2010 Groundwater Monitoring Report Former General Latex and Chemical Corporation Facility, Ashland, Ohio

Prepared for

The General Latex and Chemical Company

January 2011

CH2MHILL

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Acronyms and Abbreviations

CCR	current conditions report
COI	constituent of interest
Dow	The Dow Chemical Company
Freon-11	trichlorofluoromethane
GLCC	General Latex and Chemical Company
IDW	investigation-derived waste
MCL	maximum contaminant level
RSL	regional screening level
site	former General Latex and Chemical Company site in Ashland, Ohio
TCE	trichloroethene
USEPA	United States Environmental Protection Agency

SECTION 1

Introduction

This annual groundwater monitoring program report has been prepared for the former General Latex and Chemical Corporation (GLCC) facility (site) in Ashland, Ohio (Figure 1). GLCC is a wholly owned subsidiary of The Dow Chemical Company (Dow). GLCC is managing environmental site investigations and remediation activities at the site in accordance with the Voluntary Corrective Action Agreement signed on February 10, 2009, between GLCC and the U.S. Environmental Protection Agency (USEPA).

1.1 Background

GLCC collected groundwater samples to monitor groundwater quality, beginning with the initial facility investigation activities in 2001 through 2003. Quarterly groundwater monitoring was performed from 2004 through 2007, and the current semiannual monitoring program began in October 2008.

1.2 Objective

The objective of the semiannual groundwater monitoring program is to build a temporal dataset to evaluate the migration and attenuation of constituent plumes over time. These data will be used to support the evaluation of the effectiveness of the corrective measures at the site.

SECTION 2

Field Activities

The semiannual monitoring program field activities were conducted in two separate field events, March 30-31 and October 21-22, 2010. During each field event, CH2M HILL collected depth-to–water-level measurements from all 23 site wells. Groundwater samples were collected from 12 monitoring wells during the March 2010 event. The October 2010 sampling event included sampling 11 monitoring wells, excluding MW06, which was dry at the time of sampling.

The site features, including all monitoring well locations and highlighting the 12 semiannual sampling program monitoring wells, are presented on Figure 2. The groundwater sampling activities were conducted in accordance with the *Sampling and Analysis Plan for Former General Latex and Chemical Corporation Facility, Ashland, Ohio* (CH2M HILL 2009a).

2.1 Groundwater Level Measurements and Sampling

The depth to water was measured from a surveyed reference point on the north side of the polyvinyl chloride well casing. Appendix A contains the water level gauging field sheets for March 30 and October 21, 2010.

Groundwater samples were collected using low-flow sampling techniques with a peristaltic pump. Before sample collection started, field parameters for groundwater quality (dissolved oxygen, oxidation-reduction potential, pH, temperature, turbidity, and specific conductance) were recorded in 5-minute intervals until stabilization occurred. The groundwater sampling field forms are presented in Appendix A.

All groundwater samples were packaged, placed in coolers with ice, and submitted to Microbac Laboratories, Inc. in Marietta, Ohio. The samples were analyzed following USEPA Method SW8260B for an abbreviated volatile organic compound list that included only the site groundwater constituents of interest (COIs): bromomethane, chloroform, chloromethane, methylene chloride, trichloroethene (TCE), trichlorfluoromethane (Freon-11).

2.2 Investigation-Derived Waste Management

Liquid investigation-derived waste (IDW), consisting of purge and decontamination water, was stored in containers in United Nations approved 55-gallon drums and labeled with pending analysis. IDW was characterized as nonhazardous and transported offsite and disposed of within 90 days of generation. Offsite pickup and disposal of IDW was handled by Veolia Environmental Services, Inc. of North Jackson, Ohio.

SECTION 3

Sampling Summary Results

A summary of the results from the March and October 2010 groundwater sampling field activities are discussed below.

3.1 Groundwater Flow

Table 1 presents the collected depth-to-water-level measurements and calculated groundwater elevations.

Previous investigations identified three unconsolidated water-bearing zones at the site: Zone 1 (shallow), Zone 2 (intermediate), and Zone 3 (deep). Zone 2 is the primary water-bearing unit, which consists of a permeable sand and gravel unit that is continuous across the site. The groundwater elevations were used to prepare groundwater potentiometric surface maps for the Zone 2 locations because conductive strata in Zones 1 and 3 are discontinuous, and therefore meaningful potentiometric maps could not prepared for wells completed in these horizons.

Figures 3 and 4 present the groundwater potentiometric surface in Zone 2 for the March and October 2010 events, respectively. The potentiometric surface maps depict the generalized groundwater flow toward the north-northeast. This generally is consistent with previous site potentiometric surface maps and the regional potentiometric surface map presented in the *Current Conditions Report for Former General Latex and Chemical Corporation Facility, Ashland, Ohio* (CCR; CH2M HILL 2009b).

3.2 Groundwater Analytical Data

The groundwater analytical results for the COIs were compared to USEPA maximum contaminant levels (MCLs; USEPA 2003) and to the adjusted USEPA regional screening level (RSL) for tap water. If available for a constituent, precedence was given to the MCL as the screening value; if an MCL was not available, the RSL value was used as the screening value for that particular constituent. The results for the March and October 2010 sampling events are presented in Tables 3 and 4, respectively.

Exceedances of screening levels from the 2010 sampling events were limited to TCE and Freon-11. With consideration for past data as presented in the CCR (CH2M HILL 2009b), these exceedances are grouped into separate plumes—Zone 1 TCE, Zone 2 TCE, and Zone 1 Freon-11. Figures 5 through 8 are plume isoconcentration maps that present these exceedances, which generally are consistent with the previous isoconcentration maps. Exceedances are only observed in monitoring wells that exhibited previous exceedances.

Concentration versus time graphs for all wells with exceedances are presented on Figures 9 through 15. These show that the 2010 concentration data are generally consistent with the

trends established by past data, and the concentrations are either decreasing or are stable over time, except for concentration data from MW-10 and MW-12:

- MW-10 is a Zone 2 monitoring well located on the east portion of the facility near the site boundary, hydraulically downgradient of the adjacent property and has been sampled regularly since December 2001. The TCE concentration data show an increase over time, which may be a result of the adjacent property TCE plume migrating onsite.
- MW-12 is a Zone 1 monitoring well located on the northern edge of the facility. The general trend of the TCE concentration data is a decreasing trend. However, the latest sampling event, conducted during a time of abnormally low precipitation, shows a slight increase.

3.3 Data Validation

A CH2M HILL chemist performed data validation to determine if the data are valid for decision making and are in compliance with SW-846. Data qualifiers were applied to the data, and data quality evaluation memorandums were produced to convey any limitations on usability of the data (Appendix C). In summary, the precision, accuracy, and representativeness were verified and comparability ensured. All data are considered valid.

SECTION 4

Summary

The semiannual groundwater sampling performed in March and October 2010 provided additional data to support an understanding of plume migration and attenuation over time. The generally consistent TCE and Freon-11 exceedances, along with the stable or decreasing concentrations, suggest the plumes are not migrating and are attenuating over time. CH2M HILL will continue the semiannual groundwater monitoring program in 2011 and continue to optimize the program to align most effectively and efficiently with the potential corrective measures.

SECTION 5

References

CH2M HILL. 2009a. *Sampling and Analysis Plan for Former General Latex and Chemical Corporation Facility, Ashland, Ohio.* April.

CH2M HILL. 2009b. *Current Conditions Report for Former General Latex and Chemical Corporation Facility, Ashland, Ohio.* May.

USEPA. 2003. *Maximum Contaminant Levels.* June.

USEPA. 2008. *USEPA Regional Screening Levels.* September.

Tables

TABLE 1
Groundwater Level Measurements - 2010
2010 Annual Grounwater Monitoring Report
Former General Latex and Chemical Corporation, Ashland, Ohio

Well ID	Screened Interval		Top of Casing (TOC) Elevation	Measured Depth to Water (ft btoc) 3/31/10	Groundwater Elevation (ft amsl) 3/31/10	Measured Depth to Water (ft btoc) 10/21/10	Groundwater Elevation (ft amsl) 10/21/10
MW-1	17	27	1000.34	16.58	983.76	16.33	984.01
MW-2	13	23	998.71	10.1	988.61	16.73	981.98
MW-3	16	36	1001.57	23.4	978.17	25.06	976.51
MW-4	7	17	997.83	0.29	997.54	4.01	993.82
MW-6	10	20	996.99	15.83	981.16	DRY	NA
MW-7	20	30	1001.11	22.76	978.35	24.63	976.48
MW-8	3	13	998.58	2.36	996.22	DRY	NA
MW-9	14	24	1000.92	21.6	979.32	22.51	978.41
MW-10	17	32	1003.30	24.73	978.57	26.39	976.91
MW-11	9	19	1001.15	4.93	996.22	7.39	993.76
MW-12	14	24	997.41	12.4	985.01	14.20	983.21
MW-13D	14	24	997.76	18.81	978.95	18.88	978.88
MW-14D	42	52	999.22	19.79	979.43	21.2	978.02
BMW-2	18	28	999.21	19.8	979.41	21.88	977.33
MW-15	20	30	997.81	19.62	978.19	21.28	976.53
MW-16	10	20	997.94	9.34	988.60	16.50	981.44
MW-17D	48	58	1000.31	22.30	978.01	24.28	976.03
MW-18	30	35	1000.55	20.93	979.62	22.94	977.61
MW-19	18	28	1002.76	23.78	978.98	25.39	977.37
MW-20	23	33	1001.24	22.78	978.46	24.5	976.74
MW-21	24	34	1001.27	23.50	977.77	24.91	976.36
MW-22	25	35	997.49	19.86	977.63	21.5	975.99
MW-23	30	40	997.13	19.6	977.53	21.54	975.59

Abbreviations
ft btoc - feet below top of casing

TABLE 2

2010 Groundwater Final Purge Parameters[1]

2010 Annual Groundwater Monitoring Report

Formal General Latex Chemical Corporation, Ashland, Ohio

Well ID	Date	pH	Temp (Celsius)	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)
MW-06	3/31/10	6.89	10.66	0.377	-10.2	2.00	1000.0
	10/21/10	NS	NS	NS	NS	NS	NS
MW-09	3/31/10	6.54	13.49	1.874	104.8	4.73	24.9
	10/21/10	6.43	13.74	3.353	169.2	1.10	1.7
MW-10	3/31/10	6.88	15.63	1.617	50.3	0.61	2.2
	10/21/10	6.70	12.65	2.848	166.8	0.68	49.9
MW-11	3/31/10	7.08	7.40	0.753	127.8	1.02	46.7
	10/21/10	6.81	13.22	1.001	62.3	0.75	320.0
MW-12	3/31/10	6.98	11.89	0.472	19.2	1.50	10.3
	10/21/10	6.82	14.22	0.628	69.4	3.92	35.0
MW-16	3/31/10	6.84	10.49	1.077	-20.0	0.41	24.0
	10/22/10	6.42	14.78	1.612	-11.9	1.82	65.0
MW-18	3/30/10	7.20	12.94	1.239	-81.2	0.41	9.4
	10/22/10	7.02	11.75	1.640	-49.8	0.65	7.0
MW-19	3/31/10	6.74	14.11	2.825	32.2	3.18	220.0
	10/21/10	6.67	13.99	2.680	200.3	1.12	7.2
MW-20	3/30/10	7.10	11.52	1.320	-63.2	0.68	7.1
	10/21/10	6.95	12.65	1.341	-63.0	0.52	1.8
MW-21	3/30/10	7.32	11.86	1.236	-81.7	0.75	192.0
	10/21/10	6.97	12.74	1.349	-79.7	0.56	22.0
MW-22	3/30/10	7.25	12.34	1.137	-67.2	0.38	330.0
	10/21/10	6.80	12.68	2.059	-2.1	0.76	130.0
MW-23	3/31/10	7.07	12.00	1.724	-71.6	0.87	2.3
	10/21/10	6.91	12.2	1.382	-49.7	0.90	15.0

[1]Final stabilized readings from low flow sampling

NS=Not Sampled

ORP - oxidation reduction potential

DO- dissolved oxygen

TABLE 3

Summary of COIs Detected in Groundwater - March 2010

2010 Annual Groundwater Monitoring Repor

Former General Latex and Chemical Corporation, Ashland, Ohic

Location				MW06	MW09		MW10	MW11	MW12	MW16	MW18
Sample ID				MW06GW1020-033110	FD02-033110	MW09GW1424-033110	MW10GW1732-033110	MW11GW0919-033110	MW12GW1424-033110	MW16GW1020-033110	MW18GW3035-033010
Sample Depth (ft)				10 - 20	14 - 24	14 - 24	17 - 32	9 - 19	14 - 24	10 - 20	30 - 35
Sample Date				3/31/2010	3/31/2010	3/31/2010	3/31/2010	3/31/2010	3/31/2010	3/31/2010	3/30/2010
Analyte	**Screening Level**	**EPA Regional, If MCL, Else Tapwater, April 2009**	**UNITS**								
VOCs (ug/l)											
Bromomethane	8.7	8.7	ug/L	< 10	< 10	< 10	< 10	< 500	< 10	< 10000	< 10
Chloroform	0.19	0.19	ug/L	< 5	< 5	< 5	< 5	< 250	< 5	< 5000	< 5
Chloromethane	190	190	ug/L	< 10	< 10	< 10	< 10	< 500	< 10	< 10000	< 10
Methylene chloride	5	5	ug/L	< 5	< 5	< 5	**0.412 J**	< 250	< 5	< 5000	< 5
TCE	5	5	ug/L	**23.7**	**19.1**	**19.6**	**9.96**	< 250	**12.8**	< 5000	< 5
Freon-11	1300	1300	ug/L	**1.1 J**	**0.66 J**	**0.657 J**	< 10	**7660**	**0.778 J**	**148000**	< 10

Notes:

NA = Not analyzed

J = The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.

< = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

ug/l = Micrograms per Liter

Bold indicates the analyte was detected

Shading indicates the result exceeded screening criteria

TABLE 3

Summary of COIs Detected in Groundwater - March 2010

2010 Annual Groundwater Monitoring Repor

Former General Latex and Chemical Corporation, Ashland, Ohic

Location				MW19	MW20		MW21	MW22	MW23
Sample ID				MW19GW1828-033110	FD01-033010	MW20GW2333-033010	MW21GW2434-033010	MW22GW2535-033110	MW23GW3040-033110
Sample Depth (ft)				18 - 28	23 - 33	23 - 33	24 - 34	25 - 35	30 - 40
Sample Date				3/31/2010	3/30/2010	3/30/2010	3/30/2010	3/31/2010	3/31/2010
Analyte	**Screening Level**	**EPA Regional, If MCL, Else Tapwater, April 2009**	**UNITS**						
VOCs (ug/l)									
Bromomethane	8.7	8.7	ug/L	< 10	< 10	< 10	< 10	< 10	< 10
Chloroform	0.19	0.19	ug/L	< 5	< 5	< 5	< 5	< 5	< 5
Chloromethane	190	190	ug/L	< 10	< 10	< 10	< 10	< 10	< 10
Methylene chloride	5	5	ug/L	< 5	< 5	< 5	< 5	< 5	< 5
TCE	5	5	ug/L	**20.9**	< 5	< 5	**1.52 J**	< 5	< 5
Freon-11	1300	1300	ug/L	**0.469 J**	< 10	< 10	**0.871 J**	< 10	< 10

Notes:

NA = Not analyzed

J = The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.

< = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

ug/l = Micrograms per Liter

Bold indicates the analyte was detected

Shading indicates the result exceeded screening criteria

TABLE 4

Summary of COIs Detected in Groundwater - October 2010

2010 Annual Groundwater Monitoring Repor

Former General Latex and Chemical Corporation, Ashland, Ohic

Location				MW09		MW10	MW11	MW12	MW16	MW18	MW19
Sample ID				FD01-033110	MW09GW1424-033110	MW10GW1732-102110	MW11GW0919-033110	MW12GW1424-102110	MW16GW1020-102210	MW18GW3035-102210	MW19GW1828-102110
Sample Depth (ft)				14 - 24	14 - 24	17 - 32	9 - 19	14 - 24	10 - 20	30 - 35	18 - 28
Sample Date				10/21/2010	10/21/2010	10/21/2010	10/22/2010	10/21/2010	10/22/2010	10/22/2010	10/21/2010
Analyte	**Screening Level**	**EPA Regional, If MCL, Else Tapwater, April 2009**	**Units**								
VOCs (ug/l)											
Bromomethane	8.7	8.7	ug/L	< 10	< 10	< 10	< 50	< 10	< 10000	< 10	< 10
Chloroform	0.19	0.19	ug/L	< 5	< 5	< 5	< 25	< 5	< 5000	< 5	< 5
Chloromethane	190	190	ug/L	< 10	**0.581 J**	< 10	< 50	< 10	< 10000	< 10	< 10
Methylene chloride	5	5	ug/L	**0.535 J**	**0.653 J**	< 5	< 25	< 5	< 5000	< 5	< 5
TCE	5	5	ug/L	**34.1**	**33.6**	**12.6**	**2.07 J**	**21.6**	< 5000	< 5	**23.2**
Freon-11	1300	1300	ug/L	**0.954 J**	**0.963 J**	< 10	**1050**	< 10	**323000**	< 10	< 10

Notes:

NA = Not analyzed

J = The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.

< = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

ug/l = Micrograms per Liter

Bold indicates the analyte was detected

Shading indicates the result exceeded screening criteria

TABLE 4

Summary of COIs Detected in Groundwater - October 2010

2010 Annual Groundwater Monitoring Repor

Former General Latex and Chemical Corporation, Ashland, Ohic

Location				MW20	MW21		MW22	MW23
Sample ID				MW21GW2333-1032110	FD02-102110	MW21GW2434-102110	MW22GW2535-102110	MW23GW3040-102110
Sample Depth (ft)				23 - 33	24 - 34	24 - 34	25 - 35	30 - 40
Sample Date				10/21/2010	10/21/2010	10/21/2010	10/21/2010	10/21/2010
Analyte	**Screening Level**	**EPA Regional, If MCL, Else Tapwater, April 2009**	**Units**					
VOCs (ug/l)								
Bromomethane	8.7	8.7	ug/L	< 10	< 10	< 10	< 10	< 10
Chloroform	0.19	0.19	ug/L	< 5	< 5	< 5	< 5	< 5
Chloromethane	190	190	ug/L	< 10	< 10	**0.557 J**	**0.558 J**	< 10
Methylene chloride	5	5	ug/L	< 5	< 5	< 5	< 5	< 5
TCE	5	5	ug/L	< 5	**0.253 J**	**0.292 J**	< 5	< 5
Freon-11	1300	1300	ug/L	< 10	< 10	< 10	< 10	< 10

Notes:

NA = Not analyzed

J = The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.

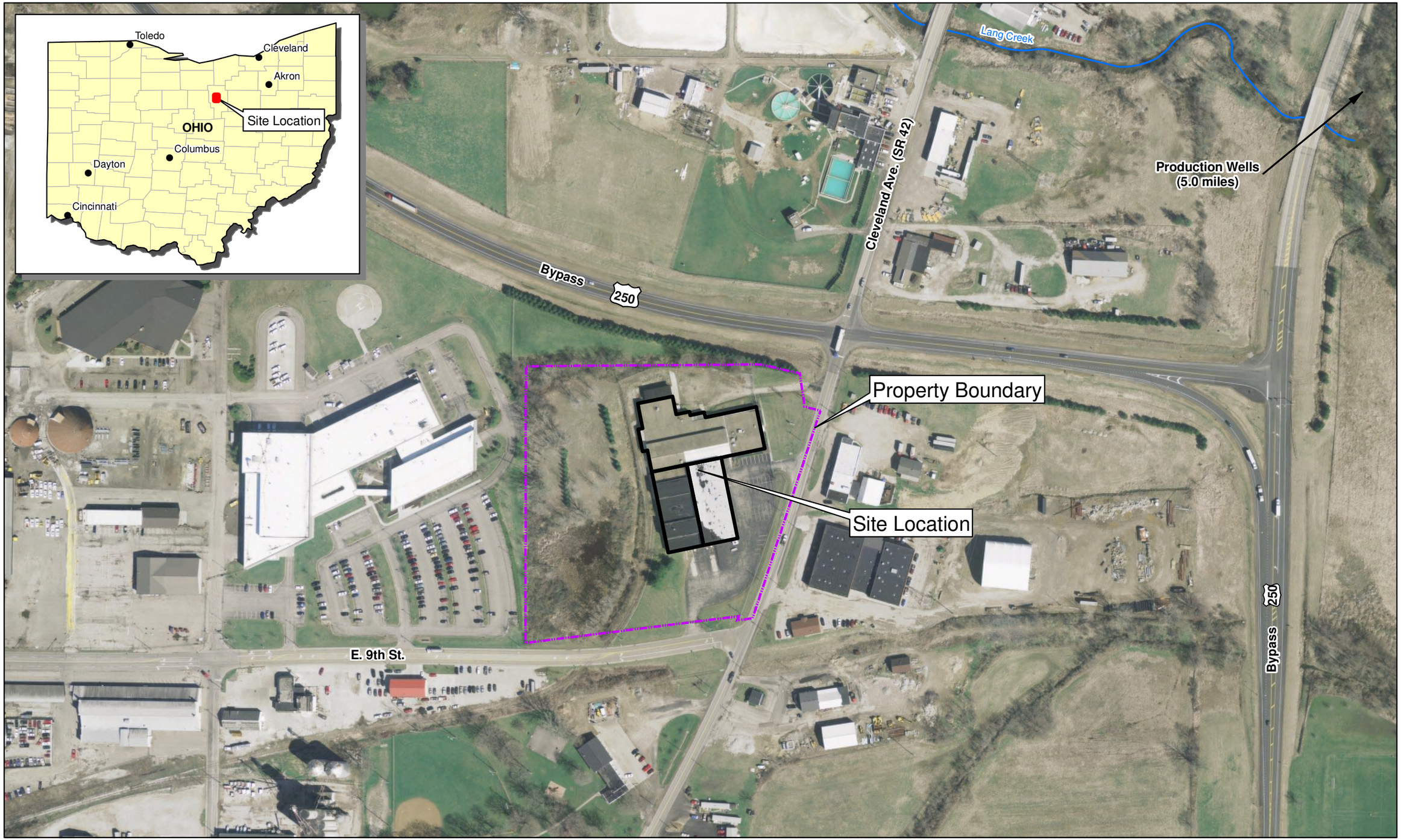
< = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

ug/l = Micrograms per Liter

Bold indicates the analyte was detected

Shading indicates the result exceeded screening criteria

Figures



Note: 2006 Aerial Photography

Figure 1
Site Location Map
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Former General Latex and Chemical Corporation Facility
Ashland, Ohio

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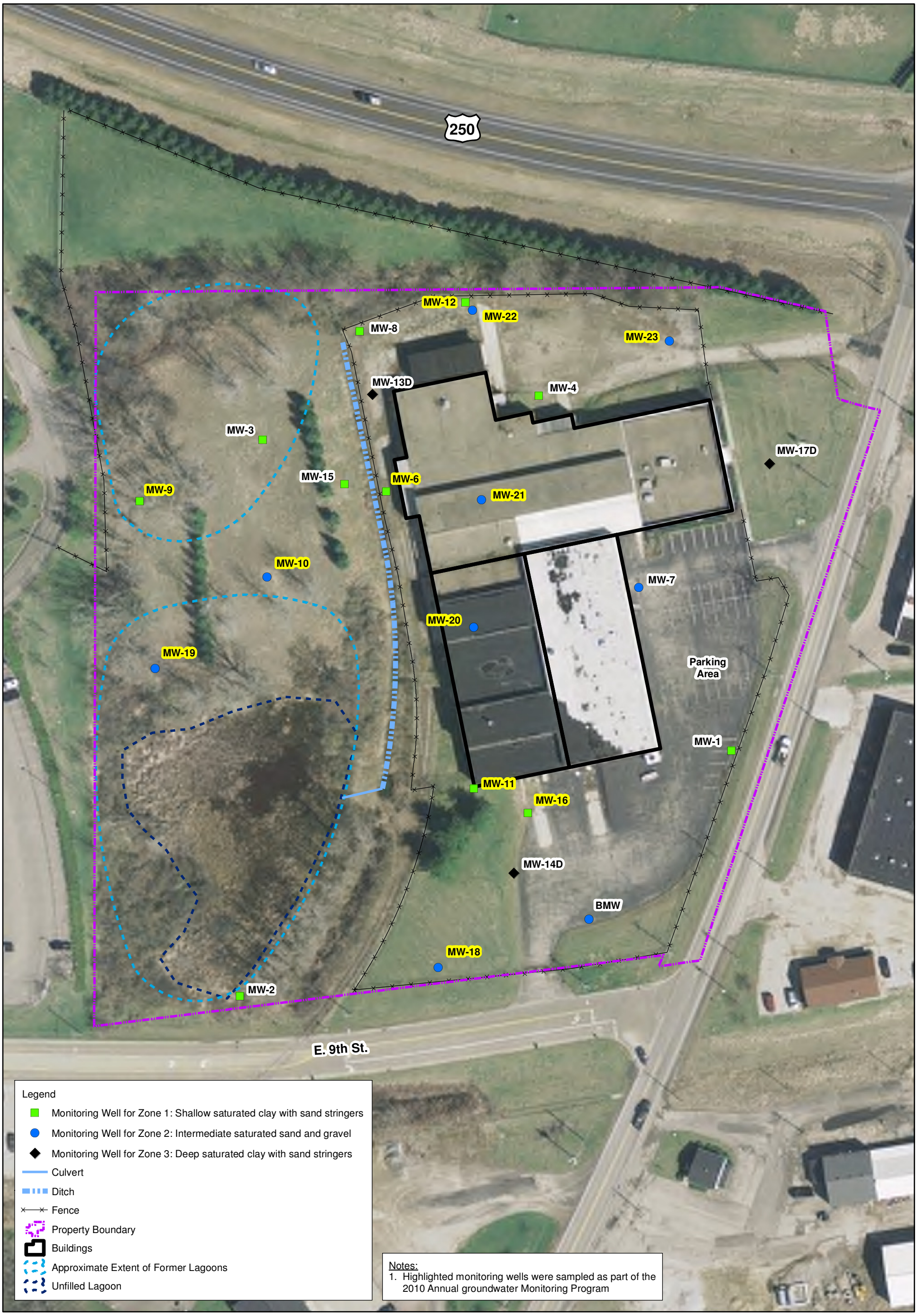

Figure 2
Facility Groundwater Monitoring Network
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Former General Latex and Chemical Corporation Facility
Ashland, Ohio

