ug/L
Carbon tetrachloride	ND	8.3	ug/L
Bromodichloromethane	ND	8.3	ug/L
1,2-Dichloropropane	ND	8.3	ug/L
cis-1,3-Dichloropropene	ND	8.3	ug/L
Trichloroethene	ND	8.3	ug/L
Dibromochloromethane	ND	8.3	ug/L
1,1,2-Trichloroethane	ND	8.3	ug/L
Benzene	ND	8.3	ug/L
trans-1,3-Dichloropropene	ND	8.3	ug/L
Bromoform	ND	8.3	ug/L
4-Methyl-2-pentanone	ND	33	ug/L
2-Hexanone	ND	33	ug/L
Tetrachloroethene	ND	8.3	ug/L
1,1,2,2-Tetrachloroethane	ND	8.3	ug/L
Toluene	**7.4 J**	**8.3**	**ug/L**
Chlorobenzene	ND	8.3	ug/L
Ethylbenzene	ND	8.3	ug/L
Styrene	ND	8.3	ug/L
Xylenes (total)	ND	8.3	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	115	(80 - 120)
Toluene-d8	105	(88 - 110)
Bromofluorobenzene	92	(86 - 115)
Dibromofluoromethane	110	(86 - 118)

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PAYNE FIRM INC.

Client Sample ID: QA/QC3-052898

GC/MS Volatiles

Lot-Sample #...: A8E290126-005 **Work Order #...:** CHHX3107 **Matrix.....:** WATER

NOTE(S):

J Estimated result. Result is less than RL.

PAYNE FIRM INC.

Client Sample ID: QA/QC1-052898

GC/MS Volatiles

Lot-Sample #...: A8E290126-007 **Work Order #...:** CHHXG101 **Matrix.....:** WATER
Date Sampled...: 05/28/98 **Date Received..:** 05/29/98
Prep Date.....: 06/05/98 **Analysis Date..:** 06/05/98
Prep Batch #...: 8160231
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	10	ug/L
Bromomethane	ND	10	ug/L
Vinyl chloride	ND	10	ug/L
Chloroethane	ND	10	ug/L
Methylene chloride	ND	5.0	ug/L
Acetone	ND	20	ug/L
Carbon disulfide	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,2-Dichloroethene (total)	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
2-Butanone	ND	20	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
4-Methyl-2-pentanone	ND	20	ug/L
2-Hexanone	ND	20	ug/L
Tetrachloroethene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	118	(80 - 120)
Toluene-d8	104	(88 - 110)
Bromofluorobenzene	88	(86 - 115)
Dibromofluoromethane	111	(86 - 118)

PAYNE FIRM INC.

Client Sample ID: QA/QC3-052898

TOTAL Metals

Lot-Sample #...: A8E290126-005 **Matrix.....:** WATER
Date Sampled...: 05/28/98 **Date Received..:** 05/29/98

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 8156136						
Silver	ND	0.010	mg/L	SW846 6010B	06/05-06/09/98	CHHX310E
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	06/05-06/09/98	CHHX310A
		Dilution Factor: 1				
Barium	ND	0.20	mg/L	SW846 6010B	06/05-06/09/98	CHHX310F
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	06/05-06/09/98	CHHX310G
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	06/05-06/09/98	CHHX310H
		Dilution Factor: 1				
Mercury	ND	0.00020	mg/L	SW846 7470A	06/05/98	CHHX310J
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	06/05-06/09/98	CHHX310C
		Dilution Factor: 1				
Selenium	ND	0.0050	mg/L	SW846 6010B	06/05-06/09/98	CHHX310D
		Dilution Factor: 1				

PAYNE FIRM INC.

Client Sample ID: QA/QC3-052898

General Chemistry

Lot-Sample #...: A8E290126-005 **Work Order #...:** CHHX3 **Matrix.....:** WATER
Date Sampled...: 05/28/98 **Date Received..:** 05/29/98

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	**16.1**	**1.0**	**mg/L**	**MCAWW 300.0A**	**05/29/98**	**8152254**
	Dilution Factor: 1					
Nitrate	ND	0.50	mg/L	MCAWW 300.0A	05/29/98	8149225
	Dilution Factor: 1					
Nitrite	ND	0.50	mg/L	MCAWW 300.0A	05/29/98	8152246
	Dilution Factor: 1					
Nitrogen, as Ammonia	**0.8**	**0.2**	**mg/L**	**MCAWW 350.3**	**06/09/98**	**8160284**
	Dilution Factor: 1					
Sulfate	**31.3**	**1.0**	**mg/L**	**MCAWW 300.0A**	**05/29/98**	**8152251**
	Dilution Factor: 1					
Total Alkalinity	**500**	**5.0**	**mg/L**	**MCAWW 310.1**	**06/02/98**	**8152279**
	Dilution Factor: 1					
Total Organic Carbon	**4**	**1**	**mg/L**	**MCAWW 415.1**	**06/04/98**	**8156182**
	Dilution Factor: 1					

PAYNE FIRM INC.