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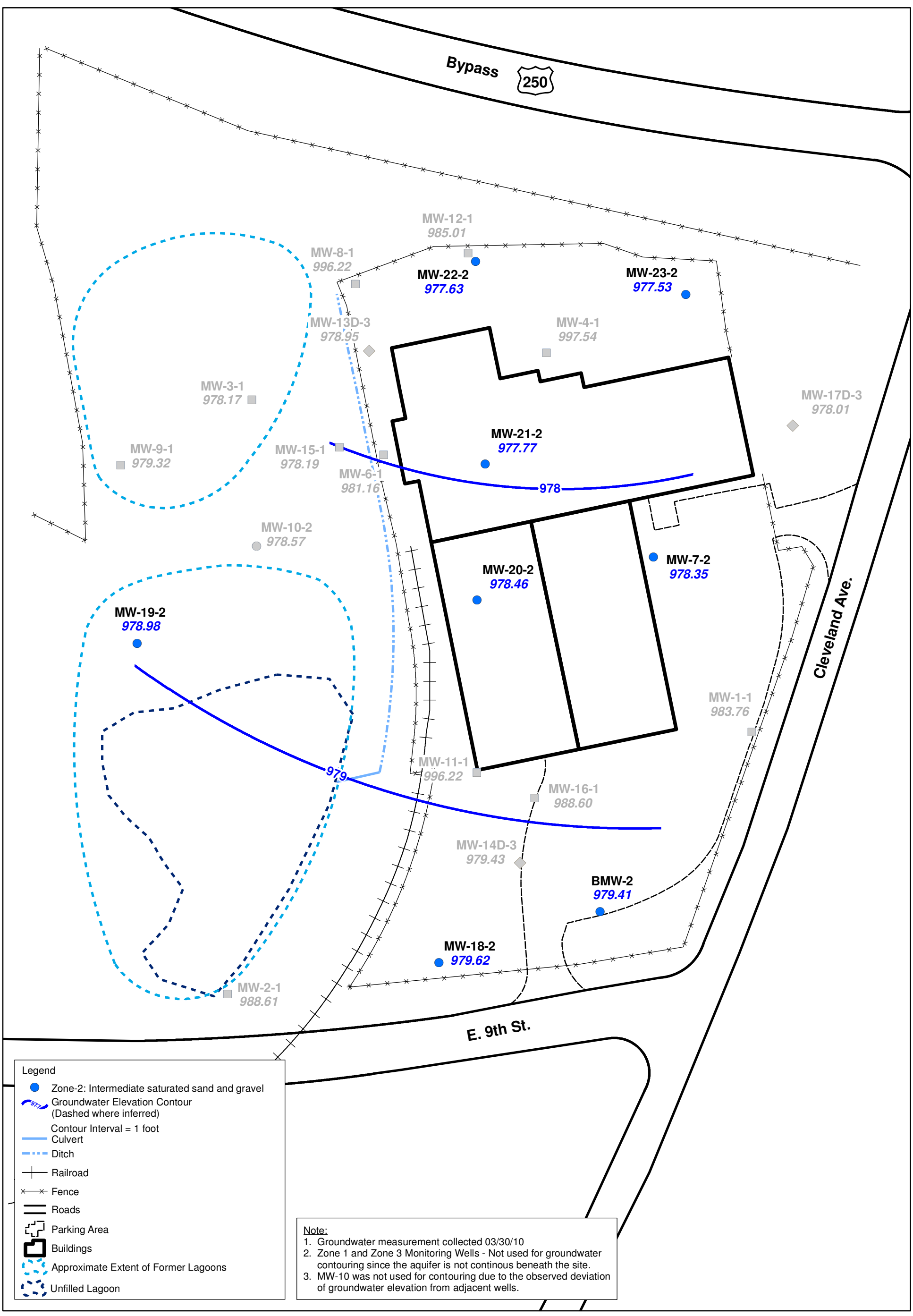

Figure 3
Zone 2 Groundwater Potentiometric Surface Map
2010 Annual Groundwater Monitoring Report
Former General Latex and Chemical Corporation Facility
Ashland, Ohio

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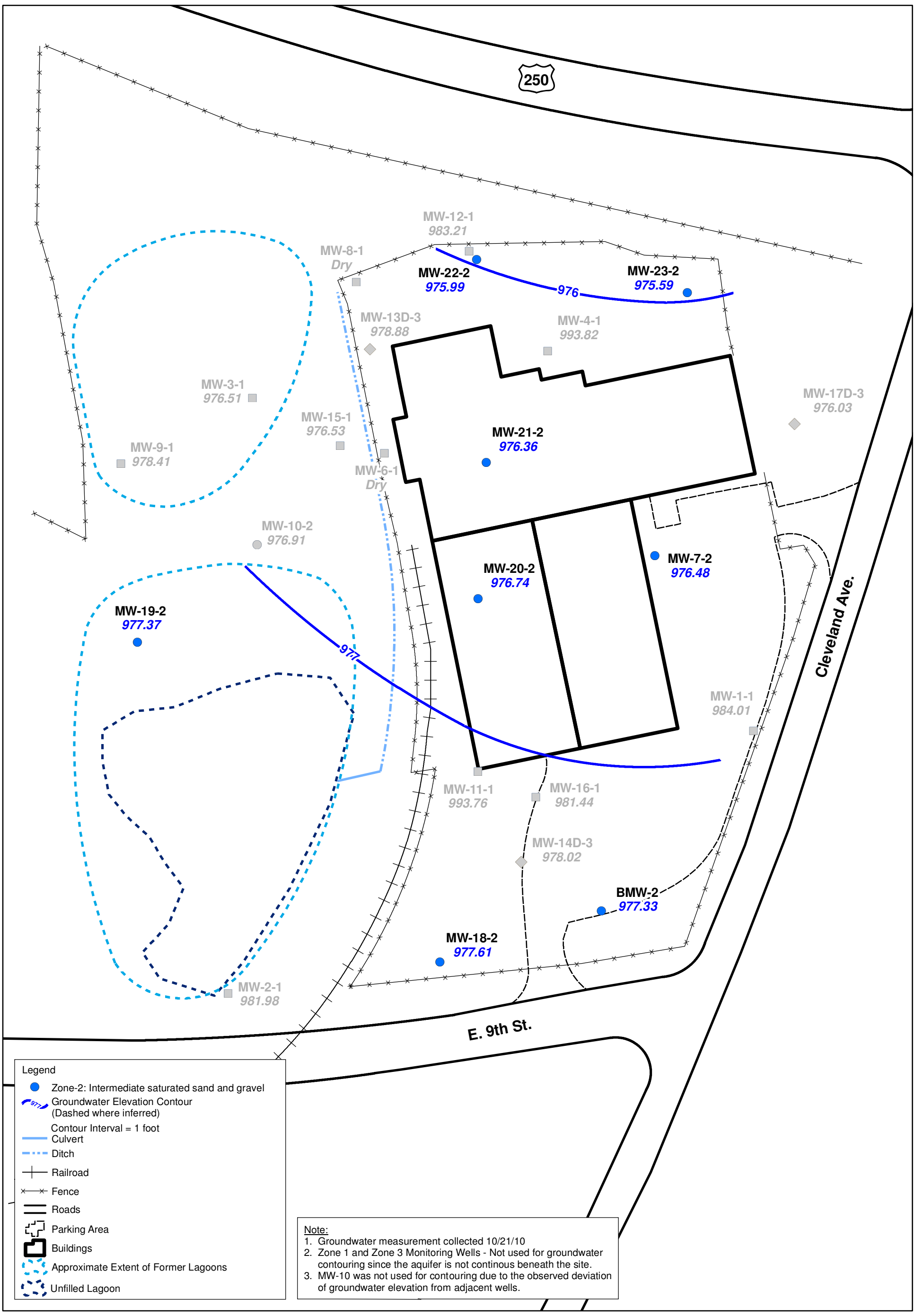

Figure 4
Zone 2 Groundwater Potentiometric Surface Map
2010 Annual Groundwater Monitoring Report
Former General Latex and Chemical Corporation Facility
Ashland, Ohio

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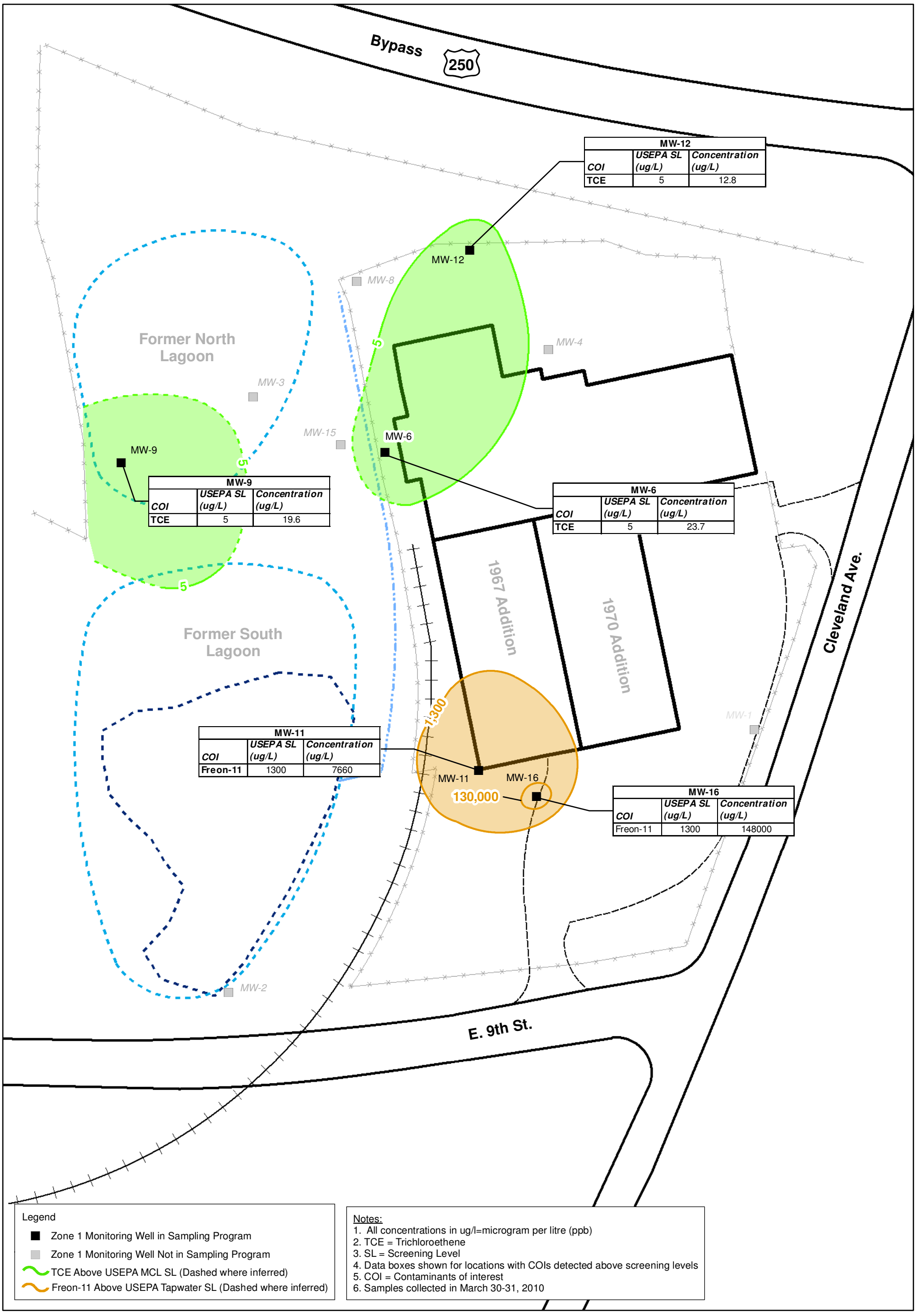

Figure 5
COI Exceedances in Shallow Groundwater (Zone 1) - March 2010
2010 Annual Groundwater Monitoring Report
Former General Latex and Chemical Corporation Facility
Ashland, ohio

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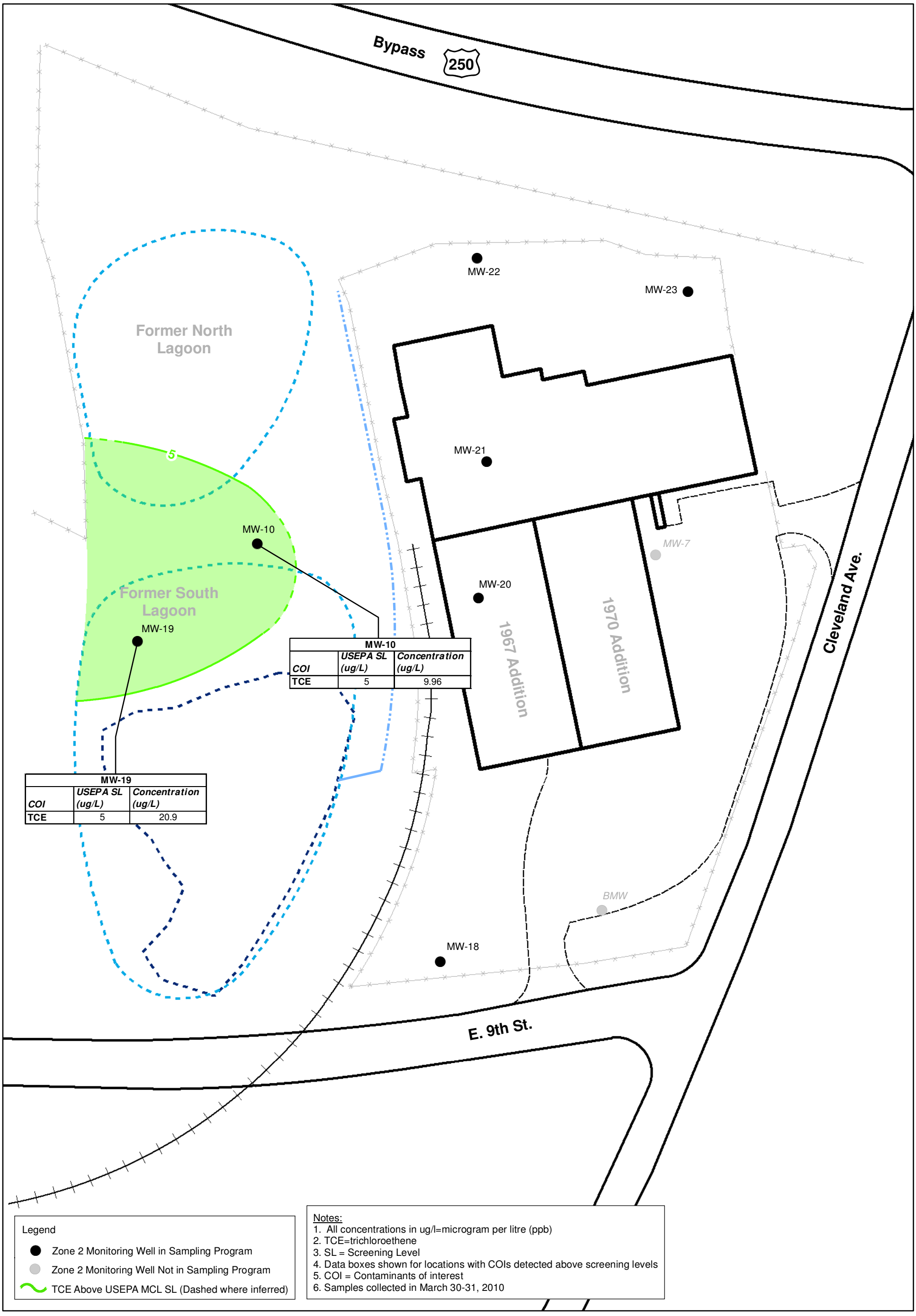

Figure 6
COI Exceedances in Intermediate Groundwater (Zone 2) - March 2010
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Former General Latex and Chemical Corporation Facility
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Figure 7
COI Exceedances in Shallow Groundwater (Zone 1) - October 2010
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Former General Latex & Chemical Corp Facility
Ashland, Ohio

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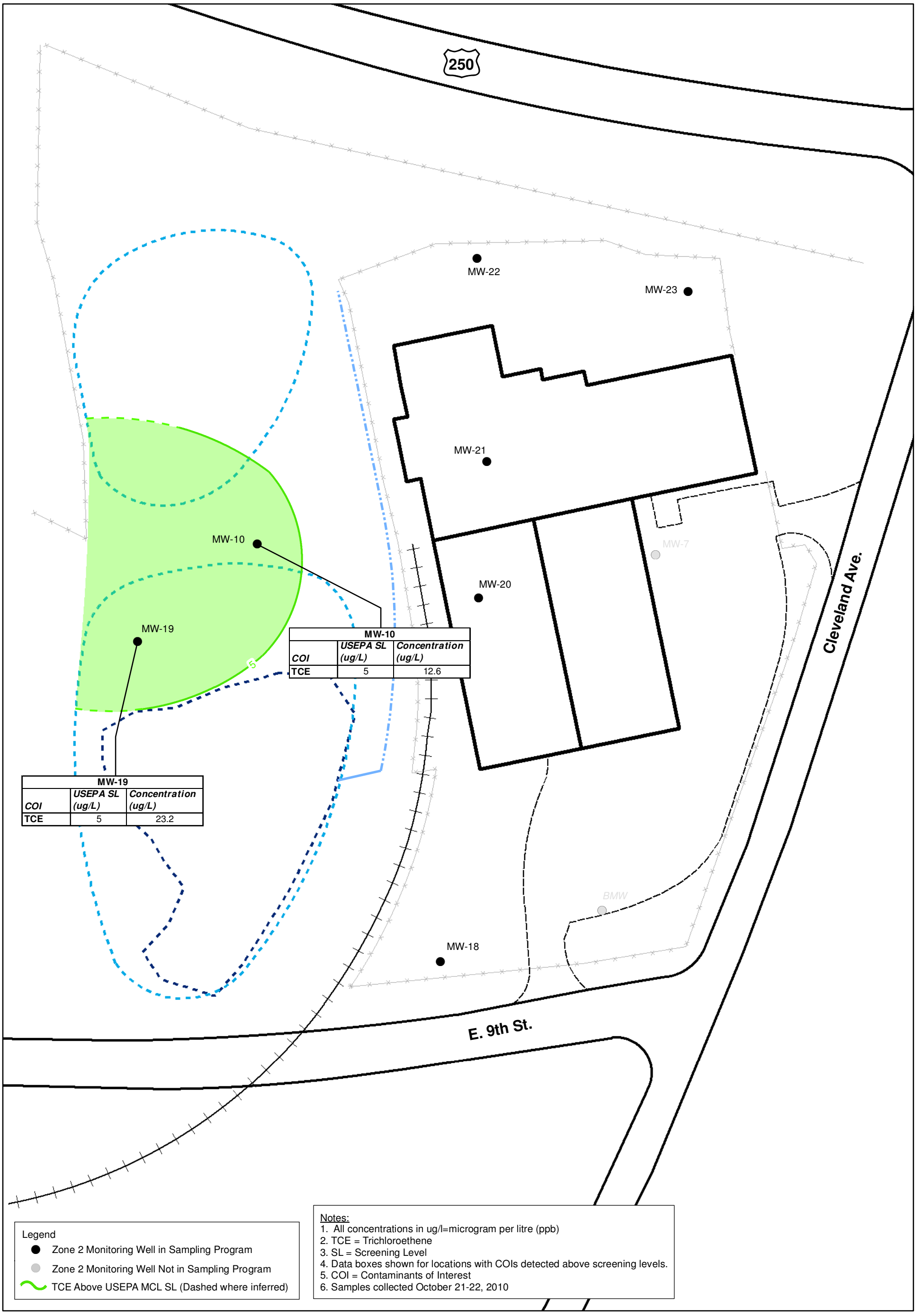

Figure 8
COI Exceedances in Intermediate Groundwater (Zone 2) - October 2010
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Former General Latex & Chemical Corp Facility
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Figure 9
TCE Concentrations vs Time
MW-6 (Zone 1)

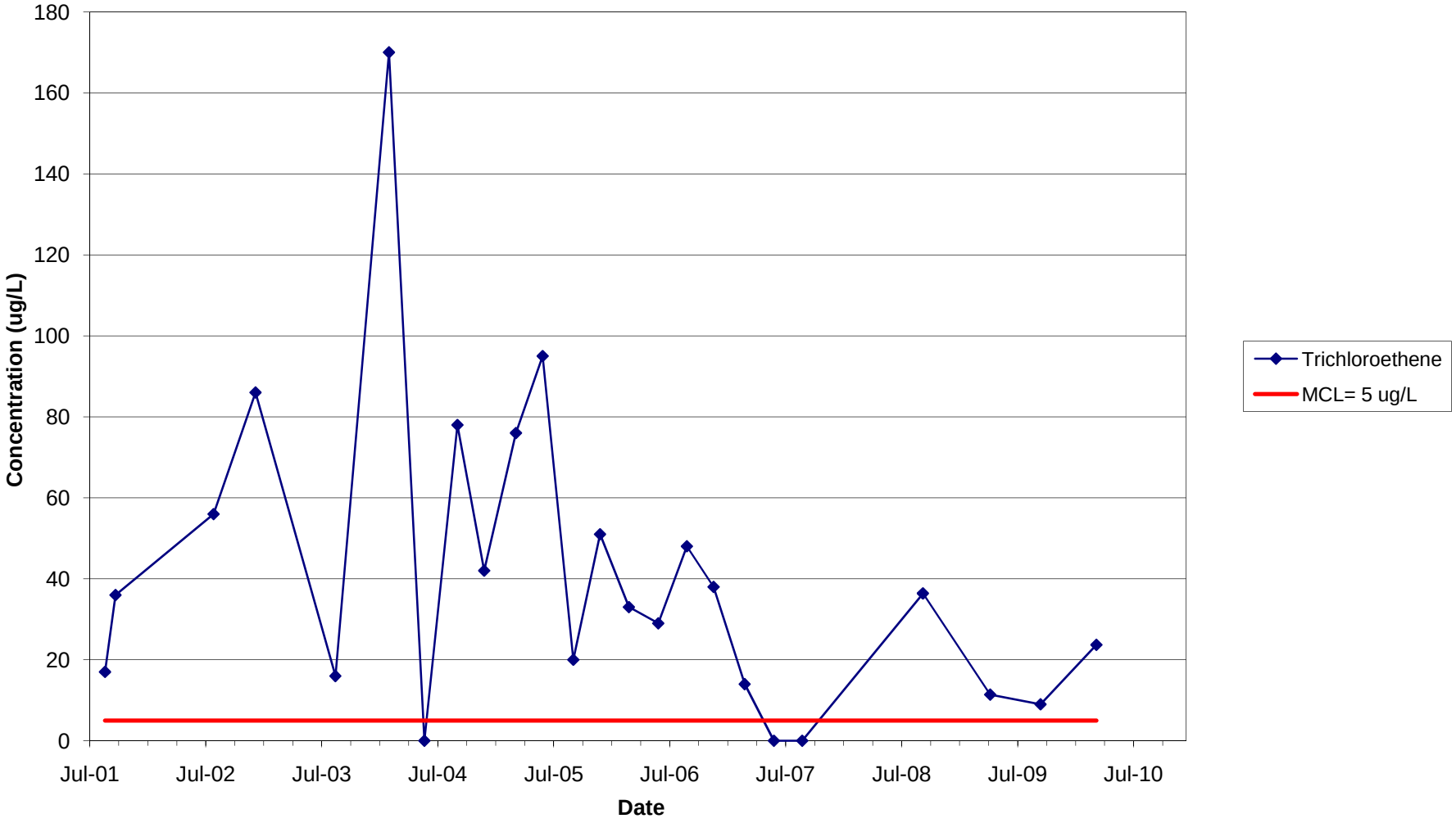


Figure 10
TCE Concentrations vs Time
MW-12 (Zone 1)

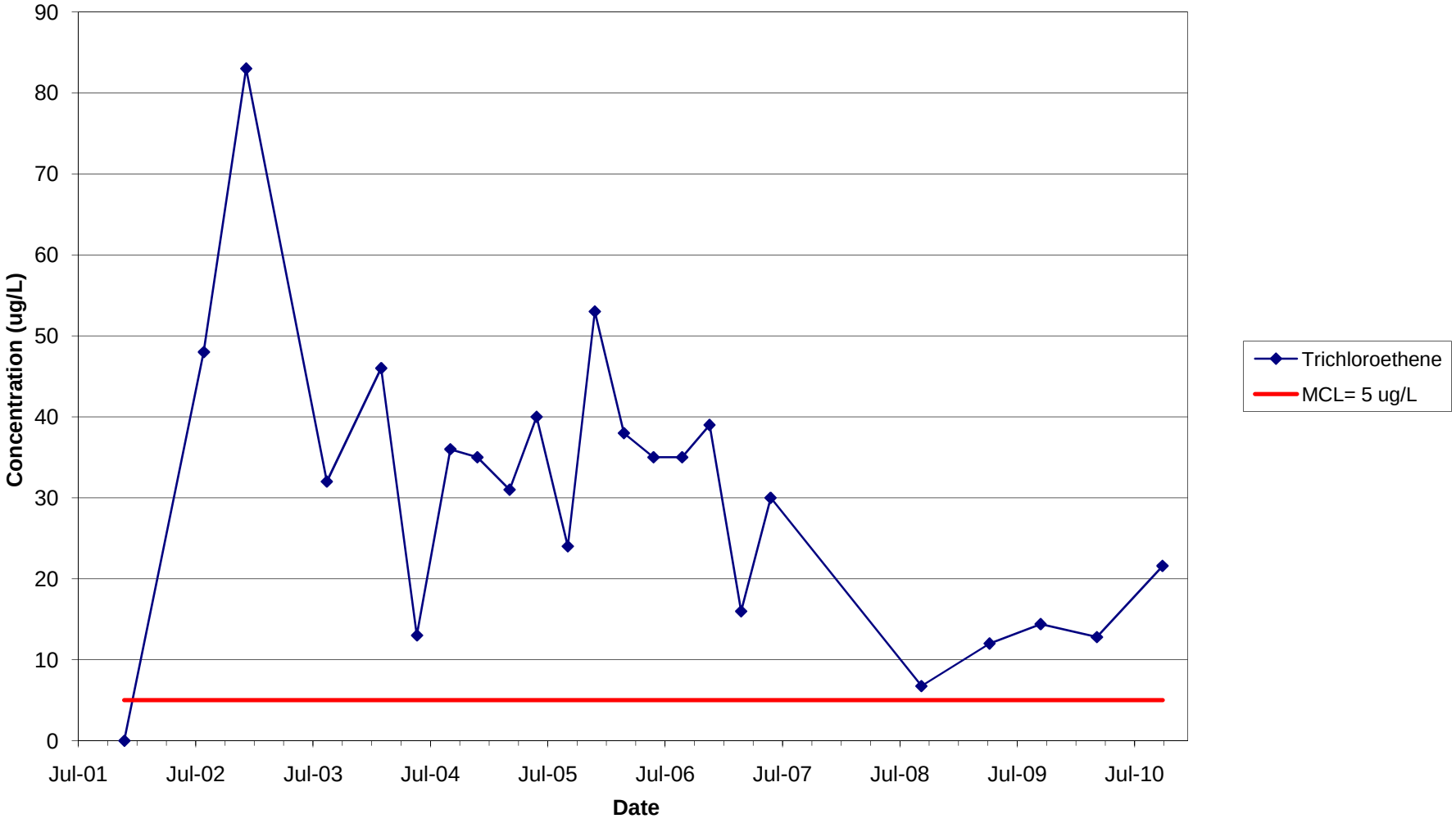


Figure 11
TCE Concentrations vs Time
MW-9 (Zone 1)

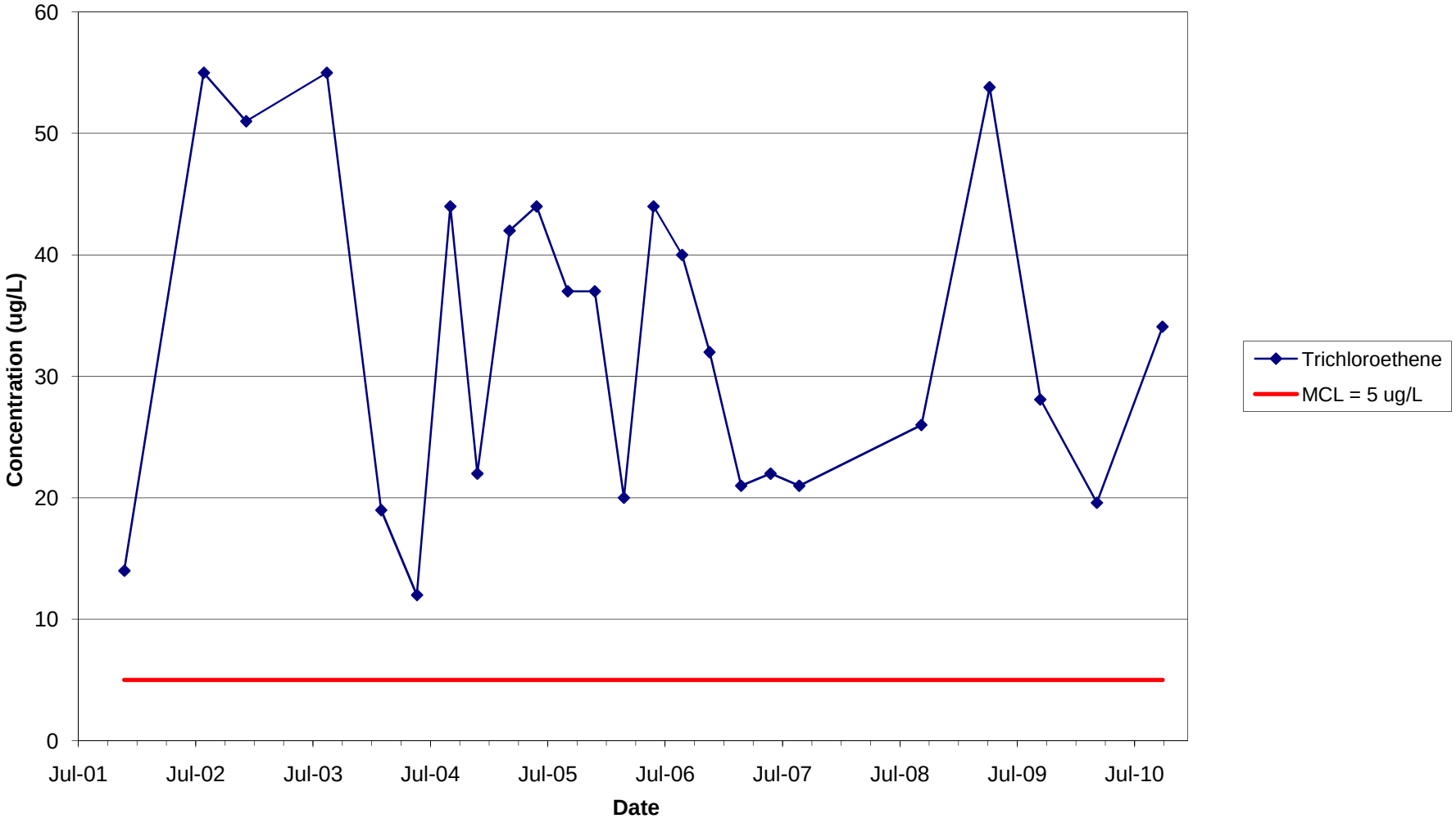


Figure 12
TCE Concentrations vs Time
MW-10 (Zone 2)

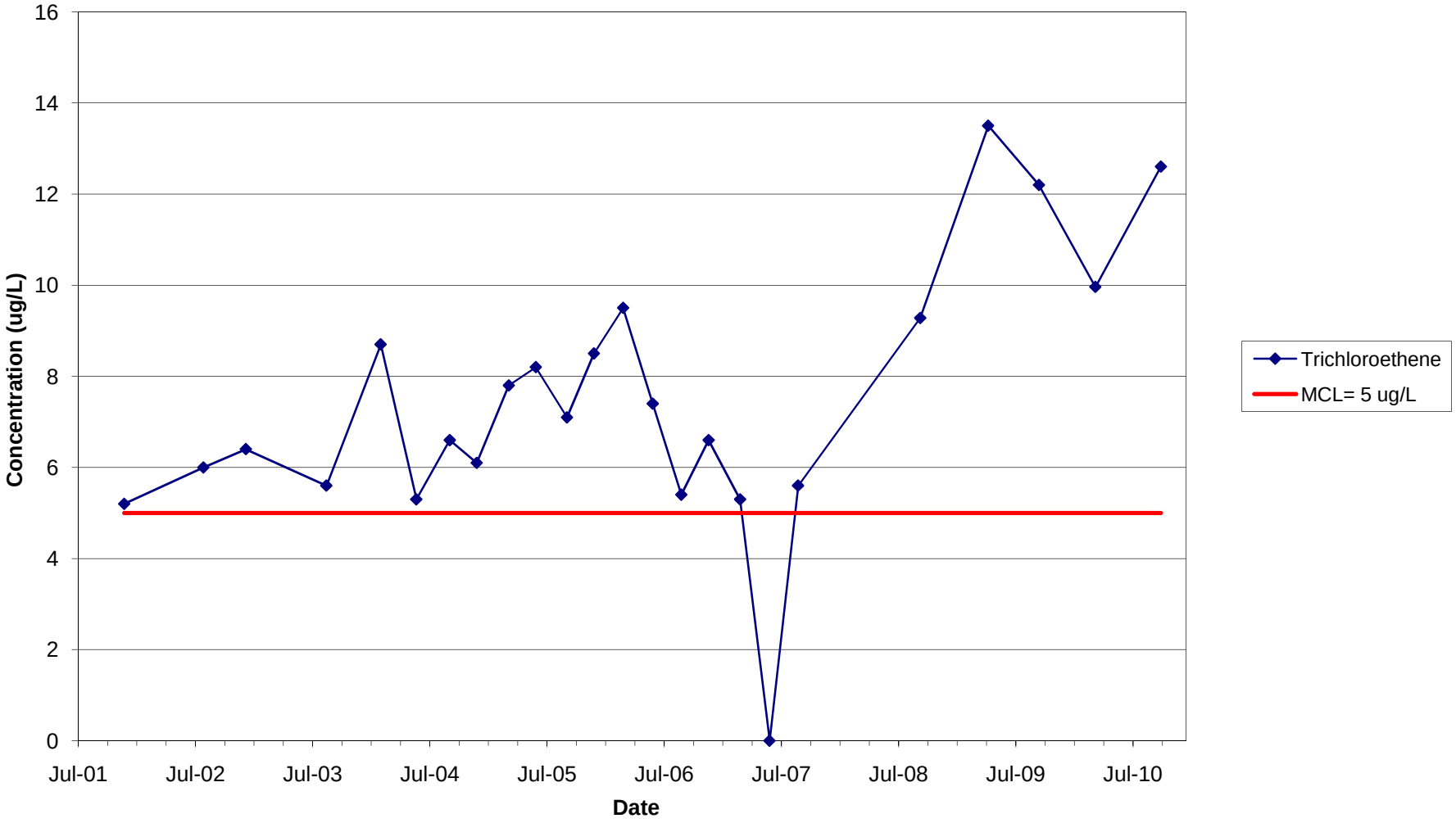


Figure 13
TCE Concentrations vs Time
MW-19 (Zone 2)

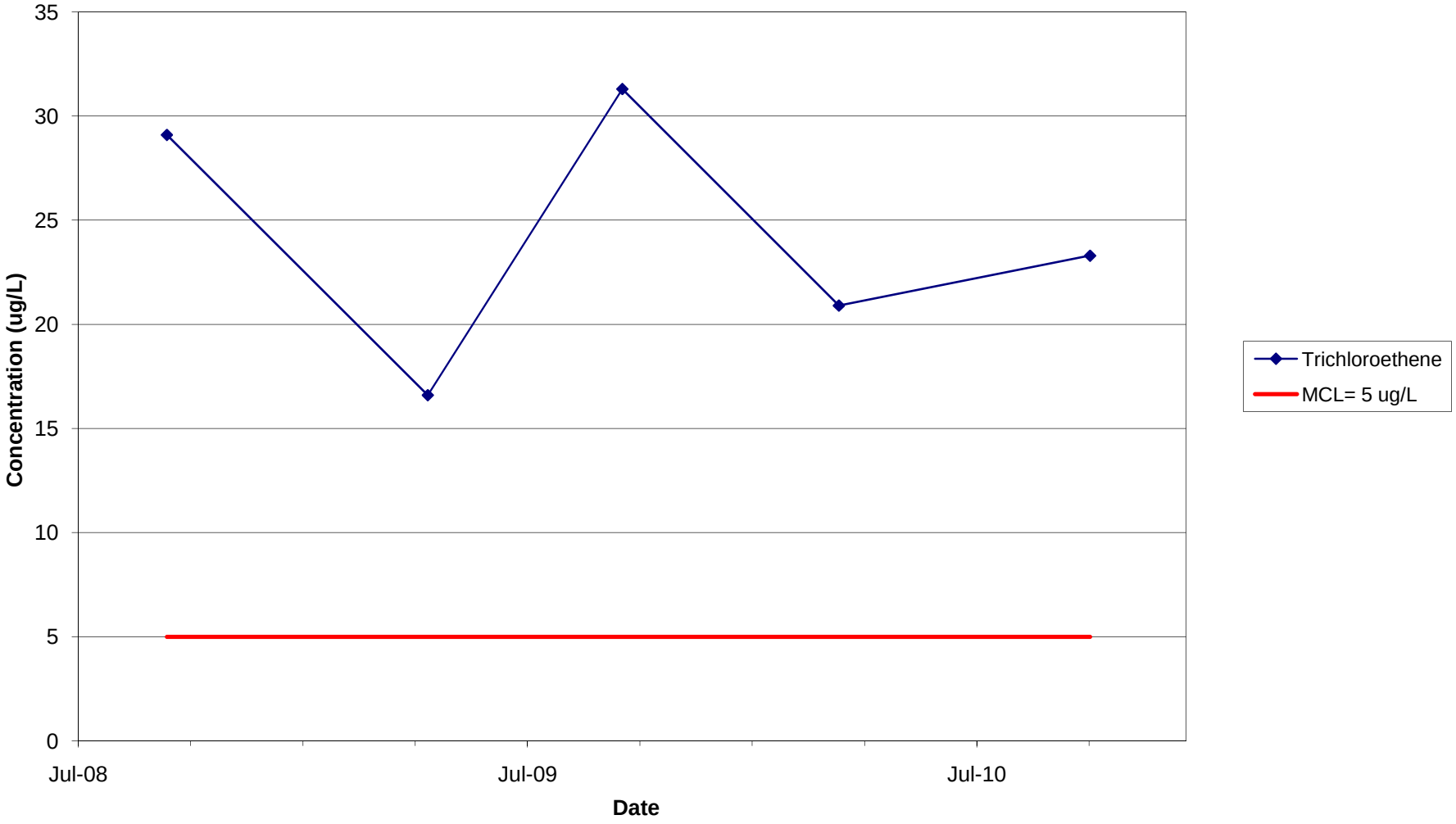


Figure 14
Freon-11 Concentrations vs Time
MW-11 (Zone 1)

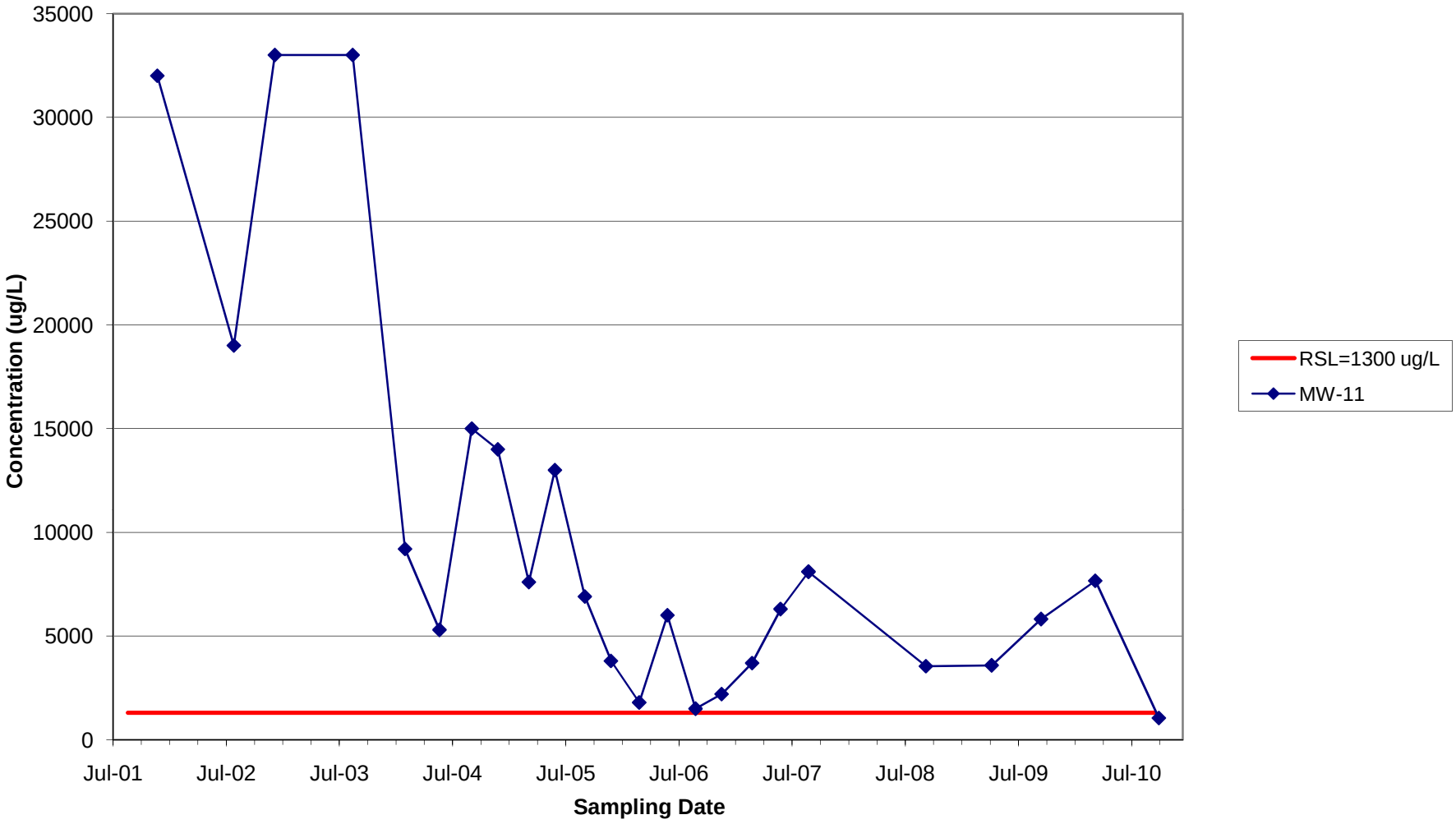
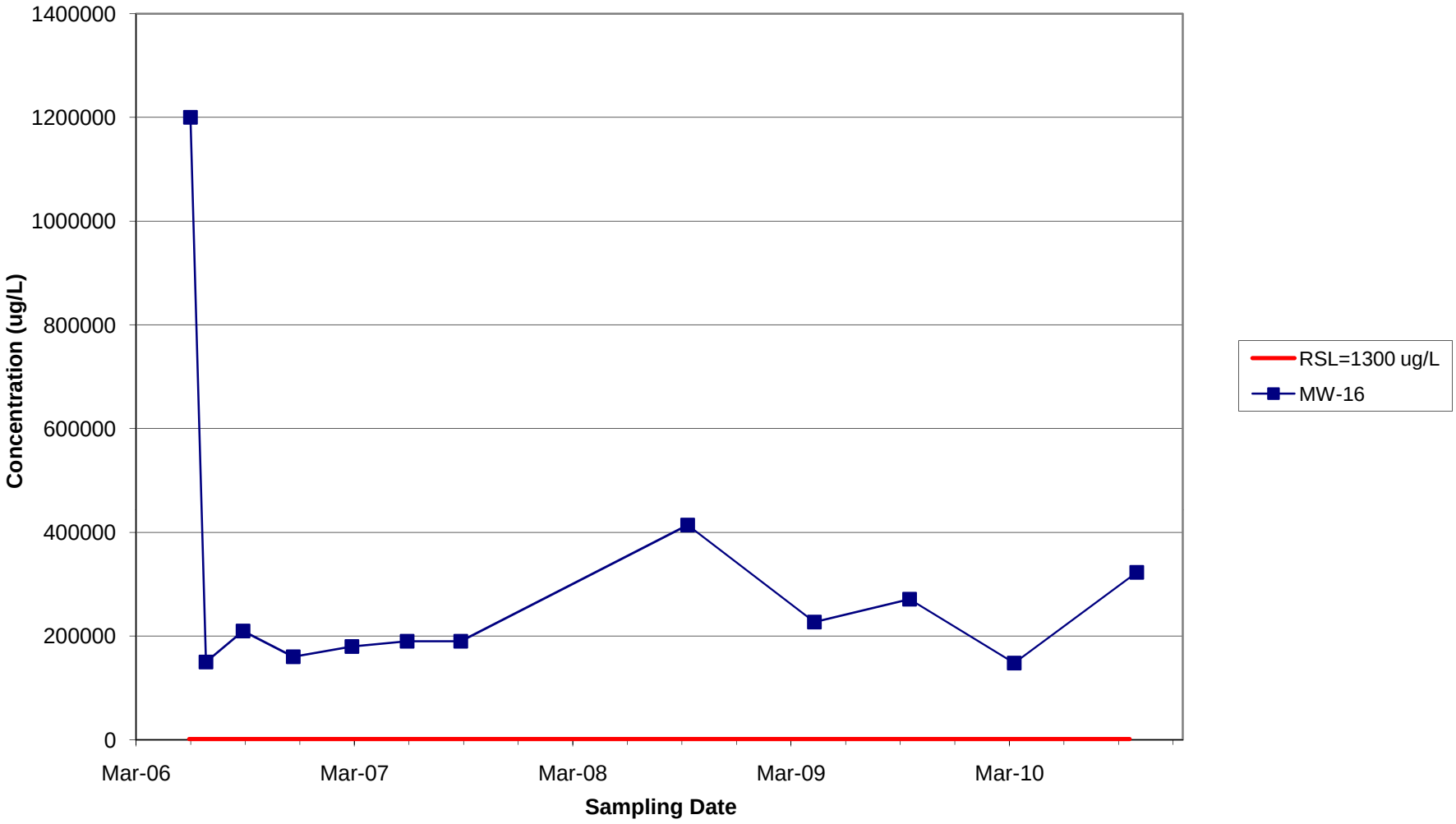


Figure 15
Freon-11 Concentrations vs Time
MW-16 (Zone 1)



Appendix A
Groundwater Sampling Forms and Gauging Sheets

Dow Ashland

Spring 2010 groundwater Sampling

03/30/2010

Monitoring Well	Depth to Bottom (ft)	Depth to Water (ft)	Time	Comments
MW-1	27.73	16.58	1135	
MW-2	23.1	10.1	1400	
MW-3	29.08	23.4	1320	
MW-4	17.70	3.5 inch	1250	Well under pressure - took long to stabilize
MW-6	18.70	15.83	1315	
MW-7	28.32	22.76	1132	
MW-8	12.91	2.36	1305	
MW-9	26.50	21.6	1335	
MW-10	35.24	24.73	1355	
MW-11	18.74	4.93	1210	
MW-12	41.32	12.40	1258	
MW-13D	57.05	18.81	1310	
MW-14D	49.85	19.79	1150	Silty bottom
MW-15	30.01	19.62	1330	
MW-16	20.20	9.34	1158	
MW-17D	56.28	22.30	1240	
MW-18	34.5	20.93	1230	Took longer to stabilize up to 15 min
MW-19	35.40	23.78	1340	
MW-20	33.11	22.78	1405	
MW-21	34.08	23.5	1410	
MW-22	34.91	19.86	1255	Well under pressure - took longer to stabilize
MW-23	40.0	19.6	1245	
BMW-2	28.53	19.80	1145	

measures by D. Tecle / 0.0

TABLE 1

Groundwater Level Measurements - Fall 2010 - October 21

Former General Latex and Chemical Corporation, Ashland, Ohio

Well ID	Screened Interval		Top of Casing (TOC) Elevation	Measured Depth to Water (feet bgs)	P.I.D
MW-1	17	27	1000.34	16.33	0.0
MW-2	13	23	998.71	16.73	0.0
MW-3	16	36	1001.57	25.06	0.0
MW-4	7	17	997.83	4.01	0.0
MW-6	10	20	996.99	DRY	0.0
MW-7	20	30	1001.11	24.63	0.0
MW-8	3	13	998.58	DRY	0.0
MW-9	14	24	1000.92	22.51	0.5
MW-10	17	32	1003.30	26.39	0.0
MW-11	9	19	1001.15	7.39	0.0
MW-12	14	24	997.41	14.20	0.0
MW-13D	14	24	997.76	18.88	0.0
MW-14D	42	52	999.22	21.20	0.0
BMW-2	18	28	999.21	21.88	0.2
MW-15	20	30	997.81	21.28	0.5
MW-16	10	20	997.94	16.50	0.0
MW-17D	48	58	1000.31	24.28	0.0
MW-18	30	35	1000.55	22.94	0.0
MW-19	18	28	1002.76	25.39	0.0
MW-20	23	33	1001.24	24.50	0.0
MW-21	24	34	1001.27	24.91	0.0
MW-22	25	35	997.49	21.50	0.0
MW-23	30	40	997.13	21.54	0.0

Abbreviations

ft btoc - feet below top of casing

PROJECT: Former General Latex Chemical Corp. - March 2010 Field Event		**WELL ID:** MW 06	
		DATE/TIME: 03/31/10, 1125	
Sampler(s): D. Tecle	**Well Diameter:** 2"	**Weather Conditions:** Sunny 70°-30°	
	PID Reading: 0.0	**Purge Method:** (Circle One)	Low Flow / Volumetric

SECTION 1: Purge Volume Information

(1) TD = Total Depth of Well (ft): 18.7'	(2) DTW = Depth to Water (ft): 15.75

SECTION 2: For Volumetric Sampling Only

(3) Height of Water in Well = TD - DTW = [(1)-(2)]: —	(4) One Purge Volume[2,3]: —

SECTION 3: Field Parameter Data

Parameter	DTW	Time	pH[1]	Sp Cond.[1]	DO[1]	ORP	Turbidity	Temperature
Parameter Units	ft		SU	mS/cm	mg/L	mV	NTUs	C°
Acceptable Range	–	–	6.00 - 8.00	0.300-1.300 mS/cm	See Note 4	-190.0 - 240.0 mV	–	4.00 - 20.00 C°
Tolerance Levels	0.4		+/- 0.1	+/- 3%	+/- 0.3 mg/L	+/- 10 mV	<50	+/- 0.2
First Water	16.55	1127	7.05	0.391	4.37	-6.3	71000	11.26
1	17.85	1132	6.91	0.379	2.19	-4.6	71000	10.62
2	—	Switched to Volumetric Sampling						
3	18.30	1137	6.89	0.377	2.00	-10.2	71000	10.66
4	Well went Dry							
5								
6								

Stabilization Parameters Used (min. three): pH Sp. Cond. DO ORP / NA

SECTION 4: Equipment and Method Information

Purging Equipment: Peristaltic pump	
Purge/Flow Rate: ~ 110 ml/min	**Total Volume Purged:** ~ 0.4 gallons
Field Parameter Instruments: YSI, Turbidity meter	

SECTION 5: Sample Information

Samples	ID	Time	VOCs	Other	Other
Parent	MW06GW1020-033110	1140	X	—	
Duplicate					
MS/MSD					
Equipment Blank					

REMARKS:

NOTES:

1 - DENOTES STABILIZATION PARAMETERS.

2 - One purge volume (gallons) for a 1.25" dia. well: (Height of Water in Well) x 0.06 gal/ft

3 - One purge volume (gallons) for a 2" dia. well: (Height of Water in Well) x 0.16 gal/ft

4 - Varies from 0.0 to 9.5 at water temperature 15-25C°; 0.0 to 14.5 at water temperature 1-14C°

- milliliters per minute = gallons per minute/0.0002641

Form Checked by _____

PROJECT: Former General Latex Chemical Corp. - March 2010 Field Event	WELL ID: MW09
	DATE/TIME: 03/31/10, @ 1150
Sampler(s): D. Tecle/D.O	Well Diameter: 2"
	PID Reading: 0.5
	Weather Conditions: Sunny 70°-30°
	Purge Method: (Circle One) Low Flow / Volumetric

SECTION 1: Purge Volume Information

(1) TD = Total Depth of Well (ft): 26.5	(2) DTW = Depth to Water (ft): 21.60

SECTION 2: For Volumetric Sampling Only

(3) Height of Water in Well = TD - DTW = [(1)-(2)]: —	(4) One Purge Volume[2,3]: —

SECTION 3: Field Parameter Data

Parameter	DTW	Time	pH[1]	Sp Cond.[1]	DO[1]	ORP	Turbidity	Temperature
Parameter Units	ft		SU	mS/cm	mg/L	mV	NTUs	C°
Acceptable Range	–	–	6.00 - 8.00	0.300-1.300 mS/cm	See Note[4]	-190.0 - 240.0 mV	–	4.00 - 20.00 C°
Tolerance Levels	0.4		+/- 0.1	+/- 3%	+/- 0.3 mg/L	+/- 10 mV	<50	+/- 0.2
First Water	21.61	1200	6.58	1.858	5.56	94.7	831.4	13.44
1	21.75	1205	6.54	1.862	4.56	98.3	207	13.34
2	21.72	1210	6.53	1.879	4.82	100.3	356.2	13.6
3	21.73	1210	6.54	1.878	4.73	102.9	301.4	13.3
4								
5								
6	21.71	1215	6.54	1.874	4.72	104.8	24.9	13.49

Stabilization Parameters Used (min. three): (pH) Sp. Cond. (DO) (ORP)

SECTION 4: Equipment and Method Information

Purging Equipment: Perstaltic pump

Purge/Flow Rate: 100 ml/min Total Volume Purged:

Field Parameter Instruments: YSI, Turbidity meter

SECTION 5: Sample Information

Samples	ID	Time	VOCs	Other	Other
Parent	MW09GW1424-033110	1220	X	—	—
Duplicate	FD02-033110	1220	X	—	—
MS/MSD	—				
Equipment Blank	—				

REMARKS:

NOTES:

1 - DENOTES STABILIZATION PARAMETERS.