Client Sample ID: QA/QC3-052898

DISSOLVED Metals

Lot-Sample #...: A8E290126-005
Date Sampled...: 05/28/98

Date Received..: 05/29/98

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 8156136						
Iron	1.1	0.10	mg/L	SW846 6010B	06/05-06/09/98	CHBX310K

Dilution Factor: 1

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

Quanterra® Incorporated conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. Quanterra requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. Failure to meet the established recovery guidelines requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). Failure of the RPDs to fall within the laboratory-generated acceptance windows requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the MS/MSD RPDs are within acceptance criteria, the batch is acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except for the common laboratory contaminants indicated below.

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	Metals
Methylene chloride	Phthalate Esters	Copper
Acetone		Iron
2-Butanone		Zinc
		Lead*

* *for analyses run on TJA Trace ICP or GFAA only*

METHOD BLANK (continued)

The listed volatile and semivolatile compounds may be present in concentrations up to 5 times the reporting limits. The listed metals may be present in concentrations up to 2 times the reporting limit or must be twenty fold less than the results of the environmental samples. Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. When these values fail to meet acceptance criteria, the data is reviewed to determine the cause. If, in the analyst's judgment, sample matrix effects are indicated, no corrective action is performed. Otherwise, the MS/MSD and the environmental sample used to prepare them are reprepared and reanalyzed.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample are spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

The acceptance criteria do not apply to samples that are diluted. If the dilution is more than 5X, the recoveries will be reported as diluted out. All other surrogate recoveries will be reported. If the LCS, LCSD, or the Method Blank surrogates fail to meet recovery criteria (exception for dilutions), the entire batch of samples is reprepared and reanalyzed.

If the surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank and the associated sample(s) are ND, the batch is acceptable. If the surrogate recoveries are outside criteria for environmental or MS/MSD samples, the batch may be acceptable based on the analyst's judgment that sample matrix effects are indicated.

For the GC/MS BNA methods, the surrogate criteria is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide/PCB, PAH, TPH, and Herbicide methods, the surrogate criteria is that one of two surrogate compounds meet acceptance criteria.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A8E290126 **Work Order #...:** CHR4A101 **Matrix.....:** WATER
MB Lot-Sample #: A8F050000-252

Prep Date.....: 06/04/98
Analysis Date..: 06/04/98 **Prep Batch #...:** 8156252
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	10	ug/L	SW846 8260B
Bromomethane	ND	10	ug/L	SW846 8260B
Vinyl chloride	ND	10	ug/L	SW846 8260B
Chloroethane	ND	10	ug/L	SW846 8260B
Methylene chloride	**0.98 J**	**5.0**	**ug/L**	**SW846 8260B**
Acetone	ND	20	ug/L	SW846 8260B
Carbon disulfide	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethene (total)	ND	5.0	ug/L	SW846 8260B
Chloroform	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	5.0	ug/L	SW846 8260B
2-Butanone	ND	20	ug/L	SW846 8260B
[illegible],1-Trichloroethane	ND	5.0	ug/L	SW846 8260B
[illegible]rbon tetrachloride	ND	5.0	ug/L	SW846 8260B
Bromodichloromethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	5.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Trichloroethene	ND	5.0	ug/L	SW846 8260B
Dibromochloromethane	ND	5.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Benzene	ND	5.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Bromoform	ND	5.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	20	ug/L	SW846 8260B
2-Hexanone	ND	20	ug/L	SW846 8260B
Tetrachloroethene	ND	5.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	SW846 8260B
Toluene	ND	5.0	ug/L	SW846 8260B
Chlorobenzene	ND	5.0	ug/L	SW846 8260B
Ethylbenzene	ND	5.0	ug/L	SW846 8260B
Styrene	ND	5.0	ug/L	SW846 8260B
Xylenes (total)	ND	5.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	100	(80 - 120)
Toluene-d8	99	(88 - 110)
Bromofluorobenzene	87	(86 - 115)
[illegible]romofluoromethane	105	(86 - 118)

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A8E290126 **Work Order #...:** CHR4A101 **Matrix.....:** WATER

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Estimated result. Result is less than RL.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A8E290126 **Work Order #...:** CHVA9101 **Matrix.....:** WATER
MB Lot-Sample #: A8F090000-231

Prep Date.....: 06/05/98
Analysis Date..: 06/05/98 **Prep Batch #...:** 8160231
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	10	ug/L	SW846 8260B
Bromomethane	ND	10	ug/L	SW846 8260B
Vinyl chloride	ND	10	ug/L	SW846 8260B
Chloroethane	ND	10	ug/L	SW846 8260B
Methylene chloride	ND	5.0	ug/L	SW846 8260B
Acetone	ND	20	ug/L	SW846 8260B
Carbon disulfide	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	5.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethene (total)	ND	5.0	ug/L	SW846 8260B
Chloroform	ND	5.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	5.0	ug/L	SW846 8260B
2-Butanone	ND	20	ug/L	SW846 8260B
1,1-Trichloroethane	ND	5.0	ug/L	SW846 8260B
rbon tetrachloride	ND	5.0	ug/L	SW846 8260B
Bromodichloromethane	ND	5.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	5.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Trichloroethene	ND	5.0	ug/L	SW846 8260B
Dibromochloromethane	ND	5.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	5.0	ug/L	SW846 8260B
Benzene	ND	5.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260B
Bromoform	ND	5.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	20	ug/L	SW846 8260B
2-Hexanone	ND	20	ug/L	SW846 8260B
Tetrachloroethene	ND	5.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	SW846 8260B
Toluene	ND	5.0	ug/L	SW846 8260B
Chlorobenzene	ND	5.0	ug/L	SW846 8260B
Ethylbenzene	ND	5.0	ug/L	SW846 8260B
Styrene	ND	5.0	ug/L	SW846 8260B
Xylenes (total)	ND	5.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	120	(80 - 120)
Toluene-d8	109	(88 - 110)
Bromofluorobenzene	95	(86 - 115)
romofluoromethane	112	(86 - 118)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: A8E290126 **Work Order #...:** CHWX2101 **Matrix.....:** WATER
MB Lot-Sample #: I8F110000-182