2 - One purge volume (gallons) for a 1.25" dia. well: (Height of Water in Well) x 0.06 gal/ft

3 - One purge volume (gallons) for a 2" dia. well: (Height of Water in Well) x 0.16 gal/ft

4 - Varies from 0.0 to 9.5 at water temperature 15-25C°; 0.0 to 14.5 at water temperature 1-14C°

- milliliters per minute = gallons per minute/0.0002641

Form Checked by _____

PROJECT: Former General Latex Chemical Corp. - March 2010 Field Event	**WELL ID:** MW10
	DATE/TIME: 03/31/10, 1420
Sampler(s): D. Tecle / O.O	**Well Diameter:** 2"
	PID Reading: 0.0
	Weather Conditions:
	Purge Method: (Circle One) Low Flow / Volumetric

SECTION 1: Purge Volume Information

(1) TD = Total Depth of Well (ft): 35.24	(2) DTW = Depth to Water (ft): 24.61

SECTION 2: For Volumetric Sampling Only

(3) Height of Water in Well = TD - DTW = [(1)-(2)]: —	(4) One Purge Volume[2,3]: —

SECTION 3: Field Parameter Data

Parameter	DTW	Time	pH[1]	Sp Cond.[1]	DO[1]	ORP	Turbidity	Temperature
Parameter Units	ft		SU	mS/cm	mg/L	mV	NTUs	C°
Acceptable Range	–	–	6.00 - 8.00	0.300-1.300 mS/cm	See Note 4	-190.0 - 240.0 mV	–	4.00 - 20.00 C°
Tolerance Levels	0.4		+/- 0.1	+/- 3%	+/- 0.3 mg/L	+/- 10 mV	<50	+/- 0.2
First Water	24.62	1425	6.99	1.685	1.5	35.9	78.9	15.39
1	24.63	1430	6.92	1.665	0.70	44.4	52.1	15.32
2	24.63	1435	6.87	1.636	0.66	48.3	5.30	15.57
3								
4								
5	24.62	1440	6.89	1.638	0.65	49.2	3.30	15.60
6	24.63	1445	6.88	1.617	0.61	50.3	2.21	15.63

Stabilization Parameters Used (min. three): pH Sp. Cond. DO ORP

SECTION 4: Equipment and Method Information

Purging Equipment: Perstaltic pump

Purge/Flow Rate: 100 ml/min **Total Volume Purged:** ~1.1 gallons

Field Parameter Instruments: YSI, Turbidity meter

SECTION 5: Sample Information

Samples	ID	Time	VOCs	Other	Other
Parent	MW10 GW1732-033110	1450	X	—	
Duplicate					
MS/MSD					
Equipment Blank					

REMARKS:

NOTES:
1 - DENOTES STABILIZATION PARAMETERS.
2 - One purge volume (gallons) for a 1.25" dia. well: (Height of Water in Well) x 0.06 gal/ft
3 - One purge volume (gallons) for a 2" dia. well: (Height of Water in Well) x 0.16 gal/ft
4 - Varies from 0.0 to 9.5 at water temperature 15-25C°; 0.0 to 14.5 at water temperature 1-14C°
- milliliters per minute = gallons per minute/0.0002641

Form Checked by _____

PROJECT: Former General Latex Chemical Corp. - March 2010 Field Event	**WELL ID:** MW 11
	DATE/TIME: 03/31/10, 0810
Sampler(s): D. Tecle / 0.0	**Well Diameter:** 2"
	PID Reading: 0.0
	Weather Conditions: Sunny high 70°, low 32°
	Purge Method: (Circle One) Low Flow / Volumetric

SECTION 1: Purge Volume Information

(1) TD = Total Depth of Well (ft): 18.74'	(2) DTW = Depth to Water (ft): 5.06

SECTION 2: For Volumetric Sampling Only

(3) Height of Water in Well = TD - DTW = [(1)-(2)]: —	(4) One Purge Volume[2,3]: —

SECTION 3: Field Parameter Data

Parameter	DTW	Time	pH[1]	Sp Cond.[1]	DO[1]	ORP	Turbidity	Temperature
Parameter Units	ft		SU	mS/cm	mg/L	mV	NTUs	C°
Acceptable Range	–	–	6.00 - 8.00	0.300-1.300 mS/cm	See Note[4]	-190.0 - 240.0 mV	–	4.00 - 20.00 C°
Tolerance Levels	0.4		+/- 0.1	+/- 3%	+/- 0.3 mg/L	+/- 10 mV	<50	+/- 0.2
First Water	5.21	0820	7.19	0.767	2.24	134.1	770	7.25
1	5.22	0825	7.14	0.765	1.49	133.6	497	7.22
2	5.25	0830	7.11	0.759	1.07	131.2	210	7.14
3		0835	7.10	0.759	1.01	129.2	120	7.19
4								
5								
6	5.27	0840	7.08	0.753	1.02	127.8	46.7	7.40

Stabilization Parameters Used (min. three): (pH) Sp. Cond. (DO) (ORP)

SECTION 4: Equipment and Method Information

Purging Equipment: peristaltic pump	
Purge/Flow Rate: 80 ml/min	**Total Volume Purged:** ~ 1 gallons
Field Parameter Instruments: YSI, Turbidity meter	

SECTION 5: Sample Information

Samples	ID	Time	VOCs	Other	Other
Parent	MW11 GW0919-033110	0845	X	—	
Duplicate					
MS/MSD					
Equipment Blank					

REMARKS:

NOTES:
1 - DENOTES STABILIZATION PARAMETERS.
2 - One purge volume (gallons) for a 1.25" dia. well: (Height of Water in Well) x 0.06 gal/ft
3 - One purge volume (gallons) for a 2" dia. well: (Height of Water in Well) x 0.16 gal/ft
4 - Varies from 0.0 to 9.5 at water temperature 15-25C°; 0.0 to 14.5 at water temperature 1-14C°
- milliliters per minute = gallons per minute/0.0002641

Form Checked by _____

PROJECT: Former General Latex Chemical Corp. - March 2010 Field Event	**WELL ID:** MW 12
	DATE/TIME: 03/31/10, 1045
Sampler(s): D. Teele / 0.0	**Well Diameter:** 2"
	PID Reading: 0.0
	Weather Conditions: Sunny 70-30°
	Purge Method: (Circle One) Low Flow / Volumetric

SECTION 1: Purge Volume Information

(1) TD = Total Depth of Well (ft): 41.32'	(2) DTW = Depth to Water (ft): 11.95

SECTION 2: For Volumetric Sampling Only

(3) Height of Water in Well = TD - DTW = [(1)-(2)]: —	(4) One Purge Volume[2,3]: —

SECTION 3: Field Parameter Data

Parameter	DTW	Time	pH[1]	Sp Cond.[1]	DO[1]	ORP	Turbidity	Temperature
Parameter Units	ft		SU	mS/cm	mg/L	mV	NTUs	C°
Acceptable Range	–	–	6.00 - 8.00	0.300-1.300 mS/cm	See Note 4	-190.0 - 240.0 mV	–	4.00 - 20.00 C°
Tolerance Levels	0.4		+/- 0.1	+/- 3%	+/- 0.3 mg/L	+/- 10 mV	<50	+/- 0.2
First Water	12.81	1050	7.15	0.505	4.11	3.6	201	11.10
1	14.2	1055	7.03	0.485	2.10	7.3	110.1	11.14
2	15.10	1100	7.02	0.480	1.68	11.1	69.7	11.32
3	15.53	1105	7.01	0.474	1.51	18.0	20.4	11.60
4	15.81	1110	7.00	0.471	1.48	19.3	15.1	11.72
5								
6	15.96	1115	6.98	0.472	1.50	19.2	10.3	11.89

Stabilization Parameters Used (min. three): (pH) Sp. Cond. (DO) (ORP)

SECTION 4: Equipment and Method Information

Purging Equipment: Peristaltic pump	
Purge/Flow Rate: 100 ml/min	**Total Volume Purged:** ~ 1.1 gallons
Field Parameter Instruments: YSI, Turbidity meter	

SECTION 5: Sample Information

Samples	ID	Time	VOCs	Other	Other
Parent	MW12GW1424-033110	1120	X	—	
Duplicate					
MS/MSD					
Equipment Blank					

REMARKS:

NOTES:
1 - DENOTES STABILIZATION PARAMETERS.
2 - One purge volume (gallons) for a 1.25" dia. well: (Height of Water in Well) x 0.06 gal/ft
3 - One purge volume (gallons) for a 2" dia. well: (Height of Water in Well) x 0.16 gal/ft
4 - Varies from 0.0 to 9.5 at water temperature 15-25C°; 0.0 to 14.5 at water temperature 1-14C°
- milliliters per minute = gallons per minute/0.0002641

Form Checked by _____

		WELL ID:	MW-16
PROJECT: Former General Latex Chemical Corp. - March 2010 Field Event		**DATE/TIME:**	03/31/10, 0850
Sampler(s): D. Tecle / 0.0	**Well Diameter:** ~~of MW-16~~ 2"	**Weather Conditions:**	Sunny 70° – 32
	PID Reading: 0.0	**Purge Method:** (Circle One)	Low Flow / Volumetric

SECTION 1: Purge Volume Information

(1) TD = Total Depth of Well (ft): 20.20'	(2) DTW = Depth to Water (ft): 6.55'

SECTION 2: For Volumetric Sampling Only

(3) Height of Water in Well = TD - DTW = [(1)-(2)]: 13.65	(4) One Purge Volume[2,3]: ~ 2.1

SECTION 3: Field Parameter Data

Parameter	DTW	Time	pH[1]	Sp Cond.[1]	DO[1]	ORP	Turbidity	Temperature
Parameter Units	ft		SU	mS/cm	mg/L	mV	NTUs	C°
Acceptable Range	–	–	6.00 - 8.00	0.300-1.300 mS/cm	See Note[4]	-190.0 - 240.0 mV	–	4.00 - 20.00 C°
Tolerance Levels	0.4		+/- 0.1	+/- 3%	+/- 0.3 mg/L	+/- 10 mV	<50	+/- 0.2
First Water	7.4	0850	6.88	1.094	3.52	-0.4	532	9.44
1	7.9	0855	6.83	1.105	0.91	-7.7	98	9.31
2	—	Switched to Volumetric Sampling						
3	11.2	0900	6.81	1.096	0.23	-12.4	110	9.89
4	15	0905	6.85	0.943	0.24	-10.5	31	9.44
5	—	—	Well went dry					
6	20.19	0920	6.84	1.0773	0.41	-20.0	24	10.49

Stabilization Parameters Used (min. three): pH Sp. Cond. DO ORP

SECTION 4: Equipment and Method Information

Purging Equipment: Peristaltic pump	
Purge/Flow Rate: 80 ml/	**Total Volume Purged:** ~3.8 gallons
Field Parameter Instruments: YSI, Turbidity meter	

SECTION 5: Sample Information

Samples	ID	Time	VOCs	Other	Other
Parent	MW16GW1020-033110	0925	X	—	—
Duplicate	—	—	—	—	—
MS/MSD	—	—	—	—	—
Equipment Blank	—	—	—	—	—

REMARKS:

NOTES:
1 - DENOTES STABILIZATION PARAMETERS.
2 - One purge volume (gallons) for a 1.25" dia. well: (Height of Water in Well) x 0.06 gal/ft
3 - One purge volume (gallons) for a 2" dia. well: (Height of Water in Well) x 0.16 gal/ft
4 - Varies from 0.0 to 9.5 at water temperature 15-25C°; 0.0 to 14.5 at water temperature 1-14C°
- milliliters per minute = gallons per minute/0.0002641

Form Checked by _____

PROJECT: Former General Latex Chemical Corp. - March 2010 Field Event	WELL ID: MW-18
	DATE/TIME: 03/30/10, 1600
Sampler(s): D. Tecle / O. O	Well Diameter: 2"
	PID Reading: 0.0
	Weather Conditions: partly Cloudy
	Purge Method: (Circle One) Low Flow / Volumetric

SECTION 1: Purge Volume Information

(1) TD = Total Depth of Well (ft): 34.5'	(2) DTW = Depth to Water (ft): 20.76'

SECTION 2: For Volumetric Sampling Only

(3) Height of Water in Well = TD - DTW = [(1)-(2)]: —	(4) One Purge Volume[2,3]: —

SECTION 3: Field Parameter Data

Parameter	DTW	Time	pH[1]	Sp Cond.[1]	DO[1]	ORP	Turbidity	Temperature
Parameter Units	ft		SU	mS/cm	mg/L	mV	NTUs	C°
Acceptable Range	–	–	6.00 - 8.00	0.300-1.300 mS/cm	See Note[4]	-190.0 - 240.0 mV	–	4.00 - 20.00 C°
Tolerance Levels	0.4		+/- 0.1	+/- 3%	+/- 0.3 mg/L	+/- 10 mV	<50	+/- 0.2
First Water	21.20	1605	7.30	1.421	3.12	-125.1	47.9	12.82
1	21.04	1610	7.24	1.368	1.26	-99.3	40.6	13.16
2	20.98	1615	7.20	1.282	0.62	-98.7	31.1	13.57
3	20.57	1620	7.20	1.283	0.39	-89.2	16.8	12.77
4	20.31	1625	7.18	1.242	0.38	-84.9	10.10	13.10
5								
6	20.36	1630	7.20	1.239	0.41	-81.2	9.4	12.94

Stabilization Parameters Used (min. three): (pH) Sp. Cond. (DO) (ORP)

SECTION 4: Equipment and Method Information

Purging Equipment: Perstaltic pump	
Purge/Flow Rate: ~ 80 ml/min	Total Volume Purged:
Field Parameter Instruments: YSI, Turbidity meter	

SECTION 5: Sample Information

Samples	ID	Time	VOCs	Other	Other
Parent	MW18GW3035-033010	1635	X	—	—
Duplicate	—				—
MS/MSD	MW18GW3035-033010-MS/MSD	1635	X		
Equipment Blank	—			—	—

REMARKS:

NOTES:
1 - DENOTES STABILIZATION PARAMETERS.
2 - One purge volume (gallons) for a 1.25" dia. well: (Height of Water in Well) x 0.06 gal/ft
3 - One purge volume (gallons) for a 2" dia. well: (Height of Water in Well) x 0.16 gal/ft
4 - Varies from 0.0 to 9.5 at water temperature 15-25C°; 0.0 to 14.5 at water temperature 1-14C°
- milliliters per minute = gallons per minute/0.0002641

Form Checked by _____

PROJECT: Former General Latex Chemical Corp. - March 2010 Field Event		WELL ID:	MW19
		DATE/TIME:	03/31/10, 1235
Sampler(s): D. Tock / O.O	Well Diameter: 2"	Weather Conditions:	Sunny, 70°-30°
	PID Reading: 0.0	Purge Method: (Circle One)	Low Flow / Volumetric

SECTION 1: Purge Volume Information

(1) TD = Total Depth of Well (ft): 35.4	(2) DTW = Depth to Water (ft): 23.61

SECTION 2: For Volumetric Sampling Only

(3) Height of Water in Well = TD - DTW = [(1)-(2)]: —	(4) One Purge Volume[2,3]: —

SECTION 3: Field Parameter Data

Parameter	DTW	Time	pH[1]	Sp Cond.[1]	DO[1]	ORP	Turbidity	Temperature
Parameter Units	ft		SU	mS/cm	mg/L	mV	NTUs	C°
Acceptable Range	–	–	6.00 - 8.00	0.300-1.300 mS/cm	See Note[4]	-190.0 - 240.0 mV	–	4.00 - 20.00 C°
Tolerance Levels	0.4		+/- 0.1	+/- 3%	+/- 0.3 mg/L	+/- 10 mV	<50	+/- 0.2
First Water	23.62	1240	6.78	2.834	3.18	31.3	763	14.30
1	23.62	1245	6.73	2.794	2.91	30.5	319	14.12
2	23.65	1250	6.72	2.816	3.21	36.2	224	13.89
3	23.67	1255	6.73	2.817	3.32	35.1	198	14.10
4								
5								
6	23.68	1300	6.74	2.825	3.18	32.2	220	14.11

Stabilization Parameters Used (min. three): (pH) Sp. Cond. DO (ORP)

SECTION 4: Equipment and Method Information

Purging Equipment: Perstaltic pump	
Purge/Flow Rate: 110 ml/min	Total Volume Purged:
Field Parameter Instruments: YSI, Turbidity meter	

SECTION 5: Sample Information

Samples	ID	Time	VOCs	Other	Other
Parent	MW19 GW 1828-033110	1305	X	—	—
Duplicate	—	—	—	—	—
MS/MSD	—	—	—	—	—
Equipment Blank	—	—	—	—	—

REMARKS:

NOTES:
1 - DENOTES STABILIZATION PARAMETERS.
2 - One purge volume (gallons) for a 1.25" dia. well: (Height of Water in Well) x 0.06 gal/ft
3 - One purge volume (gallons) for a 2" dia. well: (Height of Water in Well) x 0.16 gal/ft
4 - Varies from 0.0 to 9.5 at water temperature 15-25C°; 0.0 to 14.5 at water temperature 1-14C°
- milliliters per minute = gallons per minute/0.0002641

Form Checked by _____

PROJECT: Former General Latex Chemical Corp. - March 2010 Field Event	**WELL ID:** MW-20
	DATE/TIME: 03/30/10, 1510
Sampler(s): D. Tecle / 0.0	**Well Diameter:** 2"
	PID Reading: 0.0
	Weather Conditions: partly cloudy
	Purge Method: (Circle One) Low Flow / Volumetric

SECTION 1: Purge Volume Information

(1) TD = Total Depth of Well (ft): 33.11'	(2) DTW = Depth to Water (ft): 22.70'

SECTION 2: For Volumetric Sampling Only

(3) Height of Water in Well = TD - DTW = [(1)-(2)]: —	(4) One Purge Volume[2,3]: —

SECTION 3: Field Parameter Data

Parameter	DTW	Time	pH[1]	Sp Cond.[1]	DO[1]	ORP	Turbidity	Temperature
Parameter Units	ft		SU	mS/cm	mg/L	mV	NTUs	C°
Acceptable Range	–	–	6.00 - 8.00	0.300-1.300 mS/cm	See Note[4]	-190.0 - 240.0 mV	–	4.00 - 20.00 C°
Tolerance Levels	0.4		+/- 0.1	+/- 3%	+/- 0.3 mg/L	+/- 10 mV	<50	+/- 0.2
First Water	22.69	1520	7.12	1.319	3.41	-58.9	92.5	11.53
1	22.68	1525	7.11	1.319	1.22	-62.3	11.0	11.53
2	22.60	1530	7.11	1.318	0.83	-62.8	5.5	11.54
3								
4								
5								
6	22.61	1535	7.10	1.320	0.68	-63.2	7.10	11.52

Stabilization Parameters Used (min. three): (pH) Sp. Cond. DO (ORP)

SECTION 4: Equipment and Method Information

Purging Equipment:	peristaltic pump
Purge/Flow Rate: ~ 110 ml/min	**Total Volume Purged:** ~ 0.6 gallons
Field Parameter Instruments:	YSI, Turbidity meter.

SECTION 5: Sample Information

Samples	ID	Time	VOCs	Other	Other
Parent	MW20GW2333-033010	1540	X	—	
Duplicate	FD01-033010	1540	X	—	
MS/MSD					
Equipment Blank					

REMARKS:

NOTES:
1 - DENOTES STABILIZATION PARAMETERS.
2 - One purge volume (gallons) for a 1.25" dia. well: (Height of Water in Well) x 0.06 gal/ft
3 - One purge volume (gallons) for a 2" dia. well: (Height of Water in Well) x 0.16 gal/ft
4 - Varies from 0.0 to 9.5 at water temperature 15-25C°; 0.0 to 14.5 at water temperature 1-14C°
- milliliters per minute = gallons per minute/0.0002641

Form Checked by _____

PROJECT: Former General Latex Chemical Corp. - March 2010 Field Event	WELL ID: MW-21
	DATE/TIME: 03/30/10, 1437
Sampler(s): D. Tecle / D. O	Well Diameter: 2"
	PID Reading: 1.0
	Weather Conditions: partly cloudy
	Purge Method: (Circle One) Low Flow / Volumetric

SECTION 1: Purge Volume Information

(1) TD = Total Depth of Well (ft): 34.08'	(2) DTW = Depth to Water (ft): 23.5'

SECTION 2: For Volumetric Sampling Only

(3) Height of Water in Well = TD - DTW = [(1)-(2)]: —	(4) One Purge Volume[2,3]: —

SECTION 3: Field Parameter Data

Parameter	DTW	Time	pH[1]	Sp Cond.[1]	DO[1]	ORP	Turbidity	Temperature
Parameter Units	ft		SU	mS/cm	mg/L	mV	NTUs	C°
Acceptable Range	–	–	6.00 - 8.00	0.300-1.300 mS/cm	See Note 4	-190.0 - 240.0 mV	–	4.00 - 20.00 C°
Tolerance Levels	0.4		+/- 0.1	+/- 3%	+/- 0.3 mg/L	+/- 10 mV	<50	+/- 0.2
First Water	23.1	1402	7.34	1.243	1.70	-66.9	130	12.27
1	23.2	1447	7.33	1.242	1.39	-71.9	67.5	12.13
2	23.2	1452	7.33	1.239	1.10	-78.9	87	11.98
3								
4								
5								
6	23.1	1457	7.32	1.236	0.75	-81.7	192	11.86

Stabilization Parameters Used (min. three): (pH) Sp. Cond. DO (ORP)

SECTION 4: Equipment and Method Information

Purging Equipment: perstaltic pump

Purge/Flow Rate: ~ 70 ml/min Total Volume Purged: ~ 0.8 gallons

Field Parameter Instruments: YSI, Turbidity meter

SECTION 5: Sample Information

Samples	ID	Time	VOCs	Other	Other
Parent	MW21GW2434-033010	1500	X	—	
Duplicate	—				
MS/MSD	—				
Equipment Blank	—				

REMARKS:

NOTES:

1 - DENOTES STABILIZATION PARAMETERS.

2 - One purge volume (gallons) for a 1.25" dia. well: (Height of Water in Well) x 0.06 gal/ft

3 - One purge volume (gallons) for a 2" dia. well: (Height of Water in Well) x 0.16 gal/ft

4 - Varies from 0.0 to 9.5 at water temperature 15-25C°; 0.0 to 14.5 at water temperature 1-14C°

- milliliters per minute = gallons per minute/0.0002641

Form Checked by _____

PROJECT: Former General Latex Chemical Corp. - March 2010 Field Event		WELL ID: MW 22	
		DATE/TIME: 03/31/10, 1010	
Sampler(s): D. Tecle	Well Diameter: 2"	Weather Conditions: Sunny 70°-30°	
	PID Reading: 0.0	Purge Method: (Circle One)	Low Flow / Volumetric

SECTION 1: Purge Volume Information

(1) TD = Total Depth of Well (ft): 34.91	(2) DTW = Depth to Water (ft): 19.94

SECTION 2: For Volumetric Sampling Only

(3) Height of Water in Well = TD - DTW = [(1)-(2)]: —	(4) One Purge Volume[2,3]: —

SECTION 3: Field Parameter Data

Parameter	DTW	Time	pH[1]	Sp Cond.[1]	DO[1]	ORP	Turbidity	Temperature
Parameter Units	ft		SU	mS/cm	mg/L	mV	NTUs	C°
Acceptable Range	–	–	6.00 - 8.00	0.300-1.300 mS/cm	See Note 4	-190.0 - 240.0 mV	–	4.00 - 20.00 C°
Tolerance Levels	0.4		+/- 0.1	+/- 3%	+/- 0.3 mg/L	+/- 10 mV	<50	+/- 0.2
First Water	19.49	1020	7.32	1.178	4.84	-75.5	>1000	12.19
1	19.91	1025	7.22	1.142	0.57	-71.8	532	12.35
2	19.90	1030	7.23	1.139	0.43	-66.1	721	12.30
3	19.89	1035	7.23	1.137	0.39	-66.2	730	12.38
4								
5								
6	19.90	1040	7.25	1.137	0.38	-67.2	330	12.34

Stabilization Parameters Used (min. three): pH Sp. Cond. DO ORP

SECTION 4: Equipment and Method Information

Purging Equipment: Perstaltic pump	
Purge/Flow Rate: ~ 110 ml/min	Total Volume Purged:
Field Parameter Instruments: YSI, Turbidity meter	

SECTION 5: Sample Information

Samples	ID	Time	VOCs	Other	Other
Parent	MW22GW2535-033110	1045	X		
Duplicate					
MS/MSD					
Equipment Blank					

REMARKS:

NOTES:
1 - DENOTES STABILIZATION PARAMETERS.
2 - One purge volume (gallons) for a 1.25" dia. well: (Height of Water in Well) x 0.06 gal/ft
3 - One purge volume (gallons) for a 2" dia. well: (Height of Water in Well) x 0.16 gal/ft
4 - Varies from 0.0 to 9.5 at water temperature 15-25C°; 0.0 to 14.5 at water temperature 1-14C°
- milliliters per minute = gallons per minute/0.0002641

Form Checked by

		WELL ID:	MW 23
PROJECT: Former General Latex Chemical Corp. - March 2010 Field Event		DATE/TIME:	03/31/10, 0940
Sampler(s): D. Tecle	Well Diameter: 2"	Weather Conditions:	Sunny 70° – 32°
	PID Reading: 0.0	Purge Method: (Circle One)	Low Flow (Volumetric)

SECTION 1: Purge Volume Information

(1) TD = Total Depth of Well (ft): 40.0	(2) DTW = Depth to Water (ft): ~~19.53~~ 01 19.52

SECTION 2: For Volumetric Sampling Only

(3) Height of Water in Well = TD - DTW = [(1)-(2)]: —	(4) One Purge Volume[2,3]: —

SECTION 3: Field Parameter Data

Parameter	DTW	Time	pH[1]	Sp Cond.[1]	DO[1]	ORP	Turbidity	Temperature
Parameter Units	ft		SU	mS/cm	mg/L	mV	NTUs	C°
Acceptable Range	–	–	6.00 - 8.00	0.300-1.300 mS/cm	See Note[4]	-190.0 - 240.0 mV	–	4.00 - 20.00 C°
Tolerance Levels	0.4		+/- 0.1	+/- 3%	+/- 0.3 mg/L	+/- 10 mV	<50	+/- 0.2
First Water	19.53	0945	7.22	1.667	5.97	-55.1	28.3	12.10
1	19.55	0950	7.08	1.693	1.41	-64.1	12.3	12.53
2	19.55	0955	7.07	1.713	1.30	-68.8	4.2	12.54
3	19.55	1000	7.07	1.723	0.93	-69.2	3.1	12.54
4								
5								
6	19.55	1005	7.07	1.724	0.87	-71.6	2.3	12.

Stabilization Parameters Used (min. three): (pH) Sp. (Cond.) DO (ORP)

SECTION 4: Equipment and Method Information

Purging Equipment: Perstaltic pump	
Purge/Flow Rate: 95 ml/min	Total Volume Purged: ~ 0.8 gallons
Field Parameter Instruments: YSI, Turbidity meter	

SECTION 5: Sample Information

Samples	ID	Time	VOCs	Other	Other
Parent	MW23GW3040-033110	1010	X	—	—
Duplicate	—	—	—	—	—
MS/MSD	—	—	—	—	—
Equipment Blank	—	—	—	—	—

REMARKS:

NOTES:

1 - DENOTES STABILIZATION PARAMETERS.