Prep Date.....: 06/10/98
Analysis Date..: 06/10/98 **Prep Batch #...:** 8162182
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Methane	ND	0.50	ug/L	EPA-9 RSK-175
Ethane	ND	0.50	ug/L	EPA-9 RSK-175
Ethene	ND	0.50	ug/L	EPA-9 RSK-175

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A8E290126 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: A8F050000-136 Prep Batch #...: 8156136						
Arsenic	ND	0.010	mg/L	SW846 6010B	06/05-06/10/98	CHQCL11J
		Dilution Factor: 1				
Barium	ND	0.20	mg/L	SW846 6010B	06/05-06/10/98	CHQCL11N
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	06/05-06/10/98	CHQCL11P
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	06/05-06/10/98	CHQCL11[illegible]
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	06/05-06/10/98	CHQCL11K
		Dilution Factor: 1				
Mercury	ND	0.00020	mg/L	SW846 7470A	06/05/98	CHQCL10H
		Dilution Factor: 1				
Selenium	ND	0.0050	mg/L	SW846 6010B	06/05-06/10/98	CHQCL1[illegible]
		Dilution Factor: 1				
Silver	ND	0.010	mg/L	SW846 6010B	06/05-06/10/98	CHQCL11M
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A8E290126 **Work Order #...:** CH4FA12V-MS **Matrix.....:** WATER
MS Lot-Sample #: A8E120162-001 CH4FA12W-MSD
Date Sampled...: 05/12/98 15:13 **Date Received..:** 05/13/98
Prep Date.....: 06/04/98 **Analysis Date..:** 06/04/98
Prep Batch #...: 8156252
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	**104**	**(75 - 113)**			**SW846 8260B**
	110	**(75 - 113)**	**5.2**	**(0-20)**	**SW846 8260B**
Trichloroethene	**113 a**	**(71 - 110)**			**SW846 8260B**
	114 a	**(71 - 110)**	**0.89**	**(0-22)**	**SW846 8260B**
Benzene	**103**	**(78 - 117)**			**SW846 8260B**
	105	**(78 - 117)**	**1.9**	**(0-17)**	**SW846 8260B**
Toluene	**102**	**(78 - 126)**			**SW846 8260B**
	104	**(78 - 126)**	**1.9**	**(0-24)**	**SW846 8260B**
Chlorobenzene	**106**	**(81 - 115)**			**SW846 8260B**
	109	**(81 - 115)**	**3.3**	**(0-18)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	101	(80 - 120)
	103	(80 - 120)
Toluene-d8	100	(88 - 110)
	101	(88 - 110)
Bromofluorobenzene	89	(86 - 115)
	88	(86 - 115)
Dibromofluoromethane	103	(86 - 118)
	105	(86 - 118)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A8E290126 **Work Order #...:** CHHWW10L-MS **Matrix.....:** WATER
MS Lot-Sample #: A8E290126-002 CHHWW10M-MSD
Date Sampled...: 05/28/98 **Date Received..:** 05/29/98
Prep Date.....: 06/05/98 **Analysis Date..:** 06/05/98
Prep Batch #...: 8160231
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	**97**	**(75 - 113)**			**SW846 8260B**
	100	**(75 - 113)**	**3.5**	**(0-20)**	**SW846 8260B**
Trichloroethene	**111 a**	**(71 - 110)**			**SW846 8260B**
	113 a	**(71 - 110)**	**1.4**	**(0-22)**	**SW846 8260B**
Benzene	**104**	**(78 - 117)**			**SW846 8260B**
	105	**(78 - 117)**	**1.2**	**(0-17)**	**SW846 8260B**
Toluene	**104**	**(78 - 126)**			**SW846 8260B**
	106	**(78 - 126)**	**1.8**	**(0-24)**	**SW846 8260B**
Chlorobenzene	**107**	**(81 - 115)**			**SW846 8260B**
	108	**(81 - 115)**	**0.55**	**(0-18)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Dichloroethane-d4	123 *	(80 - 120)
	122 *	(80 - 120)
Toluene-d8	105	(88 - 110)
	106	(88 - 110)
Bromofluorobenzene	89	(86 - 115)
	91	(86 - 115)
Dibromofluoromethane	111	(86 - 118)
	112	(86 - 118)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

* Surrogate recovery is outside stated control limits.

a Spiked analyte recovery is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A8E290126 **Work Order #...:** CHHX110L-MS **Matrix.....:** WATER
MS Lot-Sample #: A8E290126-004 CHHX110M-MSD
Date Sampled...: 05/28/98 **Date Received..:** 05/29/98
Prep Date.....: 06/10/98 **Analysis Date..:** 06/10/98
Prep Batch #...: 8163204
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	**92**	**(75 - 113)**			**SW846 8260B**
	104	**(75 - 113)**	**13**	**(0-20)**	**SW846 8260B**
Trichloroethene	**88**	**(71 - 110)**			**SW846 8260B**
	101	**(71 - 110)**	**9.5**	**(0-22)**	**SW846 8260B**
Benzene	**91**	**(78 - 117)**			**SW846 8260B**
	102	**(78 - 117)**	**11**	**(0-17)**	**SW846 8260B**
luene	**89**	**(78 - 126)**			**SW846 8260B**
	101	**(78 - 126)**	**12**	**(0-24)**	**SW846 8260B**
Chlorobenzene	**89**	**(81 - 115)**			**SW846 8260B**
	102	**(81 - 115)**	**13**	**(0-18)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Dichloroethane-d4	91	(80 - 120)
	104	(80 - 120)
Toluene-d8	89	(88 - 110)
	99	(88 - 110)
Bromofluorobenzene	86	(86 - 115)
	103	(86 - 115)
Dibromofluoromethane	94	(86 - 118)
	106	(86 - 118)

TE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...: A8E290126 **Work Order #...:** CHHG815L-MS **Matrix.....:** WATER
MS Lot-Sample #: D8E280166-003 CHHG815M-MSD
Date Sampled...: 05/27/98 10:45 **Date Received..:** 05/28/98
Prep Date.....: 06/10/98 **Analysis Date..:** 06/10/98
Prep Batch #...: 8162182
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Methane	80	(70 - 130)			EPA-9 RSK-175
	79	(70 - 130)	0.92	(0-30)	EPA-9 RSK-175
Ethane	84	(70 - 130)			EPA-9 RSK-175
	83	(70 - 130)	0.67	(0-30)	EPA-9 RSK-175
Ethene	84	(70 - 130)			EPA-9 RSK-175
	83	(70 - 130)	1.3	(0-30)	EPA-9 RSK-175

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A8E290126 Matrix.....: WATER
Date Sampled...: 05/28/98 14:25 Date Received..: 05/29/98

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: A8E290140-002 Prep Batch #...: 8156136							
Arsenic	110	(80 - 120)			SW846 6010B	06/05-06/09/98	CHJ5312F
	111	(80 - 120)	0.90	(0-20)	SW846 6010B	06/05-06/09/98	CHJ5312G
		Dilution Factor: 1					
Barium	108	(80 - 120)			SW846 6010B	06/05-06/09/98	CHJ5312U
	109	(80 - 120)	0.89	(0-20)	SW846 6010B	06/05-06/09/98	CHJ5312V
		Dilution Factor: 1					
Cadmium	104	(80 - 120)			SW846 6010B	06/05-06/09/98	CHJ5312X
	105	(80 - 120)	0.39	(0-20)	SW846 6010B	06/05-06/09/98	CHJ53130
		Dilution Factor: 1					
Chromium	105	(80 - 120)			SW846 6010B	06/05-06/09/98	CHJ53132
	105	(80 - 120)	0.25	(0-20)	SW846 6010B	06/05-06/09/98	CHJ53133
		Dilution Factor: 1					
Lead	105	(80 - 120)			SW846 6010B	06/05-06/09/98	CHJ5312J
	106	(80 - 120)	0.96	(0-20)	SW846 6010B	06/05-06/09/98	CHJ5312K
		Dilution Factor: 1					
Mercury	132 N	(80 - 120)			SW846 7470A	06/05/98	CHJ5311V
	123 N	(80 - 120)	6.4	(0-20)	SW846 7470A	06/05/98	CHJ5311W
		Dilution Factor: 1					
Selenium	112	(80 - 120)			SW846 6010B	06/05-06/09/98	CHJ5312M
	113	(80 - 120)	1.0	(0-20)	SW846 6010B	06/05-06/09/98	CHJ5312N
		Dilution Factor: 1					
Silver	119	(80 - 120)			SW846 6010B	06/05-06/09/98	CHJ5312Q
	121 N	(80 - 120)	1.7	(0-20)	SW846 6010B	06/05-06/09/98	CHJ5312R
		Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

DISSOLVED Metals

Client Lot #...: A8E290126 Matrix.....: WATER
Date Sampled...: 05/28/98 14:25 Date Received..: 05/29/98

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: A8E290140-002 Prep Batch #...: 8156136							
Iron	93	(80 - 120)			SW846 6010B	06/05-06/09/98	CHJ53135
	94	(80 - 120)	1.0	(0-20)	SW846 6010B	06/05-06/09/98	CHJ53136
		Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: A8E290126 **Matrix.....:** WATER
Date Sampled...: 05/20/98 07:35 **Date Received..:** 05/21/98