2 - One purge volume (gallons) for a 1.25" dia. well: (Height of Water in Well) x 0.06 gal/ft

3 - One purge volume (gallons) for a 2" dia. well: (Height of Water in Well) x 0.16 gal/ft

4 - Varies from 0.0 to 9.5 at water temperature 15-25C°; 0.0 to 14.5 at water temperature 1-14C°

- milliliters per minute = gallons per minute/0.0002641

Form Checked by _____

MW09

October 2010 Field Event

DATE/TIME: 10/21/10, 1105

Sampler(s): D. Tecle / O. Ogbebor

Well Diameter: 2"

Breathing Zone PID Reading: 0.5

Weather Conditions: Clear Sky

Purge Method: (Circle One) Low Flow / Volumetric

SECTION 1: Purge Volume Information MW-09

(1) TD = Total Depth of Well (ft):

(2) DTW = Depth to Water (ft): 22.51

SECTION 2: For Volumetric Sampling Only NA

(3) Height of Water in Well = TD - DTW = [(1)-(2)]:

(4) One Purge Volume[2,3]:

SECTION 3: Field Parameter Data

Parameter	DTW	Time	pH[1]	Sp Cond.[1]	DO[1]	ORP	Turbidity	Temperature
Parameter Units	ft		SU	mS/cm	mg/L	mV	NTUs	C°
Acceptable Range	–	–	6.00 - 8.00	0.300-1.300 mS/cm	See Note 4	-190.0 - 240.0 mV	–	4.00 - 20.00 C°
Tolerance Levels	0.4		+/- 0.1	+/- 3%	+/- 0.3 mg/L	+/- 10 mV	<50	+/- 0.2
First Water	22.66	1110	6.49	3.313	2.41	201.4	783	13.49
1	22.67	1115	6.41	3.321	1.31	193.4	57.0	13.70
2	22.65	1120	6.40	3.330	1.21	178.3	10.70	13.71
3	22.66	1125	6.41	3.339	1.23	169.1	5.71	13.77
4	22.67	1130	6.42	3.343	1.19	168.8	3.30	13.90
5								
6								
7								
8								
9	22.65	1135	6.43	3.353	1.10	169.20	1.73	13.74

Stabilization Parameters Used (min. three): (pH) Sp (Cond.) (DO) (ORP)

SECTION 4: Equipment and Method Information

Purging Equipment: Perstaltic pump

Purge/Flow Rate: ~ 90 mls/min

Total Volume Purged: ~ 1.5 gallons

Field Parameter Instruments: YSI, Turbidity meter.

SECTION 5: Sample Information

Samples	ID	Time	VOCs	Other	Other
Parent	MW09GW1424-102110	1140	X		
Duplicate	FD01-101210	1140	X		
MS/MSD					
Equipment Blank					

REMARKS:

NOTES:

1 - DENOTES STABILIZATION PARAMETERS.

2 - One purge volume (gallons) for a 1.25" dia. well: (Height of Water in Well) x 0.06 gal/ft

3 - One purge volume (gallons) for a 2" dia. well: (Height of Water in Well) x 0.16 gal/ft

MW10

October 2010 Field Event

DATE/TIME: 10/21/10, 1145

Sampler(s): D. Tecle/O. Ogbebor

Well Diameter: 2"

Breathing Zone PID Reading: 0.0

Weather Conditions: Clear sky

Purge Method: (Circle One) Low Flow / Volumetric

SECTION 1: Purge Volume Information MW-10

(1) TD = Total Depth of Well (ft):

(2) DTW = Depth to Water (ft): 26.39

SECTION 2: For Volumetric Sampling Only N/A

(3) Height of Water in Well = TD - DTW = [(1)-(2)]:

(4) One Purge Volume[2,3]:

SECTION 3: Field Parameter Data

Parameter	DTW	Time	pH[1]	Sp Cond.[1]	DO[1]	ORP	Turbidity	Temperature
Parameter Units	ft		SU	mS/cm	mg/L	mV	NTUs	C°
Acceptable Range	–	–	6.00 - 8.00	0.300-1.300 mS/cm	See Note 4	-190.0 - 240.0 mV	–	4.00 - 20.00 C°
Tolerance Levels	0.4		+/- 0.1	+/- 3%	+/- 0.3 mg/L	+/- 10 mV	<50	+/- 0.2
First Water	26.35	1150	6.81	2.888	4.52	156.3	119	13.43
1	26.33	1155	6.72	2.849	0.90	160.2	71000	13.04
2	26.33	1200	6.70	2.854	0.74	163.3	407	12.86
3	26.34	1205	6.69	2.849	0.72	165.2	131	12.74
4	26.35	1210	6.70	2.848	0.69	166.1	72.4	12.71
5								
6								
7								
8								
9	26.34	1215	6.70	2.848	0.68	166.8	49.9	12.65

Stabilization Parameters Used (min. three): (pH) Sp. Cond. (DO) (ORP)

SECTION 4: Equipment and Method Information

Purging Equipment: Peristaltic pump

Purge/Flow Rate: ~100 ml/min Total Volume Purged: ~ 1.3 gallons

Field Parameter Instruments: YSI, Turbidity meter.

SECTION 5: Sample Information

Samples	ID	Time	VOCs	Other	Other
Parent	MW10GW1732-102110	1220	X	—	—
Duplicate	—	—	—	—	—
MS/MSD	—	—	—	—	—
Equipment Blank	—	—	—	—	—

REMARKS:

NOTES:
1 - DENOTES STABILIZATION PARAMETERS.
2 - One purge volume (gallons) for a 1.25" dia. well: (Height of Water in Well) x 0.06 gal/ft
3 - One purge volume (gallons) for a 2" dia. well: (Height of Water in Well) x 0.16 gal/ft

MW-11

October 2010 Field Event

DATE/TIME: 10/22/10, 0900

Sampler(s): D. Tecle / O. Gebebor

Well Diameter: 2"

Breathing Zone PID Reading: 0.0

Weather Conditions: cloudy, clear sky, 33°

Purge Method: (Circle One) Low Flow & Volumetric

SECTION 1: Purge Volume Information MW-11

(1) TD = Total Depth of Well (ft):

(2) DTW = Depth to Water (ft): 7.40

SECTION 2: For Volumetric Sampling Only N/A

(3) Height of Water in Well = TD - DTW = [(1)-(2)]:

(4) One Purge Volume[2,3]:

SECTION 3: Field Parameter Data

Parameter	DTW	Time	pH[1]	Sp Cond.[1]	DO[1]	ORP	Turbidity	Temperature
Parameter Units	ft		SU	mS/cm	mg/L	mV	NTUs	C°
Acceptable Range	–	–	6.00 - 8.00	0.300-1.300 mS/cm	See Note 4	-190.0 - 240.0 mV	–	4.00 - 20.00 C°
Tolerance Levels	0.4		+/- 0.1	+/- 3%	+/- 0.3 mg/L	+/- 10 mV	<50	+/- 0.2
First Water	8.40	0910	6.81	1.032	1.33	43.5	42	12.63
1	8.62	0915	6.78	1.025	0.91	49.8	19	12.89
2	8.71	0920	6.77	1.022	0.75	52.1	8	13.04
3	9.85	0925	6.74	1.015	0.70	61.4	13	13.14
4	—	Switched to Volumetric Sampling					—	—
5								
6								
7								
8								
9	DW	0930	6.81	1.001	0.75	62.3	320	13.22

Stabilization Parameters Used (min. three): pH Sp. Cond. DO ORP

SECTION 4: Equipment and Method Information

Purging Equipment: Peristaltic pump

Purge/Flow Rate: 100 ml/min

Total Volume Purged: ~ 2 gallons

Field Parameter Instruments: YSI, Turbidity meter

SECTION 5: Sample Information

Samples	ID	Time	VOCs	Other	Other
Parent	MW11GW0919-102210	0930	X	—	—
Duplicate	—	—	—	—	—
MS/MSD	—	—	—	—	—
Equipment Blank	—	—	—	—	—

REMARKS:

NOTES:
1 - DENOTES STABILIZATION PARAMETERS.
2 - One purge volume (gallons) for a 1.25" dia. well: (Height of Water in Well) x 0.06 gal/ft
3 - One purge volume (gallons) for a 2" dia. well: (Height of Water in Well) x 0.16 gal/ft

MW-12

October 2010 Field Event

Sampler(s): D. Tecle/O. Ogbeba	**Well Diameter:** 2"	**DATE/TIME:** 10/21/10, 1405
	Breathing Zone PID Reading: 0.0	**Weather Conditions:** Cloudy, ~60°
		Purge Method: (Circle One) Low Flow / Volumetric

SECTION 1: Purge Volume Information MW-12

(1) TD = Total Depth of Well (ft):	(2) DTW = Depth to Water (ft): 14.20

SECTION 2: For Volumetric Sampling Only NA

(3) Height of Water in Well = TD - DTW = [(1)-(2)]:	(4) One Purge Volume[2,3]:

SECTION 3: Field Parameter Data

Parameter	DTW	Time	pH[1]	Sp Cond.[1]	DO[1]	ORP	Turbidity	Temperature
Parameter Units	ft		SU	mS/cm	mg/L	mV	NTUs	C°
Acceptable Range	–	–	6.00 - 8.00	0.300-1.300 mS/cm	See Note 4	-190.0 - 240.0 mV	–	4.00 - 20.00 C°
Tolerance Levels	0.4		+/- 0.1	+/- 3%	+/- 0.3 mg/L	+/- 10 mV	<50	+/- 0.2
First Water	15.27	1410	6.94	0.681	3.82	32.7	75	13.94
1	18.33	1415	6.85	0.644	3.55	61.7	60	14.17
2	—	Switched to Volumetric sampling						
3	Dry	1420	6.82	0.628	3.92	69.4	35	14.22
4								
5								
6								
7								
8								
9								

Stabilization Parameters Used (min. three): N/A pH Sp. Cond. DO ORP

SECTION 4: Equipment and Method Information

Purging Equipment: Perstaltic pump	
Purge/Flow Rate: ~ 90 ml/min	**Total Volume Purged:** ~ 1.2 gallons
Field Parameter Instruments: YSI, Turbidity	

SECTION 5: Sample Information

Samples	ID	Time	VOCs	Other	Other
Parent	MW12GW1424-102110	1425	X	—	—
Duplicate	—	—	—	—	—
MS/MSD	—	—	—	—	—
Equipment Blank	—	—	—	—	—

REMARKS:

NOTES:
1 - DENOTES STABILIZATION PARAMETERS.
2 - One purge volume (gallons) for a 1.25" dia. well: (Height of Water in Well) x 0.06 gal/ft
3 - One purge volume (gallons) for a 2" dia. well: (Height of Water in Well) x 0.16 gal/ft

MW-16

October 2010 Field Event

Sampler(s): D. Tecle / O. Ogbebor	**Well Diameter:** 2"	**DATE/TIME:** 10/22/10, 0950
	Breathing Zone PID Reading: 0.0	**Weather Conditions:** clear, sunny, 35°
		Purge Method: (Circle One) Low Flow → Volumetric

SECTION 1: Purge Volume Information MW-16

(1) TD = Total Depth of Well (ft):	**(2) DTW = Depth to Water (ft):** 16.91

SECTION 2: For Volumetric Sampling Only

(3) Height of Water in Well = TD - DTW = [(1)-(2)]:	**(4) One Purge Volume[2,3]:**

SECTION 3: Field Parameter Data

Parameter	DTW	Time	pH[1]	Sp Cond.[1]	DO[1]	ORP	Turbidity	Temperature
Parameter Units	ft		SU	mS/cm	mg/L	mV	NTUs	C°
Acceptable Range	–	–	6.00 - 8.00	0.300-1.300 mS/cm	See Note [4]	-190.0 - 240.0 mV	–	4.00 - 20.00 C°
Tolerance Levels	0.4		+/- 0.1	+/- 3%	+/- 0.3 mg/L	+/- 10 mV	<50	+/- 0.2
First Water	17.20	1000	6.47	1.610	3.89	-6.7	90	14.08
1	DRY	1005	6.42	1.612	1.82	-11.9	65	14.78
2								
3								
4								
5								
6								
7								
8								
9								

Switched to Volumetric

Stabilization Parameters Used (min. three): pH Sp. Cond. DO ORP

SECTION 4: Equipment and Method Information

Purging Equipment: Peristaltic	
Purge/Flow Rate: 200 ml/min	**Total Volume Purged:** 0.5 gallon
Field Parameter Instruments: YSI, Turbidity Meter	

SECTION 5: Sample Information

Samples	ID	Time	VOCs	Other	Other
Parent	MW16GW1020-102210	1010	X		
Duplicate					
MS/MSD					
Equipment Blank					

REMARKS:

NOTES:
1 - DENOTES STABILIZATION PARAMETERS.
2 - One purge volume (gallons) for a 1.25" dia. well: (Height of Water in Well) x 0.06 gal/ft
3 - One purge volume (gallons) for a 2" dia. well: (Height of Water in Well) x 0.16 gal/ft

MW-18

October 2010 Field Event

DATE/TIME: 10/22/10, 0815

Sampler(s): D. Tecle / O. ogbeluor

Well Diameter: 2"

Breathing Zone PID Reading: 0.0

Weather Conditions: chilly, 31°

Purge Method: (Circle One) Low Flow / Volumetric

SECTION 1: Purge Volume Information MW-18

(1) TD = Total Depth of Well (ft):

(2) DTW = Depth to Water (ft): 22.98

SECTION 2: For Volumetric Sampling Only N/A

(3) Height of Water in Well = TD - DTW = [(1)-(2)]:

(4) One Purge Volume[2,3]:

SECTION 3: Field Parameter Data

Parameter	DTW	Time	pH[1]	Sp Cond.[1]	DO[1]	ORP	Turbidity	Temperature
Parameter Units	ft		SU	mS/cm	mg/L	mV	NTUs	C°
Acceptable Range	–	–	6.00 - 8.00	0.300-1.300 mS/cm	See Note 4	-190.0 - 240.0 mV	–	4.00 - 20.00 C°
Tolerance Levels	0.4		+/- 0.1	+/- 3%	+/- 0.3 mg/L	+/- 10 mV	<50	+/- 0.2
First Water	23.25	0830	7.22	1.674	1.30	-105.5	90	11.19
1	23.22	0835	7.08	1.667	0.79	-69.1	72.1	11.60
2	23.23	0840	7.05	1.657	0.71	-57.1	54	11.70
3	23.22	0845	7.05	1.654	0.68	-53.4	31	11.71
4	23.21	0850	7.03	1.650	0.67	-50.2	8	11.74
5								
6								
7								
8								
9	23.22	0855	7.02	1.640	0.65	-49.8	7	11.75

Stabilization Parameters Used (min. three): (pH) Sp. Cond. (DO) (ORP)

SECTION 4: Equipment and Method Information

Purging Equipment: Peristaltic pump

Purge/Flow Rate: 80 ml/min

Total Volume Purged: ~ 1 gallon

Field Parameter Instruments: YSI, Turbidity meter

SECTION 5: Sample Information

Samples	ID	Time	VOCs	Other	Other
Parent	~~MW18-GW-3035-102210~~ MW18GW3035-102210	0900	X		
Duplicate					
MS/MSD	MW18GW3035-102210-MS/MSD	0900	X		
Equipment Blank					

REMARKS:

NOTES:

1 - DENOTES STABILIZATION PARAMETERS.

2 - One purge volume (gallons) for a 1.25" dia. well: (Height of Water in Well) x 0.06 gal/ft

3 - One purge volume (gallons) for a 2" dia. well: (Height of Water in Well) x 0.16 gal/ft

MW 21

October 2010 Field Event

Sampler(s): D. Teele / O. Osborne	**Well Diameter:** 2"	**DATE/TIME:** 10/21/10, @ 1525
	Breathing Zone PID Reading: 0.0	**Weather Conditions:** light rain
		Purge Method: (Circle One) *Low Flow* *Volumetric*

SECTION 1: Purge Volume Information MW 21

(1) TD = Total Depth of Well (ft):	**(2) DTW = Depth to Water (ft):** 24.91

SECTION 2: For Volumetric Sampling Only N/A

(3) Height of Water in Well = TD - DTW = [(1)-(2)]:	**(4) One Purge Volume[2,3]:**

SECTION 3: Field Parameter Data

Parameter	DTW	Time	pH[1]	Sp Cond.[1]	DO[1]	ORP	Turbidity	Temperature
Parameter Units	ft		SU	mS/cm	mg/L	mV	NTUs	C°
Acceptable Range	–	–	6.00 - 8.00	0.300-1.300 mS/cm	See Note [4]	-190.0 - 240.0 mV	–	4.00 - 20.00 C°
Tolerance Levels	0.4		+/- 0.1	+/- 3%	+/- 0.3 mg/L	+/- 10 mV	<50	+/- 0.2
First Water	24.95	1530	7.07	1.370	1.37	-80.3	319	13.19
1	24.97	1535	7.05	1.367	0.64	-86.5	108	12.83
2	24.96	1540	6.99	1.354	0.59	-80.2	58.2	12.74
3	24.97	1545	6.99	1.352	0.57	-80.1	28.7	12.74
4		~~1550~~						
5								
6								
7								
8								
9	24.96	1550	6.97	1.349	0.56	-79.7	22	~~12.74~~

Stabilization Parameters Used (min. three): (pH) (Sp. Cond.) (DO) (ORP)

SECTION 4: Equipment and Method Information

Purging Equipment: peristaltic pump	
Purge/Flow Rate: 100 ml/min	**Total Volume Purged:** ~ 1 gallon
Field Parameter Instruments: YSI, Turbidity meter.	

SECTION 5: Sample Information

Samples	ID	Time	VOCs	Other	Other
Parent	MW21GW2434-102110	1555	X		
Duplicate	FD02-102110	1555	X		
MS/MSD					
Equipment Blank					

REMARKS:

NOTES:
1 - DENOTES STABILIZATION PARAMETERS.
2 - One purge volume (gallons) for a 1.25" dia. well: (Height of Water in Well) x 0.06 gal/ft
3 - One purge volume (gallons) for a 2" dia. well: (Height of Water in Well) x 0.16 gal/ft

MW-19

October 2010 Field Event

Sampler(s): D. Tecle / O. Ogbebor	**Well Diameter:** 2"	**DATE/TIME:** 10/21/10, 1020
	Breathing Zone PID Reading: 0.0	**Weather Conditions:** Clear Sky, 60°
		Purge Method: (Circle One) Low Flow / Volumetric

SECTION 1: Purge Volume Information MW-19

(1) TD = Total Depth of Well (ft):

(2) DTW = Depth to Water (ft): 25.34

SECTION 2: For Volumetric Sampling Only N/A

(3) Height of Water in Well = TD - DTW = [(1)-(2)]:

(4) One Purge Volume[2,3]:

SECTION 3: Field Parameter Data

Parameter	DTW	Time	pH[1]	Sp Cond.[1]	DO[1]	ORP	Turbidity	Temperature
Parameter Units	ft		SU	mS/cm	mg/L	mV	NTUs	C°
Acceptable Range	–	–	6.00 - 8.00	0.300-1.300 mS/cm	See Note 4	-190.0 - 240.0 mV	–	4.00 - 20.00 C°
Tolerance Levels	0.4		+/- 0.1	+/- 3%	+/- 0.3 mg/L	+/- 10 mV	<50	+/- 0.2
First Water	25.35	1035	6.78	2.647	3.02	214.3	30.4	13.77
1	25.34	1040	6.70	2.672	1.48	210.2	18.7	13.67
2	25.35	1045	6.67	2.679	1.30	203.5	10.1	13.80
3	25.35	1050	6.66	2.678	1.13	200.5	8.68	13.97
4								
5								
6								
7								
8								
9	25.36	1055	6.67	2.680	1.12	200.3	7.20	13.99

Stabilization Parameters Used (min. three): pH / Sp. Cond. / DO / ORP

SECTION 4: Equipment and Method Information

Purging Equipment: Perstaltic pump

Purge/Flow Rate: 100 ml/min **Total Volume Purged:** ~ 1.5 gallons

Field Parameter Instruments: YSI, Turbidity meter

SECTION 5: Sample Information

Samples	ID	Time	VOCs	Other	Other
Parent	MW19GW1828-102110	1100	X		
Duplicate					
MS/MSD					
Equipment Blank					

REMARKS:

NOTES:
1 - DENOTES STABILIZATION PARAMETERS.
2 - One purge volume (gallons) for a 1.25" dia. well: (Height of Water in Well) x 0.06 gal/ft
3 - One purge volume (gallons) for a 2" dia. well: (Height of Water in Well) x 0.16 gal/ft

MW-20

October 2010 Field Event

Sampler(s): D. Tecle / O. Ogbebor	**Well Diameter:** 2"	**DATE/TIME:** 10/21/10, 1610
	Breathing Zone PID Reading: 0.0	**Weather Conditions:** partly cloudy
		Purge Method: (Circle One) Low Flow / Volumetric

SECTION 1: Purge Volume Information MW-20

(1) TD = Total Depth of Well (ft): | (2) DTW = Depth to Water (ft): 24.50

SECTION 2: For Volumetric Sampling Only N/A

(3) Height of Water in Well = TD - DTW = [(1)-(2)]: | (4) One Purge Volume[2,3]:

SECTION 3: Field Parameter Data

Parameter	DTW	Time	pH[1]	Sp Cond.[1]	DO[1]	ORP	Turbidity	Temperature
Parameter Units	ft		SU	mS/cm	mg/L	mV	NTUs	C°
Acceptable Range	–	–	6.00 - 8.00	0.300-1.300 mS/cm	See Note [4]	-190.0 - 240.0 mV	–	4.00 - 20.00 C°
Tolerance Levels	0.4		+/- 0.1	+/- 3%	+/- 0.3 mg/L	+/- 10 mV	<50	+/- 0.2
First Water	25.56	1615	7.05	1.357	1.54	-74.5	119	13.39
1	25.19	1620	6.98	1.345	0.61	-66.7	9.74	12.71
2	24.93	1625	6.97	1.342	0.58	-66.6	3.87	12.65
3	24.68	1630	6.95	1.340	0.55	-65.0	2.60	12.66
4	24.56	1635	6.95	1.341	0.54	-63.7	2.20	12.64
5								
6								
7								
8								
9	24.53	1640	6.95	1.341	0.52	-63.0	1.80	12.65

Stabilization Parameters Used (min. three): pH Sp. Cond. DO ORP

SECTION 4: Equipment and Method Information

Purging Equipment: Peristaltic pump

Purge/Flow Rate: 100 ml/min | **Total Volume Purged:** ~2 gallon

Field Parameter Instruments: YSI, Turbidity meter

SECTION 5: Sample Information

Samples	ID	Time	VOCs	Other	Other
Parent	MW20GW2333-102110	1645	X	—	—
Duplicate	—	—	—	—	—
MS/MSD	—	—	—	—	—
Equipment Blank	—	—	—	—	—

REMARKS:

NOTES:
1 - DENOTES STABILIZATION PARAMETERS.
2 - One purge volume (gallons) for a 1.25" dia. well: (Height of Water in Well) x 0.06 gal/ft
3 - One purge volume (gallons) for a 2" dia. well: (Height of Water in Well) x 0.16 gal/ft

MW-22

October 2010 Field Event

DATE/TIME: 10/21/10, 1325

Sampler(s): D. Tecle / D. Ogbeide

Well Diameter: 2"

Breathing Zone PID Reading:

Weather Conditions: partly cloudy, 65

Purge Method: (Circle One) Low Flow / Volumetric

SECTION 1: Purge Volume Information MW-22

(1) TD = Total Depth of Well (ft):

(2) DTW = Depth to Water (ft): 21.50

SECTION 2: For Volumetric Sampling Only N/A

(3) Height of Water in Well = TD - DTW = [(1)-(2)]:

(4) One Purge Volume[2,3]:

SECTION 3: Field Parameter Data

Parameter	DTW	Time	pH[1]	Sp Cond.[1]	DO[1]	ORP	Turbidity	Temperature
Parameter Units	ft		SU	mS/cm	mg/L	mV	NTUs	C°
Acceptable Range	–	–	6.00 - 8.00	0.300-1.300 mS/cm	See Note 4	-190.0 - 240.0 mV	–	4.00 - 20.00 C°
Tolerance Levels	0.4		+/- 0.1	+/- 3%	+/- 0.3 mg/L	+/- 10 mV	<50	+/- 0.2
First Water	21.62	1340	6.99	2.095	1.28	-15.7	421	14.08
1	21.63	1345	6.86	2.070	0.79	-8.3	316	13.75
2	21.62	1350	6.82	2.071	0.78	-3.6	250	13.24
3	21.62	1355	6.81	2.062	0.78	-1.7	195	12.90
4	21.63	1400	6.80	2.060	0.77	-2.0	164	12.80
5								
6								
7								
8								
9	21.63	1405	6.80	2.059	0.76	-2.1	130	12.68

Stabilization Parameters Used (min. three): (pH) (Sp. Cond.) (DO) (ORP)

SECTION 4: Equipment and Method Information

Purging Equipment: Perstaltic pump

Purge/Flow Rate: 90 ml/min

Total Volume Purged: ~ 1.5 gallons

Field Parameter Instruments: YSI, Turbidity meter

SECTION 5: Sample Information

Samples	ID	Time	VOCs	Other	Other
Parent	MW22GW2535-102110	1405	X	—	
Duplicate					
MS/MSD					
Equipment Blank					

REMARKS:

NOTES:

1 - DENOTES STABILIZATION PARAMETERS.

2 - One purge volume (gallons) for a 1.25" dia. well: (Height of Water in Well) x 0.06 gal/ft

3 - One purge volume (gallons) for a 2" dia. well: (Height of Water in Well) x 0.16 gal/ft

MW-23

October 2010 Field Event

DATE/TIME: 10/21/10 ,1445

Sampler(s): D. Tecle / O. Ogbebor | Well Diameter: 2" | Weather Conditions: light rain,

Breathing Zone PID Reading: 0.0 | Purge Method: (Circle One) Low Flow / Volumetric

SECTION 1: Purge Volume Information MW-23

(1) TD = Total Depth of Well (ft):

(2) DTW = Depth to Water (ft): 21.54

SECTION 2: For Volumetric Sampling Only

(3) Height of Water in Well = TD - DTW = [(1)-(2)]:

(4) One Purge Volume[2,3]:

SECTION 3: Field Parameter Data

Parameter	DTW	Time	pH[1]	Sp Cond.[1]	DO[1]	ORP	Turbidity	Temperature
Parameter Units	ft		SU	mS/cm	mg/L	mV	NTUs	C°
Acceptable Range	–	–	6.00 - 8.00	0.300-1.300 mS/cm	See Note 4	-190.0 - 240.0 mV	–	4.00 - 20.00 C°
Tolerance Levels	0.4		+/- 0.1	+/- 3%	+/- 0.3 mg/L	+/- 10 mV	<50	+/- 0.2
First Water	21.56	1450	6.96	1.330	4.44	-35.7	95	13.28
1	21.57	1455	6.92	1.369	0.89	-46.6	71	12.79
2	21.55	1500	6.93	1.376	0.91	-47.2	60	12.59
3	21.60	1505	6.92	1.380	0.85	-49.1	30	12.44
4								
5								
6								
7								
8								
9	21.61	1510	6.91	1.382	0.90	-49.7	15	12.20

Stabilization Parameters Used (min. three): (pH) Sp Cond. (DO) (ORP)

SECTION 4: Equipment and Method Information

Purging Equipment: Peristaltic pump

Purge/Flow Rate: ~ 100 ml/min | Total Volume Purged: ~ 1 gallons

Field Parameter Instruments: YSI, Turbidity meter

SECTION 5: Sample Information

Samples	ID	Time	VOCs	Other	Other
Parent	MW23RW3040-102110	1510	X	—	
Duplicate	—	—	—	—	—
MS/MSD	—	—	—	—	—
Equipment Blank	—	—	—	—	—

REMARKS:

NOTES:
1 - DENOTES STABILIZATION PARAMETERS.
2 - One purge volume (gallons) for a 1.25" dia. well: (Height of Water in Well) x 0.06 gal/ft
3 - One purge volume (gallons) for a 2" dia. well: (Height of Water in Well) x 0.16 gal/ft

Appendix B
Laboratory Analytical Data

158 Starlite Drive, Marietta, OH 45750 • T:740-373-4071 • F:740-373-4835 • http://www.microbac.com

Laboratory Report Number: L10030759

Client: Shane Lowe, CH2MHill, St. Louis, MO, 63102

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories.

Review and compilation of your report was completed by Microbac's Sales and Service Team. If you have questions, comments or require further assistance regarding this report, please contact your team member noted in the reviewed box below at 800-373-4071. Team member e-mail addresses also appear here for your convenience.