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		WO#: CHHWN10T-MS/CHHWN10U-MSD				MS Lot-Sample #: A8E290126-001	
	97	(90 - 110)			MCAWW 300.0A	05/29/98	8152254
	98	(90 - 110)	0.68	(0-20)	MCAWW 300.0A	05/29/98	8152254
		Dilution Factor: 1					
Chloride		WO#: CH76610F-MS/CH76610G-MSD				MS Lot-Sample #: A8E150165-006	
	56 N	(90 - 110)			MCAWW 300.0A	05/29/98	8152254
	56 N	(90 - 110)	0.10	(0-20)	MCAWW 300.0A	05/29/98	8152254
		Dilution Factor: 1					
Nitrate		WO#: CHHWN10L-MS/CHHWN10M-MSD				MS Lot-Sample #: A8E290126-001	
	100	(90 - 110)			MCAWW 300.0A	05/29/98	8149225
	98	(90 - 110)	1.8	(0-20)	MCAWW 300.0A	05/29/98	8149225
		Dilution Factor: 1					
Nitrite		WO#: CHHWN10N-MS/CHHWN10P-MSD				MS Lot-Sample #: A8E290126-001	
	96	(90 - 110)			MCAWW 300.0A	05/29/98	8152246
	97	(90 - 110)	0.74	(0-20)	MCAWW 300.0A	05/29/98	8152246
		Dilution Factor: 1					
Nitrogen, as Ammonia		WO#: CHCG8108-MS/CHCG8109-MSD				MS Lot-Sample #: A8E210145-002	
	100	(80 - 120)			MCAWW 350.3	06/09/98	8160284
	103	(80 - 120)	1.6	(0-20)	MCAWW 350.3	06/09/98	8160284
		Dilution Factor: 1					
Sulfate		WO#: CHHWN10Q-MS/CHHWN10R-MSD				MS Lot-Sample #: A8E290126-001	
	93	(90 - 110)			MCAWW 300.0A	05/29/98	8152251
	91	(90 - 110)	0.72	(0-20)	MCAWW 300.0A	05/29/98	8152251
		Dilution Factor: 1					
Sulfate		WO#: CH76610D-MS/CH76610E-MSD				MS Lot-Sample #: A8E150165-006	
	63 N	(90 - 110)			MCAWW 300.0A	05/29/98	8152251
	65 N	(90 - 110)	0.50	(0-20)	MCAWW 300.0A	05/29/98	8152251
		Dilution Factor: 1					
Total Alkalinity		WO#: CHH3A10H-MS/CHH3A10J-MSD				MS Lot-Sample #: A8E280129-001	
	92	(80 - 120)			MCAWW 310.1	06/02/98	8152279
	93	(80 - 120)	0.57	(0-20)	MCAWW 310.1	06/02/98	8152279
		Dilution Factor: 1					
Total Organic Carbon		WO#: CHCVV12X-MS/CHCVV130-MSD				MS Lot-Sample #: H8E210191-003	
	85 N	(90 - 110)			MCAWW 415.1	06/04/98	8155141
	86 N	(90 - 110)	0.42	(0-20)	MCAWW 415.1	06/04/98	8155141
		Dilution Factor: 1					

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: A8E290126 **Matrix.....:** WATER
Date Sampled...: 05/20/98 07:35 **Date Received..:** 05/21/98

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon		WO#:	CHJN510V-MS/CHJN510W-MSD			MS Lot-Sample #:	A8E290194-001
	88 N	(90 - 110)			MCAWW 415.1	06/05/98	8156182
	88 N	(90 - 110)	0.25	(0-20)	MCAWW 415.1	06/05/98	8156182

Dilution Factor: 1

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

Chain of Custody Record

Quanter

QUA 4124

Client: Payne Firm, Inc.	Project Manager: Dan Weed	Date: 5-28-98	Chain Of Custody Number: 09357
Address: 11231 Cornell Park Drive	Telephone Number (Area Code)/Fax Number: 513-489-2255 / 513-489-2533	Lab Number:	Page 1 of 1
City: Cincinnati; State: OH; Zip Code: 45242	Site Contact:		
Project Name: Grilliot	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.: 279.44.07			

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Preservative	Condition on Receipt	Diss Gasses	VOC 8260	TOC	Diss Iron	Ammonia	Nitrate, Nitrite, Alk, Cl, Sulfate	RCRA Metals Total
MW101-052898	5/28/98		water	3070 mL		12	see instructing		X	X	X	X	X	X	X
MW102-052898	5/28/98		water	3070 mL		12	"	"	X	X	X	X	X	X	X
MW103-052898	5/28/98		water	3070 mL		12	"	"	X	X	X	X	X	X	X
MW201-052898	5/28/98		water	3070 mL		12	"	"	X	X	X	X	X	X	X
QA/QC 3 052898	5/28/98		"	[illegible]		12	"		X	X	X	X	X	X	X
QA/QC 2 052898	5/28/98		"	120 ml	40 ml	3	HCl			X					X
QA/QC 1 052898	5/28/98		"	120 ml	40 ml	3	HCl			X					X
QA/QC 1B 052898	5/28/98		"	[illegible]						X					

Special Instructions: VOC 8260 and Dissolved Gasses preserved w/HCl, TOC preserved w/H_2SO_4, Diss Iron preserved w/HNO_3, Ammonia w/H_2SO_4, RCRA Metals w/HNO_3

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal: ☐ Return To Client ☑ Disposal By Lab ☐ Archive For _____ Months

Turn Around Time Required: ☒ Normal ☐ Rush

QC Level: ☐ I. ☐ II. ☐ III.