Kathy Albertson	*Team Chemist/Data Specialist*	kalbertson@microbac.com
Stephanie Mossburg	*Team Chemist/Data Specialist*	smossburg@microbac.com
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Annie Brown	*Client Services Specialist*	abrown@microbac.com

This report was reviewed on April 06, 2010.

Kathy Albertson - Team Chemist/Data Specialist

I certify that all test results meet all of the requirements of the accrediting authority listed below. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

This report was certified on April 06, 2010.

David Vandenberg - Managing Director

State of origin: Ohio
Accrediting authority: N/A ID:N/A
QAPP: ASHLAND
This report contains a total of 73 pages.

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Microbac

Microbac Laboratories, Inc.
Ohio Valley Division
158 Starlite Drive
Marietta, OH 45750

Phone: 800.373.4071
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Microbac REPORT L10030759
PREPARED FOR CH2MHILL, Inc
WORK ID:

1.0 Introduction

Microbac Laboratories Inc.
REPORT NARRATIVE

Microbac Login No: L10030759

CHAIN OF CUSTODY: The chain of custody number was 16501.

SHIPMENT CONDITIONS: The chain of custody forms were received sealed in a cooler. The cooler temperature was 3 degrees C.

SAMPLE MANAGEMENT: All samples received were intact.

L10030759-02	MW20GW2333-033010
L10030759-01	MW21GW2434-033010
L10030759-03	FD01-033010
L10030759-04	MW18GW3035-033010
L10030759-05	MW18GW3035-033010-MS
L10030759-06	MW18GW3035-033010-MSD
L10030759-07	TRIP BLANK-033010

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Analyst: KRA

Approved: 31-MAR-10
Kathy Albertson

2.1 Volatiles Data

2.1.1 Volatiles GCMS Data (8260)

2.1.1.1 Summary Data

Loginnum: L10030759

Department: Volatiles

Analyst: Mary Schilling

METHOD

Preparation SW-846 5030C/5035A

Analysis SW-846 8260B

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All analytes met the LCS acceptance criteria for % recovery and relative percent difference, except those listed below. An astrisk (*) denotes that the value is relative percent difference.

Sample	Instrument	Date	Analyte	AType	CType	Rec/RPD	Lower	Upper
WG327488-02	HPMS11	04/02/2010	CHLOROMETHANE	REG	SPCC	130	40	125

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Internal Standards: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Other: None.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak. In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

Reason #2: Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak. This phenomena is common at low concentrations where the signal:noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low area counts for the target compound.

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

Reason #4: System Establishes Incorrect Baseline. There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and should be corrected via manual procedures.

Reason #5: Miscellaneous. Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

LABORATORY REPORT

L10030759

04/06/10 14:21

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: CH2MHILL, Inc
CH2MHill
727 North 1st Street, Suite 400
St. Louis, MO 63102
Attention: Shane Lowe

Project Number: 2736.059
Project: Dow Ashland Soil & Groundwater
Site: ASHLAND, OHIO

P.O. Number: 934254

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
MW21GW2434-033010	L10030759-01	8260B	1	31-MAR-10
MW20GW2333-033010	L10030759-02	8260B	1	31-MAR-10
FD01-033010	L10030759-03	8260B	1	31-MAR-10
MW18GW3035-033010	L10030759-04	8260B	1	31-MAR-10
MW18GW3035-033010-MS	L10030759-05	8260B	1	31-MAR-10
MW18GW3035-033010-MSD	L10030759-06	8260B	1	31-MAR-10
TRIP BLANK-033010	L10030759-07	8260B	1	31-MAR-10

Microbac

Report Number: **L10030759**
Report Date : **April 6, 2010**

Sample Number: **L10030759-01**
Client ID: **MW21GW2434-033010**
Matrix: **Water**
Workgroup Number: **WG327488**
Collect Date: **03/30/2010 15:00**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030C**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS11**
Prep Date: **04/02/2010 17:53**
Cal Date: **03/23/2010 15:03**
Run Date: **04/02/2010 17:53**
File ID: **11M65067**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	10.0	0.500
Chloroform	67-66-3		U	5.00	0.125
Chloromethane	74-87-3		U	10.0	0.500
Methylene chloride	75-09-2	0.309	J	5.00	0.250
Trichloroethene	79-01-6	1.52	J	5.00	0.250
Trichlorofluoromethane	75-69-4	0.871	J	10.0	0.250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	107	86	118	
1,2-Dichloroethane-d4	119	80	120	
Toluene-d8	96.4	88	110	
4-Bromofluorobenzene	109	86	115	

J The analyte was positively identified, but the quantitation was below the RL
U Not detected at or above the reporting limit (RL).

Report Number: **L10030759**
Report Date : **April 6, 2010**

Sample Number: **L10030759-02**
Client ID: **MW20GW2333-033010**
Matrix: **Water**
Workgroup Number: **WG327398**
Collect Date: **03/30/2010 15:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030C**
Analytical Method: **8260B**
Analyst: **TMB**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS16**
Prep Date: **04/01/2010 19:43**
Cal Date: **03/03/2010 14:51**
Run Date: **04/01/2010 19:43**
File ID: **16M03915**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	10.0	0.500
Chloroform	67-66-3		U	5.00	0.125
Chloromethane	74-87-3		U	10.0	0.500
Methylene chloride	75-09-2		U	5.00	0.250
Trichloroethene	79-01-6		U	5.00	0.250
Trichlorofluoromethane	75-69-4		U	10.0	0.250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	111	86	118	
1,2-Dichloroethane-d4	115	80	120	
Toluene-d8	107	88	110	
4-Bromofluorobenzene	106	86	115	

U Not detected at or above the reporting limit (RL).

Report Number: **L10030759**
Report Date : **April 6, 2010**

Sample Number: **L10030759-03**
Client ID: **FD01-033010**
Matrix: **Water**
Workgroup Number: **WG327398**
Collect Date: **03/30/2010 00:01**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030C**
Analytical Method: **8260B**
Analyst: **TMB**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS16**
Prep Date: **04/01/2010 20:15**
Cal Date: **03/03/2010 14:51**
Run Date: **04/01/2010 20:15**
File ID: **16M03916**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	10.0	0.500
Chloroform	67-66-3		U	5.00	0.125
Chloromethane	74-87-3		U	10.0	0.500
Methylene chloride	75-09-2	0.368	J	5.00	0.250
Trichloroethene	79-01-6		U	5.00	0.250
Trichlorofluoromethane	75-69-4		U	10.0	0.250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	110	86	118	
1,2-Dichloroethane-d4	112	80	120	
Toluene-d8	107	88	110	
4-Bromofluorobenzene	106	86	115	

J The analyte was positively identified, but the quantitation was below the RL
U Not detected at or above the reporting limit (RL).

Report Number: **L10030759**
Report Date : **April 6, 2010**

Sample Number: **L10030759-04**
Client ID: **MW18GW3035-033010**
Matrix: **Water**
Workgroup Number: **WG327398**
Collect Date: **03/30/2010 16:35**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030C**
Analytical Method: **8260B**
Analyst: **TMB**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS16**
Prep Date: **04/01/2010 20:47**
Cal Date: **03/03/2010 14:51**
Run Date: **04/01/2010 20:47**
File ID: **16M03917**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	10.0	0.500
Chloroform	67-66-3		U	5.00	0.125
Chloromethane	74-87-3		U	10.0	0.500
Methylene chloride	75-09-2		U	5.00	0.250
Trichloroethene	79-01-6		U	5.00	0.250
Trichlorofluoromethane	75-69-4		U	10.0	0.250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	111	86	118	
1,2-Dichloroethane-d4	116	80	120	
Toluene-d8	106	88	110	
4-Bromofluorobenzene	106	86	115	

U Not detected at or above the reporting limit (RL).

Report Number: **L10030759**
Report Date : **April 6, 2010**

Sample Number: **L10030759-05**
Client ID: **MW18GW3035-033010-MS**
Matrix: **Water**
Workgroup Number: **WG327398**
Collect Date: **03/30/2010 16:35**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030C**
Analytical Method: **8260B**
Analyst: **TMB**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS16**
Prep Date: **04/01/2010 21:20**
Cal Date: **03/03/2010 14:51**
Run Date: **04/01/2010 21:20**
File ID: **16M03918**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9	14.6		10.0	0.500
Chloroform	67-66-3	19.6		5.00	0.125
Chloromethane	74-87-3	18.4		10.0	0.500
Methylene chloride	75-09-2	20.2		5.00	0.250
Trichloroethene	79-01-6	19.2		5.00	0.250
Trichlorofluoromethane	75-69-4	16.8		10.0	0.250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	110	86	118	
1,2-Dichloroethane-d4	112	80	120	
Toluene-d8	105	88	110	
4-Bromofluorobenzene	106	86	115	

Report Number: **L10030759**
Report Date : **April 6, 2010**

Sample Number: **L10030759-06**
Client ID: **MW18GW3035-033010-MSD**
Matrix: **Water**
Workgroup Number: **WG327398**
Collect Date: **03/30/2010 16:35**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030C**
Analytical Method: **8260B**
Analyst: **TMB**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS16**
Prep Date: **04/01/2010 21:52**
Cal Date: **03/03/2010 14:51**
Run Date: **04/01/2010 21:52**
File ID: **16M03919**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9	15.9		10.0	0.500
Chloroform	67-66-3	20.0		5.00	0.125
Chloromethane	74-87-3	19.5		10.0	0.500
Methylene chloride	75-09-2	20.4		5.00	0.250
Trichloroethene	79-01-6	19.2		5.00	0.250
Trichlorofluoromethane	75-69-4	16.5		10.0	0.250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	110	86	118	
1,2-Dichloroethane-d4	113	80	120	
Toluene-d8	106	88	110	
4-Bromofluorobenzene	105	86	115	

Report Number: **L10030759**
Report Date : **April 6, 2010**

Sample Number: **L10030759-07**
Client ID: **TRIP BLANK-033010**
Matrix: **Water**
Workgroup Number: **WG327398**
Collect Date: **03/30/2010 00:01**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030C**
Analytical Method: **8260B**
Analyst: **TMB**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS16**
Prep Date: **04/01/2010 19:12**
Cal Date: **03/03/2010 14:51**
Run Date: **04/01/2010 19:12**
File ID: **16M03914**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	10.0	0.500
Chloroform	67-66-3		U	5.00	0.125
Chloromethane	74-87-3		U	10.0	0.500
Methylene chloride	75-09-2	0.387	J	5.00	0.250
Trichloroethene	79-01-6		U	5.00	0.250
Trichlorofluoromethane	75-69-4		U	10.0	0.250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	111	86	118	
1,2-Dichloroethane-d4	115	80	120	
Toluene-d8	107	88	110	
4-Bromofluorobenzene	107	86	115	

J The analyte was positively identified, but the quantitation was below the RL
U Not detected at or above the reporting limit (RL).

2.1.1.2 QC Summary Data

Example 8260 Calculations

1.0 Calculating the Response Factor (RF) from the initial calibration (ICAL) data:

RF = [(Ax) (Cis)] / [(Ais) (Cx)]

where:	Example
Ax = Area of the characteristic ion for the compound being measured:	3399156
Cis = Concentration of the specific internal standard (ug/mL)	25
Ais = Area of the characteristic ion of the specific internal standard	846471
Cx = Concentration of the compound in the standard being measured (ug/mL)	100
RF = Calculated Response Factor	**1.0039**

2.0 Calculating the concentration (C) of a compound in water using the average RF: *

Cx = [(Ax) (Cis) (Vn)(D)] / [(Ais) (RF) (Vs)]

where:	**Example**
Ax = Area of the characteristic ion for the compound being measured	**3122498**
Cis = Concentration of the specific internal standard (ug/L)	**25**
D = Dilution factor for sample as a multiplier (10x = 10)	**1**
Ais = Area of the characteristic ion of the specific internal standard	**611048**
RF = Average RF from the ICAL	**1.004**
Vs = Purge volume of sample (mL)	**10**
Vn = Nominal purge volume of sample (mL) (10.0 mL)	**10**
Cx = Concentration of the compound in the sample being measured (ug/L)	**127.2428**

3.0 Calculating the concentration (C) of a compound in soil using the average RF: *

Cx = [(Ax) (Cis) (Wn)(D)] / [(Ais) (RF) (Ws)]

where:	**Example**
Ax = Area of the characteristic ion for the compound being measured	**3122498**
Cis = Concentration of the specific internal standard (ug/L)	**25**
D = Dilution factor for sample as a multiplier (10x = 10)	**1**
Ais = Area of the characteristic ion of the specific internal standard	**611048**
RF = Average RF from the ICAL	**1.004**
Ws = Weight of sample purged (g)	**5**
Wn = Nominal purge weight (g) (5.0 g)	**5**
Cx = Concentration of the compound in the sample being measured (ug/L)	**127.2428**

Dry weight correction:

Percent solids (PCT_S)	**50**
Cd = (Cx) (100)/PCT_S	**254.4856**

* Concentrations appearing on the instrument quantitation reports are on-column results and do not take into account initial volume, final volume, and the dilution factor.

4.0 Concentration from Linear Regression

Step 1: Retrieve Curve Data From Plot, y = mx + b

y = response ratio = response of analyte / response of IS = Ax/Ais

x = amount ratio = concentration analyte/concentration internal standard = Cx / Cis

m = slope from curve = 0.213

b = intercept from curve = - 0.00642

Step 2: Calculate y from Quantitation Report

y = 86550/593147 = 0.1459

Step 3: Solve for x

x = (y - b)/m = [(0.1459 -(- 0.00642)]/ 0.213 = 0.7152

Step 4: Solve for analyte concentration Cx

Cx = Cis (x) = (25.0)(0.7152) = 17.88

Example Spreadsheet Calculation:

Slope from curve, m:	**0.213**
Intercept from curve, b:	**-0.00642**
Area of analyte, Ax:	**86550**
Area of Internal Standard , Ais:	**593147**
Concentration of IS, Cis	**25.00**
Response Ratio:	**0.145917**
Amount Ratio:	**0.715195**
Concentration:	**17.87988**
Units of Internal Standard:	**ug/L**

5.0 Concentration from Quadratic Regression

Step 1 - Retrieve Curve Data from Plot, y = Ax^2 + Bx + C
Where:
Ax^2 + Bx + (C - y) = 0
A, B, C = constants from the ICAL quadratic regression
y = Response ratio = Area of analyte/Area of internal standard (IS)
x = Amount ratio = Concentration of analyte/concentration of IS

Step 2: Calculate y from Quantitation Report

y = Ax/Ais

Step 3: Solve for x using the quadratic formula
Ax^2 + Bx + C - y = 0

$$x = \frac{b \pm \sqrt{\left(b^2 - 4a(c - y)\right)}}{2a}$$ (Two possible solutions)

Step 4: Solve for analyte concentration Cx

Cx = (Cis)(Amount ratio)

Example Spreadsheet Calculation:

Value of A from plot:	**-0.00629**	
Value of B from plot:	**0.511**	
Value of C from plot:	**-0.0276**	
Area of unknown from quantitation report:	**293821**	
Area of IS from quantiation report:	**784848**	
Response ratio, y:	**0.374367**	
C - y:	**-0.40197**	
Root 1 - Computed amount ratio , X1:	**80.44567**	
Root 2 - Computed amount ratio , X2:	**0.794396**	use this solution
Concentration of IS, Cis:	**25.00**	
Concentration of analyte, Cx:	**19.86**	ug/L

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS16 Dataset: 030310
Analyst1: MDA Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 14
Method: 624 SOP: MSV10 Rev: 7
Method: 5030C/5035A SOP: PAT01 Rev: 12
Maintenance Log ID: 32074

Internal Standard: STD37947 Surrogate Standard: STD37948
CCV: NA LCS: STD37815 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG324784

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	16M03417	WG324784-01 50ng BFB	NA	1	1	STD37932	03/03/10 10:45
2	16M03418	WG324784-02 1ug/L STD 8260	NA	1	1	STD37954	03/03/10 11:16
3	16M03419	WG324784-03 2ug/L STD 8260	NA	1	1	STD37954	03/03/10 11:47
4	16M03420	WG324784-04 5ug/L STD 8260	NA	1	1	STD37954	03/03/10 12:17
5	16M03421	WG324784-05 10ug/L STD 8260	NA	1	1	STD37954	03/03/10 12:47
6	16M03422	WG324784-06 20ug/L STD 8260	NA	1	1	STD37954	03/03/10 13:18
7	16M03423	WG324784-07 50ug/L STD 8260	NA	1	1	STD37954	03/03/10 13:48
8	16M03424	WG324784-08 100ug/L STD 8260	NA	1	1	STD37954	03/03/10 14:21
9	16M03425	WG324784-09 200ug/L STD 8260	NA	1	1	STD37954	03/03/10 14:51
10	16M03426	RINSE	NA	1	1		03/03/10 15:21
11	16M03427	RINSE	NA	1	1		03/03/10 15:52
12	16M03428	WG324784-10 50ug/L ICV 8260	NA	1	1	STD37815	03/03/10 16:22
13	16M03429	RINSE	NA	1	1		03/03/10 16:52
14	16M03430	VA 50UG/L	NA	1	1		03/03/10 17:23

Approved: March 08, 2010

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 032310
Analyst1: MES Analyst2: ADC
Method: 8260B SOP: MSV01 Rev: 14
Method: 5030C/5035A SOP: PAT01 Rev: 12
Method: 624 SOP: MSV10 Rev: 7
Maintenance Log ID: 32338

Internal Standard: STD38115 Surrogate Standard: STD38009
CCV: STD38293 LCS: STD38215/STD38256 MS/MSD: STD38215

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG326506,WG326594

Comments: BROMOMETHANE HIGH

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	11M64796	RINSE	NA	1	1		03/23/10 08:08
2	11M64797	RINSE	NA	1	1		03/23/10 08:39
3	11M64798	WG326506-01 50NG BFB STD 8260	NA	1	1	STD37932	03/23/10 09:59
4	11M64799	WG326506-02 0.3ug/L WATER STD 8260	NA	1	1	STD38273	03/23/10 10:23
5	11M64800	WG326506-03 0.4ug/L WATER STD 8260	NA	1	1	STD38293	03/23/10 10:54
6	11M64801	WG326506-04 1ug/L WATER STD 8260	NA	1	1	STD38293	03/23/10 11:25
7	11M64802	WG326506-05 2ug/L WATER STD 8260	NA	1	1	STD38293	03/23/10 11:57
8	11M64803	WG326506-06 5ug/L WATER STD 8260	NA	1	1	STD38293	03/23/10 12:28
9	11M64804	WG326506-07 20ug/L WATER STD 8260	NA	1	1	STD38293	03/23/10 12:59
10	11M64805	WG326506-08 50ug/L WATER STD 8260	NA	1	1	STD38293	03/23/10 13:30
11	11M64806	WG326506-09 100ug/L WATER STD 8260	NA	1	1	STD38293	03/23/10 14:01
12	11M64807	WG326506-10 200ug/L WATER STD 8260	NA	1	1	STD38293	03/23/10 14:32
13	11M64808	WG326506-11 300ug/L WATER STD 8260	NA	1	1	STD38293	03/23/10 15:03
14	11M64809	RINSE	NA	1	1		03/23/10 15:37
15	11M64810	WG326506-12 50 ug/L ALT SRC 8260	NA	1	1	STD38215	03/23/10 16:09
16	11M64811	WG326506-13 100 ug/L OXYGENATE ALT	NA	1	1	STD38256	03/23/10 16:40
17	11M64812	WG326593-01 50NG BFB STD 8260	NA	1	1	STD37932	03/23/10 17:04
18	11M64813	WG326593-01 50NG BFB STD 8260	NA	1	1	STD37932	03/23/10 17:16
19	11M64814	WG326593-02 50ug/L WATER STD 8260	NA	1	1	STD38293	03/23/10 17:40
20	11M64815	RINSE	NA	1	1		03/23/10 18:12
21	11M64816	WG326594-01 VBLK0323 BLANK 8260	NA	1	1		03/23/10 18:43
22	11M64817	WG326594-02 20ug/L LCS 8260	NA	1	1	STD38215	03/23/10 19:14
23	11M64818	WG326594-03 100ug/L LCS 8260	NA	1	1	STD38256	03/23/10 19:46
24	11M64819	L10030497-01 B 5X 826-SPE D1	<2	1	5		03/23/10 20:17
25	11M64820	L10030469-01 C 826-SPE	<2	1	1		03/23/10 20:48
26	11M64821	L10030469-13 C 826-SPE	<2	1	1		03/23/10 21:19
27	11M64822	L10030495-08 B 826-SPE	<2	1	1		03/23/10 21:51
28	11M64823	L10030444-12 C 10X 826-SPE	<2	1	10		03/23/10 22:22
29	11M64824	L10030444-13 C 10X 826-SPE	<2	1	10		03/23/10 22:54
33	11M64828	L10030497-03 B 5X 826-SPE	<2	1	5		03/24/10 00:59
34	11M64829	L10030444-14 B 5X 826-SPE	<2	1	5		03/24/10 01:30
35	11M64830	L10030444-15 B 2X 826-SPE	<2	1	2		03/24/10 02:01
36	11M64831	L10030444-18 B 5X 826-SPE	<2	1	5		03/24/10 02:32
37	11M64832	L10030444-24 B 5X 826-SPE	<2	1	5		03/24/10 03:04

Approved: March 25, 2010

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Instrument Run Log

Instrument: HPMS11 Dataset: 032310
Analyst1: MES Analyst2: ADC
Method: 8260B SOP: MSV01 Rev: 14
Method: 5030C/5035A SOP: PAT01 Rev: 12
Method: 624 SOP: MSV10 Rev: 7
Maintenance Log ID: 32338

Internal Standard: STD38115 Surrogate Standard: STD38009
CCV: STD38293 LCS: STD38215/STD38256 MS/MSD: STD38215

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG326506,WG326594

Comments: BROMOMETHANE HIGH

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
38	11M64833	L10030475-04 A 826-SPE	<2	1	1		03/24/10 03:35
39	11M64834	L10030475-05 A 826-SPE	<2	1	1		03/24/10 04:06
40	11M64835	L10030475-06 A 826-SPE	<2	1	1		03/24/10 04:37
41	11M64836	L10030475-07 A 826-SPE	<2	1	1		03/24/10 05:08
42	11M64837	RINSE	NA	1	1		03/24/10 05:39
43	11M64838	RINSE	NA	1	1		03/24/10 06:10
47	11M64825	L10030475-01 B 826-SPE	NA	1	1		03/23/10 23:25
48	11M64826	L10030475-02 MS B 826-SPE	NA	1	1	STD38215	03/23/10 23:56
49	11M64827	L10030475-03 MSD B 826-SPE	NA	1	1	STD38215	03/24/10 00:27

Comments

Seq.	Rerun	Dil.	Reason	Analytes
17				
File ID: 11M64812				
	RR, BFB failed.			

Approved: March 25, 2010

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS16 Dataset: 040110
Analyst1: TMB Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 14
Method: 5030C/5035A SOP: PAT01 Rev: 12

Maintenance Log ID: 32448

Internal Standard: STD38148 Surrogate Standard: STD38148
CCV: STD38408 LCS: STD38179 MS/MSD: STD38179

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG327398

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	16M03895	WG327397-01 50ng BFB STD 8260	NA	1	1	STD37932	04/01/10 08:53
2	16M03896	WG327397-02 50ug/L CCV STD 8260	NA	1	1	STD38408	04/01/10 09:18
3	16M03897	WG327397-01 50ng BFB STD 8260	NA	1	1	STD37932	04/01/10 10:12
4	16M03898	WG327397-02 50ug/L CCV STD 8260	NA	1	1	STD38408	04/01/10 10:37
5	16M03899	RINSE	NA	1	1		04/01/10 11:10
6	16M03900	WG327398-01 VBLK0401 BLANK STD 826	NA	1	1		04/01/10 11:42
7	16M03901	WG327398-02 20ug/L LCS STD 8260	NA	1	1	STD38179	04/01/10 12:15
8	16M03902	RINSE	NA	1	1		04/01/10 12:47
9	16M03903	L10040009-05 A 826-SPE	<2	1	1		04/01/10 13:19
10	16M03904	L10040010-01 A 826-LOW	7	1	1		04/01/10 13:51
11	16M03905	L10040010-02 A 826-LOW	7	1	1		04/01/10 14:23
12	16M03906	L10040010-03 A 826-LOW	7	1	1		04/01/10 14:55
13	16M03907	L10040010-04 A 826-LOW	7	1	1		04/01/10 15:27
14	16M03908	L10040010-05 A 826-LOW	7	1	1		04/01/10 16:00
15	16M03909	RINSE	NA	1	1		04/01/10 16:31
16	16M03910	L10040036-01 A 826-LOW	7	1	1		04/01/10 17:04
17	16M03911	L10040036-02 A 826-LOW	7	1	1		04/01/10 17:36
18	16M03912	L10040036-03 A 826-LOW	7	1	1		04/01/10 18:08
19	16M03913	L10040036-04 A 826-LOW	7	1	1		04/01/10 18:40
20	16M03914	L10030759-07 A 826-SPE1	<2	1	1		04/01/10 19:12
21	16M03915	L10030759-02 A 826-SPE1	<2	1	1		04/01/10 19:43
22	16M03916	L10030759-03 A 826-SPE1	<2	1	1		04/01/10 20:15
26	16M03920	RINSE	NA	1	1		04/01/10 22:24
27	16M03921	RINSE	NA	1	1		04/01/10 22:56
28	16M03922	RINSE	NA	1	1		04/01/10 23:28
29	16M03923	RINSE	NA	1	1		04/01/10 23:59
30	16M03917	L10030759-04 A 826-SPE1	<2	1	1		04/01/10 20:47
31	16M03918	L10030759-05 A MS 826-SPE1	<2	1	1	STD38179	04/01/10 21:20
32	16M03919	L10030759-06 A MSD 826-SPE1	<2	1	1	STD38179	04/01/10 21:52

Comments

Seq.	Rerun	Dil.	Reason	Analytes
2	X			

Approved: April 02, 2010

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS16 Dataset: 040110
Analyst1: TMB Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 14
Method: 5030C/5035A SOP: PAT01 Rev: 12

Maintenance Log ID: 32448

Internal Standard: STD38148 Surrogate Standard: STD38148
CCV: STD38408 LCS: STD38179 MS/MSD: STD38179

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG327398

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
File ID: 16M03896				
	Later compounds were low, changed the sparge tube. DNR. Restarted for tune lost tune time.			
5	X	1	Carry-over contamination	
File ID: 16M03899				
	Carry over from ccv, DNR.			
8	X	1	Carry-over contamination	
File ID: 16M03902				
	Carry over from lcs. DNR.			

Approved: April 02, 2010

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 040210
Analyst1: MES Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 14
Method: 5030C/5035A SOP: PAT01 Rev: 12

Maintenance Log ID: 32470

Internal Standard: STD38115 Surrogate Standard: STD38009
CCV: STD38293 LCS: STD38441 MS/MSD: STD38441

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG327488

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	11M65048	WG327487-01 50NG BFB STD 8260	NA	1	1	STD37932	04/02/10 08:09
2	11M65049	WG327487-02 50ug/L WATER STD 8260	NA	1	1	STD38293	04/02/10 08:33
3	11M65050	WG327487-02 50ug/L WATER STD 8260	NA	1	1	STD38293	04/02/10 09:05
4	11M65051	RINSE	NA	1	1		04/02/10 09:36
5	11M65052	WG327488-01 VBLK0402 BLANK 8260	NA	1	1		04/02/10 10:08
6	11M65053	WG327488-02 20ug/ LCS 8260	NA	1	1	STD38441	04/02/10 10:39
7	11M65054	WG327244-01 FBLK0330 10X	NA	17	10		04/02/10 11:10
8	11M65055	L10040039-01 A 826-LOW	<2	1	1		04/02/10 11:41
9	11M65056	L10040040-01 A 826-LOW	<2	1	1		04/02/10 12:12
10	11M65057	L10040039-02 A 826-LOW	<2	1	1		04/02/10 12:43
11	11M65058	L10040039-03 A 826-LOW	<2	1	1		04/02/10 13:14
12	11M65059	L10040039-04 A 826-LOW	<2	1	1		04/02/10 13:45
13	11M65060	L10040039-05 A 826-LOW	<2	1	1		04/02/10 14:16
14	11M65061	L10040055-04 A 826-LOW	7	1	1		04/02/10 14:47
15	11M65062	L10040055-05 A 826-LOW	7	1	1		04/02/10 15:18
16	11M65063	L10040055-06 A 826-LOW	7	1	1		04/02/10 15:50
17	11M65064	L10040040-13 A 826-LOW REF	<2	1	1		04/02/10 16:20
18	11M65065	L10040040-14 A 826-LOW MS	<2	1	1		04/02/10 16:51
19	11M65066	L10040040-15 A 826-LOW MSD	<2	1	1		04/02/10 17:22
20	11M65067	L10030759-01 A 826-SPE1	<2	1	1		04/02/10 17:53
21	11M65068	L10040040-02 A 826-LOW	<2	1	1		04/02/10 18:24
22	11M65069	L10040040-03 A 826-LOW	<2	1	1		04/02/10 18:55
23	11M65070	L10040040-04 A 826-LOW	<2	1	1		04/02/10 19:26
24	11M65071	L10040040-05 A 826-LOW	<2	1	1		04/02/10 19:57
25	11M65072	RINSE	NA	1	1		04/02/10 20:28
26	11M65073	RINSE	NA	1	1		04/02/10 20:59
27	11M65074	SYSTEM CHECK	NA	1	1		04/02/10 21:30

Comments

Seq.	Rerun	Dil.	Reason	Analytes
2	X		Over Linear Range	VC
File ID: 11M65049				
Vc was high, dnr.				

Approved: April 06, 2010

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 040210
Analyst1: MES Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 14
Method: 5030C/5035A SOP: PAT01 Rev: 12

Maintenance Log ID: 32470

Internal Standard: STD38115 Surrogate Standard: STD38009
CCV: STD38293 LCS: STD38441 MS/MSD: STD38441

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG327488

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
4	X	1	Carry-over contamination	
File ID: 11M65051				
Carry over from ccv, DNR.				

Approved: April 06, 2010

Microbac Laboratories Inc.

Data Checklist

Date: 03-MAR-2010
Analyst: MDA
Analyst: NA
Method: 8260/624
Instrument: HPMS16
Curve Workgroup: NA
Runlog ID: 32848
Analytical Workgroups: WG324784

System Performance Check	X
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	NA
Project/Client Specific Requirements	NA
Special Standards	NA
Blanks	NA
TCL's	NA
Surrogates	NA
LCS (Laboratory Control Sample)	NA
Recoveries	NA
Surrogates	NA
MS/MSD/Duplicates	NA
Samples	NA
TCL Hits	NA
Spectra of TCL Hits	NA
Surrogates	NA
Internal Standards Criteria	NA
Library Searches	NA
Calculations & Correct Factors	NA
Dilutions Run	NA
Reruns	NA
Manual Integrations	NA
Case Narrative	NA
Results Reporting/Data Qualifiers	NA
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	MDA
Secondary Reviewer	FJB
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
05-MAR-2010

Secondary Reviewer:
08-MAR-2010

CHECKLIST1 - Modified 03/05/2008
Generated: MAR-08-2010 14:42:13

Microbac Laboratories Inc.

Data Checklist

Date: 23-MAR-2010
Analyst: MES
Analyst: NA
Method: 8260/624
Instrument: HPMS11
Curve Workgroup: NA
Runlog ID: 33226
Analytical Workgroups: WG326506

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	X
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	NA
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	MES
Secondary Reviewer	MDA
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
24-MAR-2010

Secondary Reviewer:
25-MAR-2010

CHECKLIST1 - Modified 03/05/2008
Generated: MAR-25-2010 11:21:10

Microbac Laboratories Inc.

Data Checklist

Date: 01-APR-2010
Analyst: TMB
Analyst: NA
Method: 8260
Instrument: HPMS16
Curve Workgroup: NA
Runlog ID: 33383
Analytical Workgroups: WG327398

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	X
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	NA
Reruns	NA
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	MES
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
01-APR-2010

Secondary Reviewer:
02-APR-2010

CHECKLIST1 - Modified 03/05/2008
Generated: APR-02-2010 14:25:17

Microbac Laboratories Inc.

Data Checklist

Date: 02-APR-2010
Analyst: MES
Analyst: NA
Method: 8260
Instrument: HPMS11
Curve Workgroup: NA
Runlog ID: 33404
Analytical Workgroups: WG327488

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	X
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	NA
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	ADC
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
05-APR-2010
Tiffany Bailey

Secondary Reviewer:
06-APR-2010
Cathy Cater

CHECKLIST1 - Modified 03/05/2008
Generated: APR-06-2010 10:39:25

Microbac®

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B AAB#: WG327398

Login Number: L10030759

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MW20GW2333-033010	02	03/30/10							14		04/01/10	2.2	14	
FD01-033010	03	03/30/10							14		04/01/10	2.8	14	
MW18GW3035-033010	04	03/30/10							14		04/01/10	2.2	14	
MW18GW3035-033010-MS	05	03/30/10							14		04/01/10	2.2	14	
MW18GW3035-033010-MSD	06	03/30/10							14		04/01/10	2.2	14	
TRIP BLANK-033010	07	03/30/10							14		04/01/10	2.8	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 1632351
Report generated 04/06/2010 11:38

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B AAB#: WG327488

Login Number: L10030759

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MW21GW2434-033010	01	03/30/10							14		04/02/10	3.1	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 1632351
Report generated 04/06/2010 11:38

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L10030759
Instrument Id: HPMS16
Workgroup (AAB#): WG327398

Method: 8260
CAL ID: HPMS16-03-MAR-10
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L10030759-02	1.00	01	115	111	106	107
L10030759-03	1.00	01	112	110	106	107
L10030759-04	1.00	01	116	111	106	106
L10030759-05	1.00	01	112	110	106	105
L10030759-06	1.00	01	113	110	105	106
L10030759-07	1.00	01	115	111	107	107
WG327398-01	1.00	01	112	109	105	107
WG327398-02	1.00	01	110	109	104	105

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	80	-	120
2 - Dibromofluoromethane	86	-	118
3 - 4-Bromofluorobenzene	86	-	115
4 - Toluene-d8	88	-	110

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 1632359
Report generated: 04/06/2010 11:38

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L10030759
Instrument Id: HPMS11
Workgroup (AAB#): WG327488

Method: 8260
CAL ID: HPMS11-23-MAR-10
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L10030759-01	1.00	01	119	107	109	96.4
WG327488-01	1.00	01	105	101	104	96.8
WG327488-02	1.00	01	108	100	103	94.4

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	80	-	120
2 - Dibromofluoromethane	86	-	118
3 - 4-Bromofluorobenzene	86	-	115
4 - Toluene-d8	88	-	110

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 1632359
Report generated: 04/06/2010 11:38

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number:	L10030759	Work Group:	WG327488
Blank File ID:	11M65052	Blank Sample ID:	WG327488-01
Prep Date:	04/02/10 10:08	Instrument ID:	HPMS11
Analyzed Date:	04/02/10 10:08	Method:	8260B
Analyst:	MES		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG327488-02	11M65053	04/02/10 10:39	01
MW21GW2434-033010	L10030759-01	11M65067	04/02/10 17:53	01

Report Name: BLANK_SUMMARY
PDF File ID: 1632352
Report generated 04/06/2010 11:38

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L10030759
Work Group: WG327398
Blank File ID: 16M03900
Blank Sample ID: WG327398-01
Prep Date: 04/01/10 11:42
Instrument ID: HPMS16
Analyzed Date: 04/01/10 11:42
Method: 8260B
Analyst: TMB

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG327398-02	16M03901	04/01/10 12:15	01
TRIP BLANK-033010	L10030759-07	16M03914	04/01/10 19:12	01
MW20GW2333-033010	L10030759-02	16M03915	04/01/10 19:43	01
FD01-033010	L10030759-03	16M03916	04/01/10 20:15	01
MW18GW3035-033010	L10030759-04	16M03917	04/01/10 20:47	01
MW18GW3035-033010-MS	L10030759-05	16M03918	04/01/10 21:20	01
MW18GW3035-033010-MSD	L10030759-06	16M03919	04/01/10 21:52	01

Report Name: BLANK_SUMMARY
PDF File ID: 1632352
Report generated 04/06/2010 11:38

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L10030759 Prep Date: 04/02/10 10:08 Sample ID: WG327488-01
Instrument ID: HPMS11 Run Date: 04/02/10 10:08 Prep Method: 5030C
File ID: 11M65052 Analyst: MES Method: 8260B
Workgroup (AAB#): WG327488 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS11-23-MAR-10

Analytes	MDL	RL	Concentration	Dilution	Qualifier
Bromomethane	0.500	10.0	0.500	1	U
Chloroform	0.125	5.00	0.125	1	U
Chloromethane	0.500	10.0	0.500	1	U
Methylene chloride	0.250	5.00	0.250	1	U
Trichloroethene	0.250	5.00	0.250	1	U
Trichlorofluoromethane	0.250	10.0	0.250	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	101	86 - 118	PASS
1,2-Dichloroethane-d4	105	80 - 120	PASS
Toluene-d8	96.8	88 - 110	PASS
4-Bromofluorobenzene	104	86 - 115	PASS

MDL Method Detection Limit
RL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name:BLANK
PDF ID: 1632353
06-APR-2010 11:38

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L10030759 Prep Date: 04/01/10 11:42 Sample ID: WG327398-01
Instrument ID: HPMS16 Run Date: 04/01/10 11:42 Prep Method: 5030C
File ID: 16M03900 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG327398 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS16-03-MAR-10

Analytes	MDL	RL	Concentration	Dilution	Qualifier
Bromomethane	0.500	10.0	0.500	1	U
Chloroform	0.125	5.00	0.125	1	U
Chloromethane	0.500	10.0	0.500	1	U
Methylene chloride	0.250	5.00	0.250	1	U
Trichloroethene	0.250	5.00	0.250	1	U
Trichlorofluoromethane	0.250	10.0	0.250	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	109	86 - 118	PASS
1,2-Dichloroethane-d4	112	80 - 120	PASS
Toluene-d8	107	88 - 110	PASS
4-Bromofluorobenzene	105	86 - 115	PASS

MDL Method Detection Limit
RL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name:BLANK
PDF ID: 1632353
06-APR-2010 11:38

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L10030759 Run Date: 04/02/2010 Sample ID: WG327488-02
Instrument ID: HPMS11 Run Time: 10:39 Prep Method: 5030C
File ID: 11M65053 Analyst: MES Method: 8260B
Workgroup (AAB#): WG327488 Matrix: Water Units: ug/L
QC Key: ASHLAND Lot#: STD38441 Cal ID: HPMS11-23-MAR-10

Analytes	Expected	Found	% Rec	LCS Limits	Q
Bromomethane	20.0	22.8	114	30 - 145	
Chloroform	20.0	22.9	114	80 - 125	
Chloromethane	20.0	26.1	130	40 - 125	*
Methylene chloride	20.0	21.4	107	80 - 123	
Trichloroethene	20.0	21.5	108	80 - 122	
Trichlorofluoromethane	20.0	25.5	128	62 - 151	

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	100	86 - 118	PASS
1,2-Dichloroethane-d4	108	80 - 120	PASS
Toluene-d8	94.4	88 - 110	PASS
4-Bromofluorobenzene	103	86 - 115	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 1630383
Report generated: 04/06/2010 11:38

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L10030759 Run Date: 04/01/2010 Sample ID: WG327398-02
Instrument ID: HPMS16 Run Time: 12:15 Prep Method: 5030C
File ID: 16M03901 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG327398 Matrix: Water Units: ug/L
QC Key: ASHLAND Lot#: STD38179 Cal ID: HPMS16-03-MAR-10

Analytes	Expected	Found	% Rec	LCS Limits	Q
Bromomethane	20.0	14.8	73.9	30 - 145	
Chloroform	20.0	20.1	101	80 - 125	
Chloromethane	20.0	19.8	98.9	40 - 125	
Methylene chloride	20.0	20.4	102	80 - 123	
Trichloroethene	20.0	20.6	103	80 - 122	
Trichlorofluoromethane	20.0	20.9	105	62 - 151	

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	109	86 - 118	PASS
1,2-Dichloroethane-d4	110	80 - 120	PASS
Toluene-d8	105	88 - 110	PASS
4-Bromofluorobenzene	104	86 - 115	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 1630383
Report generated: 04/06/2010 11:38

Microbac Laboratories Inc.

MS/MSD REPORT

Loginnum: L10030759 Cal ID: HPMS16- 03-MAR-10 Worknum: WG327398

Instrument ID: HPMS16 Contract #: Prep Method: 5030C

Parent ID: L10030759-04 File ID: 16M03917 Dil: 1 Method: 8260B

Sample ID: L10030759-05 MS File ID: 16M03918 Dil: 1 Matrix: Water

Sample ID: L10030759-06 MSD File ID: 16M03919 Dil: 1 Units: ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Bromomethane	U	20.0	14.6	73.1	20.0	15.9	79.4	8.19	30 - 145	20	
Chloroform	U	20.0	19.6	98.1	20.0	20.0	99.8	1.72	80 - 125	20	
Chloromethane	U	20.0	18.4	91.9	20.0	19.5	97.7	6.09	40 - 125	20	
Methylene chloride	U	20.0	20.2	101	20.0	20.4	102	1.09	80 - 123	20	
Trichloroethene	U	20.0	19.2	96	20.0	19.2	95.8	0.234	80 - 122	20	
Trichlorofluoromethane	U	20.0	16.8	83.8	20.0	16.5	82.7	1.29	62 - 151	20	

* EXCEEDS %REC LIMIT

EXCEEDS RPD LIMIT

MS_MSD - Modified 09/13/2009

PDF File ID: 1630384

Report generated 04/06/2010 11:38

BFB

Login Number: L10030759
Instrument: HPMS11
Analyst: ADC
Workgroup: WG326506

Tune ID: WG326506-01
Run Date: 03/23/2010
Run Time: 09:59
File ID: 11M64798
Cal ID: HPMS11-23-MAR-10

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	26.8	4621	PASS
75.0	95.0	30.0	60.0	53.5	9232	PASS
95.0	95.0	100	100	100	17253	PASS
96.0	95.0	5.00	9.00	6.23	1075	PASS
173	174	0	2.00	0.782	109	PASS
174	95.0	50.0	100	80.7	13931	PASS
175	174	5.00	9.00	8.96	1248	PASS
176	174	95.0	101	97.0	13508	PASS
177	176	5.00	9.00	6.43	868	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG326506-02	STD	01	03/23/2010 10:23	
WG326506-03	STD	01	03/23/2010 10:54	
WG326506-04	STD	01	03/23/2010 11:25	
WG326506-05	STD	01	03/23/2010 11:57	
WG326506-06	STD	01	03/23/2010 12:28	
WG326506-07	STD	01	03/23/2010 12:59	
WG326506-08	STD-CCV	01	03/23/2010 13:30	
WG326506-09	STD	01	03/23/2010 14:01	
WG326506-10	STD	01	03/23/2010 14:32	
WG326506-11	STD	01	03/23/2010 15:03	
WG326506-12	SSCV	01	03/23/2010 16:09	
WG326506-13	SSCV	01	03/23/2010 16:40	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 1632356
Report generated 04/06/2010 11:38

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L10030759
Instrument: HPMS11
Analyst: MES
Workgroup: WG327487

Tune ID: WG327487-01
Run Date: 04/02/2010
Run Time: 08:09
File ID: 11M65048
Cal ID: HPMS11-23-MAR-10

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	28.0	7182	PASS
75.0	95.0	30.0	60.0	53.6	13757	PASS
95.0	95.0	100	100	100	25669	PASS
96.0	95.0	5.00	9.00	6.40	1644	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	72.1	18499	PASS
175	174	5.00	9.00	6.34	1172	PASS
176	174	95.0	101	99.3	18373	PASS
177	176	5.00	9.00	7.79	1432	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG327487-02	CCV	01	04/02/2010 09:05	
WG327488-01	BLANK	01	04/02/2010 10:08	
WG327488-02	LCS	01	04/02/2010 10:39	
WG327244-01	FBLK	DL01	04/02/2010 11:10	
WG327488-03	REF	01	04/02/2010 16:20	
WG327488-04	MS	01	04/02/2010 16:51	
WG327488-05	MSD	01	04/02/2010 17:22	
L10030759-01	MW21GW2434-033010	01	04/02/2010 17:53	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 1632356
Report generated 04/06/2010 11:38

BFB

Login Number: L10030759
Instrument: HPMS16
Analyst: MDA
Workgroup: WG324784

Tune ID: WG324784-01
Run Date: 03/03/2010
Run Time: 10:45
File ID: 16M03417
Cal ID: HPMS16-03-MAR-10

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	22.8	3310	PASS
75.0	95.0	30.0	60.0	49.2	7134	PASS
95.0	95.0	100	100	100	14502	PASS
96.0	95.0	5.00	9.00	6.35	921	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	82.8	12007	PASS
175	174	5.00	9.00	7.79	935	PASS
176	174	95.0	101	97.5	11701	PASS
177	176	5.00	9.00	7.08	828	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG324784-02	STD	01	03/03/2010 11:16	
WG324784-03	STD	01	03/03/2010 11:47	
WG324784-04	STD	01	03/03/2010 12:17	
WG324784-05	STD	01	03/03/2010 12:47	
WG324784-06	STD	01	03/03/2010 13:18	
WG324784-07	STD-CCV	01	03/03/2010 13:48	
WG324784-08	STD	01	03/03/2010 14:21	
WG324784-09	STD	01	03/03/2010 14:51	
WG324784-10	SSCV	01	03/03/2010 16:22	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
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Report generated 04/06/2010 11:38

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L10030759
Instrument: HPMS16
Analyst: TMB
Workgroup: WG327397

Tune ID: WG327397-01
Run Date: 04/01/2010
Run Time: 10:12
File ID: 16M03897
Cal ID: HPMS16-03-MAR-10

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	23.3	5684	PASS
75.0	95.0	30.0	60.0	51.0	12445	PASS
95.0	95.0	100	100	100	24387	PASS
96.0	95.0	5.00	9.00	6.87	1676	PASS
173	174	0	2.00	0.568	105	PASS
174	95.0	50.0	100	75.8	18484	PASS
175	174	5.00	9.00	7.49	1384	PASS
176	174	95.0	101	97.1	17948	PASS
177	176	5.00	9.00	6.77	1215	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG327397-02	CCV	01	04/01/2010 10:37	
WG327398-01	BLANK	01	04/01/2010 11:42	
WG327398-01	BLANK	01	04/01/2010 11:42	
WG327398-02	LCS	01	04/01/2010 12:15	
L10030759-07	TRIP BLANK-033010	01	04/01/2010 19:12	
L10030759-02	MW20GW2333-033010	01	04/01/2010 19:43	
L10030759-03	FD01-033010	01	04/01/2010 20:15	
L10030759-04	MW18GW3035-033010	01	04/01/2010 20:47	
WG327398-03	REF	01	04/01/2010 20:47	
L10030759-05	MW18GW3035-033010-MS	01	04/01/2010 21:20	
WG327398-04	MS	01	04/01/2010 21:20	
L10030759-06	MW18GW3035-033010-MSD	01	04/01/2010 21:52	
WG327398-05	MSD	01	04/01/2010 21:52	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 1632356
Report generated 04/06/2010 11:38

Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L10030759
Analytical Method: 8260B
ICAL Workgroup: WG326506

Instrument ID: HPMS11
Initial Calibration Date: 23-MAR-10 15:03
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R^2)
Chloroform	CCC	0.4162	4.05		
1,1,2,2-Tetrachloroethane	SPCC	0.3694	5.96		
1,1-Dichloroethane	SPCC	0.4300	3.82		
Bromoform	SPCC	0.1710	9.34		
Chlorobenzene	SPCC	0.8091	6.43		
Chloromethane	SPCC	0.3463	7.07		
Bromomethane		0.1291	2.06		
Methylene Chloride		0.2170	2.57		
Trichloroethene		0.2541	6.51		
Trichlorofluoromethane		0.3675	7.45		

R = Correlation coefficient; 0.995 minimum
R^2 = Coefficient of determination; 0.99 minimum

If the %RSD is greater than the limit specified by the method or project QAP, then linear or quadratic equations will be used.

INT_CAL - Modified 03/06/2008
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INITIAL CALIBRATION SUMMARY

Login Number: L10030759 **Instrument ID:** HPMS16
Analytical Method: 8260B **Initial Calibration Date:** 03-MAR-10 14:51
ICAL Workgroup: WG324784 **Column ID:** F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R^2)
Chloroform	CCC	0.4383	4.47		
1,1,2,2-Tetrachloroethane	SPCC	0.3511	7.67		
1,1-Dichloroethane	SPCC	0.4659	4.27		
Bromoform	SPCC	0.1480	14.0		
Chlorobenzene	SPCC	0.8715	5.25		
Chloromethane	SPCC	0.3798	4.66		
Bromomethane		0.1525	16.5	0.99800	
Methylene Chloride		0.2264	1.79		
Trichloroethene		0.2715	7.77		
Trichlorofluoromethane		0.4034	6.45		

R = Correlation coefficient; 0.995 minimum
R^2 = Coefficient of determination; 0.99 minimum

If the %RSD is greater than the limit specified by the method or project QAP, then linear or quadratic equations will be used.

INT_CAL - Modified 03/06/2008
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Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L10030759
Analytical Method: 8260B

Instrument ID: HPMS11
Initial Calibration Date: 23-MAR-10 15:03
Column ID: F

Analyte	WG326506-02			WG326506-03			WG326506-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloroform	0.300	3912.00000	0.4230	0.400	5218.00000	0.4375	1.00	11810.0000	0.3954
1,1,2,2-Tetrachloroethane	NA	NA	NA	0.400	1900.00000	0.3449	1.00	5179.00000	0.3806
1,1-Dichloroethane	NA	NA	NA	0.400	5257.00000	0.4407	1.00	12411.0000	0.4156
Bromoform	NA	NA	NA	NA	NA	NA	1.00	3996.00000	0.1645
Chlorobenzene	NA	NA	NA	0.400	8597.00000	0.8703	1.00	18686.0000	0.7692
Chloromethane	NA	NA	NA	NA	NA	NA	1.00	10775.0000	0.3608
Bromomethane	NA	NA	NA	NA	NA	NA	1.00	3800.00000	0.1272
Methylene Chloride	NA	NA	NA	NA	NA	NA	1.00	6708.00000	0.2246
Trichloroethene	NA	NA	NA	0.400	2766.00000	0.2319	1.00	7292.00000	0.2442
Trichlorofluoromethane	NA	NA	NA	0.400	3881.00000	0.3254	1.00	10971.0000	0.3673

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Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L10030759
Analytical Method: 8260B
Instrument ID: HPMS11
Initial Calibration Date: 23-MAR-10 15:03
Column ID: F

Analyte	WG326506-05			WG326506-06			WG326506-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloroform	2.00	22339.0000	0.3829	5.00	61367.0000	0.4220	20.0	265991.000	0.4257
1,1,2,2-Tetrachloroethane	2.00	8811.00000	0.3254	5.00	25795.0000	0.3790	20.0	114001.000	0.3860
1,1-Dichloroethane	2.00	23138.0000	0.3966	5.00	62793.0000	0.4318	20.0	279182.000	0.4468
Bromoform	2.00	6765.00000	0.1401	5.00	20192.0000	0.1681	20.0	90436.0000	0.1745
Chlorobenzene	2.00	34084.0000	0.7058	5.00	96935.0000	0.8069	20.0	416289.000	0.8033
Chloromethane	2.00	17611.0000	0.3019	5.00	50760.0000	0.3490	20.0	206645.000	0.3307
Bromomethane	2.00	7680.00000	0.1316	5.00	19299.0000	0.1327	20.0	81686.0000	0.1307
Methylene Chloride	2.00	12109.0000	0.2076	5.00	31723.0000	0.2181	20.0	138023.000	0.2209
Trichloroethene	2.00	13507.0000	0.2315	5.00	37206.0000	0.2558	20.0	163054.000	0.2609
Trichlorofluoromethane	2.00	19195.0000	0.3290	5.00	57916.0000	0.3983	20.0	245735.000	0.3933

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Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L10030759
Analytical Method: 8260B

Instrument ID: HPMS11
Initial Calibration Date: 23-MAR-10 15:03
Column ID: F

Analyte	WG326506-08			WG326506-09			WG326506-10		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloroform	50.0	698525.000	0.4239	100	1320102.00	0.4224	200	2701819.00	0.4128
1,1,2,2-Tetrachloroethane	50.0	303728.000	0.3850	100	633283.000	0.3778	200	1321210.00	0.3762
1,1-Dichloroethane	50.0	725959.000	0.4405	100	1366878.00	0.4374	200	2818764.00	0.4307
Bromoform	50.0	252589.000	0.1778	100	538816.000	0.1835	200	1098765.00	0.1886
Chlorobenzene	50.0	1182221.00	0.8323	100	2454667.00	0.8359	200	4949019.00	0.8493
Chloromethane	50.0	567097.000	0.3441	100	1179365.00	0.3774	200	2356418.00	0.3600
Bromomethane	50.0	213245.000	0.1294	100	394447.000	0.1262	200	825968.000	0.1262
Methylene Chloride	50.0	356512.000	0.2163	100	683759.000	0.2188	200	1391253.00	0.2126
Trichloroethene	50.0	441680.000	0.2680	100	858824.000	0.2748	200	1740054.00	0.2658
Trichlorofluoromethane	50.0	637234.000	0.3867	100	1155713.00	0.3698	200	2421589.00	0.3700

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Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L10030759
Analytical Method: 8260B
Instrument ID: HPMS11
Initial Calibration Date: 23-MAR-10 15:03
Column ID: F

Analyte	WG326506-11		
	CONC	RESP	RF
Chloroform	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	NA	NA
1,1-Dichloroethane	NA	NA	NA
Bromoform	NA	NA	NA
Chlorobenzene	NA	NA	NA
Chloromethane	NA	NA	NA
Bromomethane	NA	NA	NA
Methylene Chloride	NA	NA	NA
Trichloroethene	NA	NA	NA
Trichlorofluoromethane	NA	NA	NA

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Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L10030759
Analytical Method: 8260B