Project Specific (Specify):

	Date	Time		Date	Time
1. Relinquished By: [signature]	5/29/98	1600	1. Received By: Doris Herren	5/29/98	1030
2. Relinquished By:			2. Received By:		
3. Relinquished By:			3. Received By:		

Comments:

DISTRIBUTION: WHITE - Stays with Sample; CANARY - Returned to Client with Report; PINK - Field Copy

Quanterra
Environmental Services

THE PAYNE FIRM, INC.
Date Rec'd 1-14-98
Original To 279.44.05 (c)
Copies To DOW, MLW

FILE COPY

Date: 01/14/98
Time: 07:31:22
(Mountain Time)

From: Debbie Hula
Quanterra Inc.
4101 Shuffel Drive NW
North Canton, OH 44720

voice: 330-497-9396
fax: 330-497-0772

To: Daniel D. Weed
The Payne Firm, Inc.

513-4892533

Number of Pages
Including Cover Sheet: 07

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Quote Number: 022135
Project Number: 279.44.05
Project Name/Site: GRILLOT LANDFILL

QUANTERRA INCORPORA

PRELIMINARY DATA SUMMARY

e results shown below may still require additional laboratory review and are subject to ..ange. Actions taken based on these results are the responsibility of the data user.

The Payne Firm, Inc.
GRILLOT LANDFILL
Project Number: 279.44.05

Lot #: A8A070135 Date Reported: 1/14/98

Client Sample ID: MW101A-010698
Sample #: 001 Date Sampled: 01/06/98 11:42 Date Received: 01/07/98 Matrix: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD	
Trace Inductively Coupled Plasma (ICP) Metals					Reviewed
Arsenic	ND	0.010	mg/L	SW846 6010A	
Lead	ND	0.0030	mg/L	SW846 6010A	
Selenium	ND	0.0050	mg/L	SW846 6010A	
Inductively Coupled Plasma (ICP) Metals					Reviewed
Silver	ND	0.010	mg/L	SW846 6010A	
Barium	ND	0.20	mg/L	SW846 6010A	
Cadmium	ND	0.0050	mg/L	SW846 6010A	
Chromium	0.012	0.010	mg/L	SW846 6010A	
Mercury in Liquid Waste (Manual Cold-Vapor)					Reviewed
Mercury	ND	0.00020	mg/L	SW846 7470A	
Volatile Organics by GC/MS					Reviewed
Chloromethane	ND	17	ug/L	SW846 8260A	
Bromomethane	ND	17	ug/L	SW846 8260A	
Vinyl chloride	32	17	ug/L	SW846 8260A	
Chloroethane	ND	17	ug/L	SW846 8260A	
Methylene chloride	ND	8.3	ug/L	SW846 8260A	
Acetone	ND	33	ug/L	SW846 8260A	
Carbon disulfide	ND	8.3	ug/L	SW846 8260A	
1,1-Dichloroethene	ND	8.3	ug/L	SW846 8260A	
1,1-Dichloroethane	16	8.3	ug/L	SW846 8260A	
1,2-Dichloroethene (total)	180	8.3	ug/L	SW846 8260A	
Chloroform	ND	8.3	ug/L	SW846 8260A	
1,2-Dichloroethane	ND	8.3	ug/L	SW846 8260A	
2-Butanone	ND	33	ug/L	SW846 8260A	
1,1,1-Trichloroethane	ND	8.3	ug/L	SW846 8260A	
Carbon tetrachloride	ND	8.3	ug/L	SW846 8260A	
Bromodichloromethane	ND	8.3	ug/L	SW846 8260A	
1,2-Dichloropropane	ND	8.3	ug/L	SW846 8260A	
cis-1,3-Dichloropropene	ND	8.3	ug/L	SW846 8260A	
Trichloroethene	ND	8.3	ug/L	SW846 8260A	
Dibromochloromethane	ND	8.3	ug/L	SW846 8260A	
1,1,2-Trichloroethane	ND	8.3	ug/L	SW846 8260A	

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QUANTERRA INCORPORATED

PRELIMINARY DATA SUMMARY

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The Payne Firm, Inc.
GRILLOT LANDFILL
Project Number: 279.44.05

Lot #: A8A070135 Date Reported: 1/14/98

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD	
Client Sample ID: MW101A-010698					
Sample #: 001 Date Sampled: 01/06/98 11:42 Date Received: 01/07/98 Matrix: WATER					
Volatile Organics by GC/MS					Reviewed
Benzene	ND	8.3	ug/L	SW846 8260A	
trans-1,3-Dichloropropene	ND	8.3	ug/L	SW846 8260A	
Bromoform	ND	8.3	ug/L	SW846 8260A	
4-Methyl-2-pentanone	ND	33	ug/L	SW846 8260A	
2-Hexanone	ND	33	ug/L	SW846 8260A	
Tetrachloroethene	ND	8.3	ug/L	SW846 8260A	
1,1,2,2-Tetrachloroethane	ND	8.3	ug/L	SW846 8260A	
Toluene	ND	8.3	ug/L	SW846 8260A	
Chlorobenzene	ND	8.3	ug/L	SW846 8260A	
Ethylbenzene	ND	8.3	ug/L	SW846 8260A	
Styrene	ND	8.3	ug/L	SW846 8260A	
Xylenes (total)	ND	8.3	ug/L	SW846 8260A	
Client Sample ID: MW102-010698					
Sample #: 002 Date Sampled: 01/06/98 13:40 Date Received: 01/07/98 Matrix: WATER					
Trace Inductively Coupled Plasma (ICP) Metals					Reviewed
Arsenic	ND	0.010	mg/L	SW846 6010A	
Lead	ND	0.0030	mg/L	SW846 6010A	
Selenium	ND	0.0050	mg/L	SW846 6010A	
Inductively Coupled Plasma (ICP) Metals					Reviewed
Silver	ND	0.010	mg/L	SW846 6010A	
Barium	ND	0.20	mg/L	SW846 6010A	
Cadmium	ND	0.0050	mg/L	SW846 6010A	
Chromium	0.069	0.010	mg/L	SW846 6010A	
Mercury in Liquid Waste (Manual Cold-Vapor)					Reviewed
Mercury	ND	0.00020	mg/L	SW846 7470A	
Volatile Organics by GC/MS					Reviewed
Chloromethane	ND	10	ug/L	SW846 8260A	
Bromomethane	ND	10	ug/L	SW846 8260A	
Vinyl chloride	ND	10	ug/L	SW846 8260A	

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QUANTERRA INCORPORATED

PRELIMINARY DATA SUMMARY

e results shown below may still require additional laboratory review and are subject to change. Actions taken based on these results are the responsibility of the data user.

The Payne Firm, Inc.
GRILLOT LANDFILL
Project Number: 279.44.05

Lot #: A8A070135 Date Reported: 1/14/98

Client Sample ID: MW102-010698
Sample #: 002 Date Sampled: 01/06/98 13:40 Date Received: 01/07/98 Matrix: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD	
Volatile Organics by GC/MS					Reviewed
Chloroethane	ND	10	ug/L	SW846 8260A	
Methylene chloride	ND	5.0	ug/L	SW846 8260A	
Acetone	ND	20	ug/L	SW846 8260A	
Carbon disulfide	ND	5.0	ug/L	SW846 8260A	
1,1-Dichloroethene	ND	5.0	ug/L	SW846 8260A	
1,1-Dichloroethane	ND	5.0	ug/L	SW846 8260A	
1,2-Dichloroethene (total)	ND	5.0	ug/L	SW846 8260A	
Chloroform	ND	5.0	ug/L	SW846 8260A	
1,2-Dichloroethane	ND	5.0	ug/L	SW846 8260A	
2-Butanone	ND	20	ug/L	SW846 8260A	
1,1,1-Trichloroethane	ND	5.0	ug/L	SW846 8260A	
Carbon tetrachloride	ND	5.0	ug/L	SW846 8260A	
Bromodichloromethane	ND	5.0	ug/L	SW846 8260A	
1,2-Dichloropropane	ND	5.0	ug/L	SW846 8260A	
cis-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260A	
Trichloroethene	ND	5.0	ug/L	SW846 8260A	
Dibromochloromethane	ND	5.0	ug/L	SW846 8260A	
1,1,2-Trichloroethane	ND	5.0	ug/L	SW846 8260A	
Benzene	ND	5.0	ug/L	SW846 8260A	
trans-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260A	
Bromoform	ND	5.0	ug/L	SW846 8260A	
4-Methyl-2-pentanone	ND	20	ug/L	SW846 8260A	
2-Hexanone	ND	20	ug/L	SW846 8260A	
Tetrachloroethene	ND	5.0	ug/L	SW846 8260A	
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	SW846 8260A	
Toluene	ND	5.0	ug/L	SW846 8260A	
Chlorobenzene	ND	5.0	ug/L	SW846 8260A	
Ethylbenzene	ND	5.0	ug/L	SW846 8260A	
Styrene	ND	5.0	ug/L	SW846 8260A	
Xylenes (total)	ND	5.0	ug/L	SW846 8260A	

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QUANTERRA INCORPORAT

PRELIMINARY DATA SUMMARY

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results shown below may still require additional laboratory review and are subject to change. Actions taken based on these results are the responsibility of the data user.

The Payne Firm, Inc.
GRILLOT LANDFILL
Project Number: 279.44.05

Lot #: A8A070135 Date Reported: 1/14/98

Client Sample ID: MW103-010698
Sample #: 003 Date Sampled: 01/06/98 16:18 Date Received: 01/07/98 Matrix: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD	
Trace Inductively Coupled Plasma (ICP) Metals					Reviewed
Arsenic	ND	0.010	mg/L	SW846 6010A	
Lead	ND	0.0030	mg/L	SW846 6010A	
Selenium	ND	0.0050	mg/L	SW846 6010A	
Inductively Coupled Plasma (ICP) Metals					Reviewed
Silver	ND	0.010	mg/L	SW846 6010A	
Barium	ND	0.20	mg/L	SW846 6010A	
Cadmium	ND	0.0050	mg/L	SW846 6010A	
Chromium	0.017	0.010	mg/L	SW846 6010A	
Mercury in Liquid Waste (Manual Cold-Vapor)					Reviewed
Mercury	ND	0.00020	mg/L	SW846 7470A	
Volatile Organics by GC/MS					Reviewed
Chloromethane	ND	10	ug/L	SW846 8260A	
Bromomethane	ND	10	ug/L	SW846 8260A	
Vinyl chloride	ND	10	ug/L	SW846 8260A	
Chloroethane	ND	10	ug/L	SW846 8260A	
Methylene chloride	ND	5.0	ug/L	SW846 8260A	
Acetone	ND	20	ug/L	SW846 8260A	
Carbon disulfide	ND	5.0	ug/L	SW846 8260A	
1,1-Dichloroethene	ND	5.0	ug/L	SW846 8260A	
1,1-Dichloroethane	ND	5.0	ug/L	SW846 8260A	
1,2-Dichloroethene (total)	ND	5.0	ug/L	SW846 8260A	
Chloroform	ND	5.0	ug/L	SW846 8260A	
1,2-Dichloroethane	ND	5.0	ug/L	SW846 8260A	
2-Butanone	ND	20	ug/L	SW846 8260A	
1,1,1-Trichloroethane	ND	5.0	ug/L	SW846 8260A	
Carbon tetrachloride	ND	5.0	ug/L	SW846 8260A	
Bromodichloromethane	ND	5.0	ug/L	SW846 8260A	
1,2-Dichloropropane	ND	5.0	ug/L	SW846 8260A	
cis-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260A	
Trichloroethene	3.2 J	5.0	ug/L	SW846 8260A	
Dibromochloromethane	ND	5.0	ug/L	SW846 8260A	
1,1,2-Trichloroethane	ND	5.0	ug/L	SW846 8260A	

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QUANTERRA INCORPORA.

PRELIMINARY DATA SUMMARY

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The Payne Firm, Inc.
GRILLOT LANDFILL
Project Number: 279.44.05

Lot #: A8A070135 Date Reported: 1/14/98

Client Sample ID: MW103-010698
Sample #: 003 Date Sampled: 01/06/98 16:18 Date Received: 01/07/98 Matrix: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
Volatile Organics by GC/MS				Reviewed
Benzene	ND	5.0	ug/L	SW846 8260A
trans-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260A
Bromoform	ND	5.0	ug/L	SW846 8260A
4-Methyl-2-pentanone	ND	20	ug/L	SW846 8260A
2-Hexanone	ND	20	ug/L	SW846 8260A
Tetrachloroethene	ND	5.0	ug/L	SW846 8260A
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	SW846 8260A
Toluene	0.36 J	5.0	ug/L	SW846 8260A
Chlorobenzene	ND	5.0	ug/L	SW846 8260A
Ethylbenzene	ND	5.0	ug/L	SW846 8260A
Styrene	ND	5.0	ug/L	SW846 8260A
Xylenes (total)	ND	5.0	ug/L	SW846 8260A

J Estimated result. Result is less than RL.

Client Sample ID: RINSATE 1-010698
Sample #: 004 Date Sampled: 01/06/98 14:55 Date Received: 01/07/98 Matrix: WATER

Volatile Organics by GC/MS				Reviewed
Chloromethane	ND	10	ug/L	SW846 8260A
Bromomethane	ND	10	ug/L	SW846 8260A
Vinyl chloride	ND	10	ug/L	SW846 8260A
Chloroethane	ND	10	ug/L	SW846 8260A
Methylene chloride	ND	5.0	ug/L	SW846 8260A
Acetone	ND	20	ug/L	SW846 8260A
Carbon disulfide	16	5.0	ug/L	SW846 8260A
1,1-Dichloroethene	ND	5.0	ug/L	SW846 8260A
1,1-Dichloroethane	ND	5.0	ug/L	SW846 8260A
1,2-Dichloroethene (total)	ND	5.0	ug/L	SW846 8260A
Chloroform	ND	5.0	ug/L	SW846 8260A
1,2-Dichloroethane	ND	5.0	ug/L	SW846 8260A
2-Butanone	ND	20	ug/L	SW846 8260A
1,1,1-Trichloroethane	ND	5.0	ug/L	SW846 8260A
Carbon tetrachloride	ND	5.0	ug/L	SW846 8260A

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QUANTERRA INCORPORA.

PRELIMINARY DATA SUMMARY

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The Payne Firm, Inc.
GRILLOT LANDFILL
Project Number: 279.44.05

Lot #: A8A070135 Date Reported: 1/14/98

Client Sample ID: RINSATE 1-010698
Sample #: 004 Date Sampled: 01/06/98 14:55 Date Received: 01/07/98 Matrix: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD	
Volatile Organics by GC/MS					Reviewed
Bromodichloromethane	ND	5.0	ug/L	SW846 8260A	
1,2-Dichloropropane	ND	5.0	ug/L	SW846 8260A	
cis-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260A	
Trichloroethene	ND	5.0	ug/L	SW846 8260A	
Dibromochloromethane	ND	5.0	ug/L	SW846 8260A	
1,1,2-Trichloroethane	ND	5.0	ug/L	SW846 8260A	
Benzene	ND	5.0	ug/L	SW846 8260A	
trans-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260A	
Bromoform	ND	5.0	ug/L	SW846 8260A	
4-Methyl-2-pentanone	ND	20	ug/L	SW846 8260A	
2-Hexanone	ND	20	ug/L	SW846 8260A	
Tetrachloroethene	ND	5.0	ug/L	SW846 8260A	
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	SW846 8260A	
Toluene	ND	5.0	ug/L	SW846 8260A	
Chlorobenzene	ND	5.0	ug/L	SW846 8260A	
Ethylbenzene	ND	5.0	ug/L	SW846 8260A	
Styrene	ND	5.0	ug/L	SW846 8260A	
Xylenes (total)	ND	5.0	ug/L	SW846 8260A	