Instrument ID: HPMS16
Initial Calibration Date: 03-MAR-10 14:51
Column ID: F

Analyte	WG324784-02			WG324784-03			WG324784-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloroform	1.00	11686.0000	0.3965	2.00	26803.0000	0.4580	5.00	62850.0000	0.4267
1,1,2,2-Tetrachloroethane	1.00	3478.00000	0.2891	2.00	8154.00000	0.3398	5.00	22128.0000	0.3640
1,1-Dichloroethane	1.00	12606.0000	0.4278	2.00	26425.0000	0.4515	5.00	66914.0000	0.4543
Bromoform	1.00	2590.00000	0.1102	2.00	6065.00000	0.1300	5.00	15856.0000	0.1363
Chlorobenzene	1.00	18538.0000	0.7886	2.00	38998.0000	0.8360	5.00	100834.000	0.8668
Chloromethane	1.00	12408.0000	0.4210	2.00	21446.0000	0.3664	5.00	55324.0000	0.3756
Bromomethane	1.00	3670.00000	0.1245	2.00	6886.00000	0.1177	5.00	20340.0000	0.1381
Methylene Chloride	1.00	6384.00000	0.2166	2.00	13419.0000	0.2293	5.00	33330.0000	0.2263
Trichloroethene	1.00	6710.00000	0.2277	2.00	15014.0000	0.2565	5.00	38917.0000	0.2642
Trichlorofluoromethane	1.00	11768.0000	0.3993	2.00	20353.0000	0.3478	5.00	57387.0000	0.3896

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Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L10030759
Analytical Method: 8260B

Instrument ID: HPMS16
Initial Calibration Date: 03-MAR-10 14:51
Column ID: F

Analyte	WG324784-05			WG324784-06			WG324784-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloroform	10.0	133226.000	0.4480	20.0	272896.000	0.4498	50.0	689741.000	0.4492
1,1,2,2-Tetrachloroethane	10.0	45272.0000	0.3687	20.0	92238.0000	0.3681	50.0	237729.000	0.3669
1,1-Dichloroethane	10.0	141001.000	0.4741	20.0	293730.000	0.4842	50.0	744242.000	0.4847
Bromoform	10.0	35212.0000	0.1511	20.0	74377.0000	0.1560	50.0	199650.000	0.1655
Chlorobenzene	10.0	206670.000	0.8870	20.0	435798.000	0.9140	50.0	1114145.00	0.9234
Chloromethane	10.0	110552.000	0.3717	20.0	234652.000	0.3868	50.0	570623.000	0.3716
Bromomethane	10.0	43028.0000	0.1447	20.0	97540.0000	0.1608	50.0	261031.000	0.1700
Methylene Chloride	10.0	67412.0000	0.2267	20.0	138743.000	0.2287	50.0	352221.000	0.2294
Trichloroethene	10.0	82954.0000	0.2789	20.0	173187.000	0.2855	50.0	439743.000	0.2864
Trichlorofluoromethane	10.0	124581.000	0.4189	20.0	262262.000	0.4323	50.0	633327.000	0.4125

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L10030759
Analytical Method: 8260B

Instrument ID: HPMS16
Initial Calibration Date: 03-MAR-10 14:51
Column ID: F

Analyte	WG324784-08			WG324784-09		
	CONC	RESP	RF	CONC	RESP	RF
Chloroform	100	1390574.00	0.4451	200	2717570.00	0.4333
1,1,2,2-Tetrachloroethane	100	488921.000	0.3604	200	968855.000	0.3517
1,1-Dichloroethane	100	1499790.00	0.4800	200	2950645.00	0.4704
Bromoform	100	423061.000	0.1690	200	849478.000	0.1655
Chlorobenzene	100	2270130.00	0.9070	200	4358215.00	0.8489
Chloromethane	100	1168546.00	0.3740	200	2327153.00	0.3710
Bromomethane	100	555971.000	0.1779	200	1170676.00	0.1866
Methylene Chloride	100	712748.000	0.2281	200	1416785.00	0.2259
Trichloroethene	100	896703.000	0.2870	200	1792422.00	0.2858
Trichlorofluoromethane	100	1312107.00	0.4199	200	2551044.00	0.4067

INT_CAL - Modified 03/06/2008
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Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L10030759 Run Date: 03/23/2010 Sample ID: WG326506-12
Instrument ID: HPMS11 Run Time: 16:09 Method: 8260B
File ID: 11M64810 Analyst: ADC QC Key: ASHLAND
ICal Workgroup: WG326506 Cal ID: HPMS11 - 23-MAR-10

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloroform	CCC	50.0	48.8	ug/L	0.406	2.50	25	
Chloromethane	SPCC	50.0	57.7	ug/L	0.400	15.4	25	
1,1,2,2-Tetrachloroethane	SPCC	50.0	53.1	ug/L	0.392	6.20	25	
Chlorobenzene	SPCC	50.0	51.0	ug/L	0.825	2.00	25	
1,1-Dichloroethane	SPCC	50.0	50.6	ug/L	0.436	1.30	25	
Bromoform	SPCC	50.0	50.1	ug/L	0.171	0.300	25	
Bromomethane		50.0	50.7	ug/L	0.131	1.40	25	
Methylene Chloride		50.0	50.6	ug/L	0.220	1.20	25	
Trichloroethene		50.0	51.0	ug/L	0.259	2.10	25	
Trichlorofluoromethane		50.0	49.1	ug/L	0.361	1.70	25	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L10030759 Run Date: 03/23/2010 Sample ID: WG326506-13
Instrument ID: HPMS11 Run Time: 16:40 Method: 8260B
File ID: 11M64811 Analyst: ADC QC Key: ASHLAND
ICal Workgroup: WG326506 Cal ID: HPMS11 - 23-MAR-10

Analyte	Expected	Found	Units	RF	%D	UCL	Q

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L10030759 Run Date: 03/03/2010 Sample ID: WG324784-10
Instrument ID: HPMS16 Run Time: 16:22 Method: 8260B
File ID: 16M03428 Analyst: MDA QC Key: ASHLAND
ICal Workgroup: WG324784 Cal ID: HPMS16 - 03-MAR-10

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloroform	CCC	50.0	49.2	ug/L	0.431	1.60	25	
Chloromethane	SPCC	50.0	51.1	ug/L	0.388	2.10	25	
Chlorobenzene	SPCC	50.0	52.1	ug/L	0.907	4.10	25	
1,1,2,2-Tetrachloroethane	SPCC	50.0	52.2	ug/L	0.366	4.30	25	
Bromoform	SPCC	50.0	53.0	ug/L	0.157	6.00	25	
1,1-Dichloroethane	SPCC	50.0	51.1	ug/L	0.476	2.20	25	
Bromomethane		50.0	47.9	ug/L	0.171	4.10	25	
Methylene Chloride		50.0	50.5	ug/L	0.228	1.00	25	
Trichloroethene		50.0	52.2	ug/L	0.283	4.40	25	
Trichlorofluoromethane		50.0	51.3	ug/L	0.414	2.70	25	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L10030759 Run Date: 04/01/2010 Sample ID: WG327397-02
Instrument ID: HPMS16 Run Time: 10:37 Method: 8260B
File ID: 16M03898 Analyst: TMB QC Key: ASHLAND
Workgroup (AAB#): WG327398 Cal ID: HPMS16 - 03-MAR-10
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	49.5	ug/L	0.434	0.914	20	
1,1-Dichloroethene	CCC	50.0	49.7	ug/L	0.394	0.578	20	
1,2-Dichloropropane	CCC	50.0	51.5	ug/L	0.254	2.90	20	
Ethylbenzene	CCC	50.0	50.1	ug/L	0.482	0.195	20	
Toluene	CCC	50.0	48.7	ug/L	1.24	2.68	20	
Vinyl Chloride	CCC	50.0	45.0	ug/L	0.227	9.97	20	
Chloromethane	SPCC	50.0	45.4	ug/L	0.345	9.17	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	54.2	ug/L	0.381	8.41	20	
1,1-Dichloroethane	SPCC	50.0	49.9	ug/L	0.465	0.205	20	
Bromoform	SPCC	50.0	58.3	ug/L	0.173	16.7	20	
Chlorobenzene	SPCC	50.0	49.9	ug/L	0.869	0.279	20	
Bromomethane		50.0	41.9	ug/L	0.149	16.2	20	
Methylene Chloride		50.0	49.4	ug/L	0.223	1.23	20	
Trichloroethene		50.0	50.0	ug/L	0.271	0.0290	20	
Trichlorofluoromethane		50.0	50.5	ug/L	0.408	1.05	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 1632357
Report generated 04/06/2010 11:38

Microbac

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L10030759 Run Date: 04/02/2010 Sample ID: WG327487-02

Instrument ID: HPMS11 Run Time: 09:05 Method: 8260B

File ID: 11M65050 Analyst: MES QC Key: ASHLAND

Workgroup (AAB#): WG327488 Cal ID: HPMS11 - 23-MAR-10

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	51.7	ug/L	0.430	3.42	20	
1,1-Dichloroethene	CCC	50.0	50.7	ug/L	0.379	1.42	20	
1,2-Dichloropropane	CCC	50.0	49.5	ug/L	0.229	0.984	20	
Ethylbenzene	CCC	50.0	47.4	ug/L	0.401	5.24	20	
Toluene	CCC	50.0	47.4	ug/L	1.10	5.21	20	
Vinyl Chloride	CCC	50.0	54.3	ug/L	0.310	8.63	20	
Chloromethane	SPCC	50.0	53.3	ug/L	0.369	6.66	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	51.5	ug/L	0.381	3.03	20	
1,1-Dichloroethane	SPCC	50.0	49.6	ug/L	0.426	0.835	20	
Bromoform	SPCC	50.0	51.7	ug/L	0.177	3.43	20	
Chlorobenzene	SPCC	50.0	47.3	ug/L	0.765	5.49	20	
Bromomethane		50.0	54.8	ug/L	0.142	9.62	20	
Methylene Chloride		50.0	48.6	ug/L	0.211	2.88	20	
Trichloroethene		50.0	49.5	ug/L	0.252	1.03	20	
Trichlorofluoromethane		50.0	56.7	ug/L	0.416	13.3	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 1632357
Report generated 04/06/2010 11:38

Microbac Laboratories Inc.

INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L10030759
Instrument ID: HPMS16
Workgroup (AAB#): WG327398

ICAL CCV Number: WG324784-07
CAL ID: HPMS16-03-MAR-10
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG324784-07	NA	NA	323957	603256	767729
Upper Limit	NA	NA	647914	1206512	1535458
Lower Limit	NA	NA	161979	301628	383865
L10030759-02	1.00	01	336256	645845	804206
L10030759-03	1.00	01	330530	641462	803946
L10030759-04	1.00	01	335865	638642	795768
L10030759-05	1.00	01	354602	663889	813044
L10030759-06	1.00	01	359081	670132	822666
L10030759-07	1.00	01	338310	650160	809640
WG327398-01	1.00	01	358396	680510	850581
WG327398-02	1.00	01	383425	710359	867305

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 1632358
Report generated 04/06/2010 11:38

Microbac Laboratories Inc.

INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L10030759
Instrument ID: HPMS11
Workgroup (AAB#): WG327488

ICAL CCV Number: WG326506-08
CAL ID: HPMS11-23-MAR-10
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG326506-08	NA	NA	394447	710215	823949
Upper Limit	NA	NA	788894	1420430	1647898
Lower Limit	NA	NA	197224	355108	411975
L10030759-01	1.00	01	305135	538097	617288
WG327488-01	1.00	01	369355	662731	779957
WG327488-02	1.00	01	415925	732856	835921

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 1632358
Report generated 04/06/2010 11:38

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY

(COMPARED TO MIDPOINT OF ICAL)

Login Number: L10030759

Instrument ID: HPMS16

Workgroup (AAB#): WG327398

ICAL CCV Number: WG324784-07

CAL ID: HPMS16-03-MAR-10

Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG324784-07	NA	NA	16.86	14.06	10.44
Upper Limit	NA	NA	17.36	14.56	10.94
Lower Limit	NA	NA	16.36	13.56	9.94
L10030759-02	1.00	01	16.86	14.06	10.44
L10030759-03	1.00	01	16.86	14.06	10.44
L10030759-04	1.00	01	16.86	14.06	10.44
L10030759-05	1.00	01	16.86	14.06	10.44
L10030759-06	1.00	01	16.86	14.06	10.44
L10030759-07	1.00	01	16.86	14.06	10.44
WG327398-01	1.00	01	16.86	14.06	10.44
WG327398-02	1.00	01	16.86	14.06	10.44

IS-1 - 1,4-Dichlorobenzene-d4

IS-2 - Chlorobenzene-d5

IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008

PDF File ID: 1632360

Report generated: 04/06/2010 11:38

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY

(COMPARED TO MIDPOINT OF ICAL)

Login Number: L10030759

Instrument ID: HPMS11

Workgroup (AAB#): WG327488

ICAL CCV Number: WG326506-08

CAL ID: HPMS11-23-MAR-10

Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG326506-08	NA	NA	16.27	13.48	9.86
Upper Limit	NA	NA	16.77	13.98	10.36
Lower Limit	NA	NA	15.77	12.98	9.36
L10030759-01	1.00	01	16.275	13.483	9.864
WG327488-01	1.00	01	16.274	13.483	9.874
WG327488-02	1.00	01	16.274	13.483	9.864

IS-1 - 1,4-Dichlorobenzene-d4

IS-2 - Chlorobenzene-d5

IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008

PDF File ID: 1632360

Report generated: 04/06/2010 11:38

3.0 Attachments

Microbac Laboratories Inc.
Analyst Listing
April 6, 2010

ADC – ANTHONY D. CANTER	AJF – AMANDA J. FICKIESEN	ALB – ANNIE L. BROWN
AML – TONY M. LONG	BLG – BRENDA L. GREENWALT	BRG – BRENDA R. GREGORY
CAA – CASSIE A. AUGENSTEIN	CAF – CHERYL A. FLOWERS	CAH – CHUCK A. HALL
CEB – CHAD E. BARNES	CLC – CHRYS L. CRAWFORD	CLW – CHARISSA L. WINTERS
CPD – CHAD P. DAVIS	CSH – CHRIS S. HILL	DDE – DEBRA D. ELLIOTT
DEL – DON E. LIGHTFRITZ	DEV – DAVID E. VANDENBERG	DGB – DOUGLAS G. BUTCHER
DIH – DEANNA I. HESSON	DLB – DAVID L. BUMGARNER	DLP – DOROTHY L. PAYNE
DLR – DIANNA L. RAUCH	DR – DEANNA ROBERTS	ECL – ERIC C. LAWSON
EDA – ERIN D. AGEE	ERP – ERIN R. PORTER	FJB – FRANCES J. BOLDEN
HAV – HEMA VILASAGAR	HJR – HOLLY J. REED	JBK – JEREMY B. KINNEY
JDH – JUSTIN D. HESSON	JKT – JANE K. THOMPSON	JWR – JOHN W. RICHARDS
JWS – JACK W. SHEAVES	JYH – JI Y. HU	KEB – KATIE E. BARNES
KHR – KIM H. RHODES	KRA – KATHY R. ALBERTSON	LKN – LINDA K. NEDEFF
LSB – LESLIE S. BUCINA	MDA – MIKE D. ALBERTSON	MDC – MIKE D. COCHRAN
MES – MARY E. SCHILLING	MMB – MAREN M. BEERY	MRT – MICHELLE R. TAYLOR
MSW – MATT S. WILSON	PDM – PIERCE D. MORRIS	RAH – ROY A. HALSTEAD
RB – BOB BUCHANAN	REK – BOB E. KYER	RLK – ROBIN L. KLINGER
RWC – RODNEY W. CAMPBELL	SLM – STEPHANIE L. MOSSBURG	SLP – SHERI L. PFALZGRAF
TIP – TAE I. PARRISH	TMB – TIFFANY M. BAILEY	TMM – TAMMY M. MORRIS
VC – VICKI COLLIER	WTD – WADE T. DELONG	

Microbac Laboratories Inc.
List of Valid Qualifiers
April 06, 2010

Qualkey: CLP

Qualifier	Description
E	Estimated concentration due to interference
E	Semiquantitative result (out of instrument calibration range)
J	Estimated concentration.
J	The analyte was positively identified, but the quantitation was below the RL
J,B	Analyte detected in both the method blank and sample above the MDL.
U	Not detected at or above the reporting limit (RL).

*****Special Notes for Organic Analytes**

1. Acrolein and acrylonitrile by method 624 are semi-quantitative screens only.
2. 1,2-Diphenylhydrazine is unstable and is reported as azobenzene.
3. N-nitrosodiphenylamine cannot be separated from diphenylamine.
4. 3-Methylphenol and 4-Methylphenol are unresolvable compounds.
5. m-Xylene and p-Xylene are unresolvable compounds.
6. The reporting limits for Appendix II/IX compounds by method 8270 are based on EPA estimated PQLs referenced in 40 CFR Part 264, Appendix IX. They are not always achievable for every compound an are matrix dependent.

COC No. A 16501

158 Starlite Drive
Marietta, OH 45750

Microbac

CHAIN-OF-CUSTODY RECORD

Phone: 740-373-4071
Fax: 740-373-4835

Company Name: CH2M HILL

Project Contact: Bernice Kidd

Contact Phone #: 530-229-3303

Turn Around Requirements: STL

Location: Ashland, OH

Project ID: Dow. Ashland

Sampler (print): Dawit Teckle

Signature: Dawit

Program: ☐ CWA ☐ RCRA ☐ DOD ☐ AFCEE ☐ Other _____

Sample I.D. No.	Comp	Grab	Date	Time	Matrix*	NUMBER OF CONTAINERS	Hold	VOCs	TOTAL # (LAB USE)	ADDITIONAL REQUIREMENTS
MW21GW2434-033010		X	03/30/10	1500	GW	3		X		
MW20GW2333-033010		X	03/30/10	1540	GW	3		X		
FD01-033010		X	03/30/10	—	GW	3		X		
MW18GW3035-033010			03/30/10	1635	GW	3		X		
MW18GW3035-033010-MS			03/30/10	1635	GW	3		X		
MW18GW3035-033010-MSD			03/30/10	1635	GW	3		X		
TRIPBLANK-033010		X	03/30/10	—	—	2		X		

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Dawit Teckle	03/30/10	1702	Microbac OVD Received: 03/31/2010 10:54 By: BRENDA GREENWALT 221000005157		
Relinquished by: (Signature)	Date	Time	Remarks:		

Brenda Greenwalt

*Water (W), Soil (S), Solid Waste (SD), Unknown (X)

1000005157

COOLER INSPECTION

Received: 03/31/2010 10:54
Delivery Method: FedEx
Opened By: Brenda Greenwalt
Comments:

Login(s): L10030759

Cooler(s)

Cooler #	Temp Gun	Temp	Tracking #	COC #	Comments
0013351	H	3.0	345750901100000387032750325620002	16501	

1	Yes	Were shipping coolers sealed?
2	Yes	Were custody seals intact?
3	Yes	Were cooler temperatures in range of 0-6?
4	Yes	Was ice present?
5	Yes	Were COC's received/information complete/signed and dated?
6	Yes	Were sample containers and labels intact and match COC?
7	Yes	Were the correct containers and volumes received?
8	Yes	Were samples received within EPA hold times?
9	Yes	Were correct perservatives used? (water only)
10	NA	Were pH ranges acceptable? (voa's excluded)
11	Yes	Were VOA samples free of headspace (<6mm)?

Microbac - Ohio Valley Division
158 Starlite Drive
Marietta, OH 45750
Tel: (740)373-4071 Fax: (740)373-4835

Internal Chain of Custody Report

Login: L10030759
Account: 2736
Project: 2736.059
Samples: 7
Due Date: 14-APR-2010

Samplenum	Container ID	Products
L10030759-01	673695	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	31-MAR-2010 13:13	JKT	
2	ANALYZ	V1	ORG4	31-MAR-2010 14:58	MES	RLK

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	31-MAR-2010 13:13	JKT	
2	ANALYZ	V1	ORG4	31-MAR-2010 14:58	MES	RLK

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	31-MAR-2010 13:13	JKT	
2	ANALYZ	V1	ORG4	31-MAR-2010 14:58	MES	RLK

Samplenum	Container ID	Products
L10030759-02	673696	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	31-MAR-2010 13:13	JKT	
2	ANALYZ	V1	ORG4	31-MAR-2010 14:58	MES	RLK

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	31-MAR-2010 13:13	JKT	
2	ANALYZ	V1	ORG4	31-MAR-2010 14:58	MES	RLK

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	31-MAR-2010 13:13	JKT	
2	ANALYZ	V1	ORG4	31-MAR-2010 14:58	MES	RLK

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Internal Chain of Custody Report

Login: L10030759
Account: 2736
Project: 2736.059
Samples: 7
Due Date: 14-APR-2010

Samplenum	Container ID	Products
L10030759-03	673697	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	31-MAR-2010 13:13	JKT	
2	ANALYZ	V1	ORG4	31-MAR-2010 14:58	MES	RLK

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	31-MAR-2010 13:13	JKT	
2	ANALYZ	V1	ORG4	31-MAR-2010 14:58	MES	RLK

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	31-MAR-2010 13:13	JKT	
2	ANALYZ	V1	ORG4	31-MAR-2010 14:58	MES	RLK

Samplenum	Container ID	Products
L10030759-04	673698	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	31-MAR-2010 13:13	JKT	
2	ANALYZ	V1	ORG4	31-MAR-2010 14:58	MES	RLK

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	31-MAR-2010 13:13	JKT	
2	ANALYZ	V1	ORG4	31-MAR-2010 14:58	MES	RLK

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	31-MAR-2010 13:13	JKT	
2	ANALYZ	V1	ORG4	31-MAR-2010 14:58	MES	RLK

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Internal Chain of Custody Report

Login: L10030759
Account: 2736
Project: 2736.059
Samples: 7
Due Date: 14-APR-2010

Samplenum	Container ID	Products
L10030759-05	673699	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	31-MAR-2010 13:13	JKT	
2	ANALYZ	V1	ORG4	31-MAR-2010 14:58	MES	RLK

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	31-MAR-2010 13:13	JKT	
2	ANALYZ	V1	ORG4	31-MAR-2010 14:58	MES	RLK

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	31-MAR-2010 13:13	JKT	
2	ANALYZ	V1	ORG4	31-MAR-2010 14:58	MES	RLK

Samplenum	Container ID	Products
L10030759-06	673700	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	31-MAR-2010 13:13	JKT	
2	ANALYZ	V1	ORG4	31-MAR-2010 14:58	MES	RLK

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	31-MAR-2010 13:13	JKT	
2	ANALYZ	V1	ORG4	31-MAR-2010 14:58	MES	RLK

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	31-MAR-2010 13:13	JKT	
2	ANALYZ	V1	ORG4	31-MAR-2010 14:58	MES	RLK

Samplenum	Container ID	Products
L10030759-07	673701	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	31-MAR-2010 13:13	JKT	
2	ANALYZ	V1	ORG4	31-MAR-2010 14:58	MES	RLK

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	31-MAR-2010 13:13	JKT	
2	ANALYZ	V1	ORG4	31-MAR-2010 14:58	MES	RLK

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

158 Starlite Drive, Marietta, OH 45750 • T:740-373-4071 • F:740-373-4835 • http://www.microbac.com

Laboratory Report Number: L10040012

Client: Shane Lowe, CH2MHill, St. Louis, MO, 63102

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories.

Review and compilation of your report was completed by Microbac's Sales and Service Team. If you have questions, comments or require further assistance regarding this report, please contact your team member noted in the reviewed box below at 800-373-4071. Team member e-mail addresses also appear here for your convenience.

Kathy Albertson	*Team Chemist/Data Specialist*	Kathy.Albertson@microbac.com
Stephanie Mossburg	*Team Chemist/Data Specialist*	Stephanie.Mossburg@microbac.com
Tony Long	*Team Chemist/Data Specialist*	Tony.Long@microbac.com
Amanda Fickiesen	*Client Services Specialist*	Amanda.Fickiesen@microbac.com
Annie Brown	*Client Services Specialist*	Annie.Brown@microbac.com

This report was reviewed on April 09, 2010.

Kathy Albertson - Team Chemist/Data Specialist

I certify that all test results meet all of the requirements of the accrediting authority listed below. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

This report was certified on April 09, 2010.

David Vandenberg - Managing Director

State of origin: Ohio
Accrediting authority: N/A ID:N/A
QAPP: ASHLAND
This report contains a total of 66 pages.

Look closer. Go further. Do more.

Microbac

Microbac Laboratories, Inc.
Ohio Valley Division
158 Starlite Drive
Marietta, OH 45750

Phone: 800.373.4071
Fax: 740.373.4835

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Access and print reports, check the status of your projects, and review electronic data forms online from anywhere with internet access!

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Click on "Online Data Access"
User ID: jdoe@abc.com
Password: demo

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LOOK CLOSER, GO FURTHER, DO MORE.

Microbac REPORT L10040012
PREPARED FOR CH2MHILL, Inc
WORK ID:

1.0 Introduction

Microbac Laboratories Inc.
REPORT NARRATIVE

Microbac Login No: L10040012

CHAIN OF CUSTODY: The chain of custody number was 16502

SHIPMENT CONDITIONS: The chain of custody forms were received sealed in a cooler. The cooler temperature was 3 degrees C.

SAMPLE MANAGEMENT: All samples received were intact.

L10040012-01	MW19GW1828-033110
L10040012-02	MW09GW1424-033110
L10040012-03	FD02-033110
L10040012-04	MW06GW1020-033110
L10040012-05	MW12GW1424-033110
L10040012-06	MW22GW2535-033110
L10040012-07	MW23GW3040-033110
L10040012-08	MW16GW1020-033110
L10040012-09	MW11GW0919-033110
L10040012-10	MW10GW1732-033110
L10040012-11	TRIP BLANK-033110

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Approved: 06-APR-10

Kathy Albertson

2.1 Volatiles Data

2.1.1 Volatiles GCMS Data (8260)

2.1.1.1 Summary Data

Loginnum: L10040012

Department: Volatiles

Analyst: Tiffany Bailey

METHOD

Preparation SW-846 5030C/5035A

Analysis SW-846 8260B

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All analytes met the CCV acceptance criteria for % drift, except those listed below.

Sample	Instrument	Date	Analyte	AType	CType	Rec/RPD	Lower	Upper
WG327595-02	HPMS16	04/05/2010	BROMOMETHANE	REG		(-)23.2	*	20

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: The MS/MSD results were not associated with this sample delivery group (SDG), due to insufficient volume of sample. The laboratory included an LCS and LCS duplicate in the preparation batch in lieu of the NELAC prescribed MS/MSD. Microbac Laboratories recommends site specific MS/MSD samples to avoid possible data qualifications.

SAMPLES

Internal Standards: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Other: Samples 08, 09, were run at a dilution.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak. In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

Reason #2: Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak. This phenomena is common at low concentrations where the signal:noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low area counts for the target compound.

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

Reason #4: System Establishes Incorrect Baseline. There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and should be corrected via manual procedures.

Reason #5: Miscellaneous. Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

LABORATORY REPORT

L10040012

04/09/10 11:17

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: CH2MHILL, Inc
CH2MHill
727 North 1st Street, Suite 400
St. Louis, MO 63102
Attention: Shane Lowe

Project Number: 2736.059
Project: Dow Ashland Soil & Groundwater
Site: ASHLAND, OHIO

P.O. Number: 934254

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
MW19GW1828-033110	L10040012-01	8260B	1	01-APR-10
MW09GW1424-033110	L10040012-02	8260B	1	01-APR-10
FD02-033110	L10040012-03	8260B	1	01-APR-10
MW06GW1020-033110	L10040012-04	8260B	1	01-APR-10
MW12GW1424-033110	L10040012-05	8260B	1	01-APR-10
MW22GW2535-033110	L10040012-06	8260B	1	01-APR-10
MW23GW3040-033110	L10040012-07	8260B	1	01-APR-10
MW16GW1020-033110	L10040012-08	8260B	1000	01-APR-10
MW11GW0919-033110	L10040012-09	8260B	50	01-APR-10
MW10GW1732-033110	L10040012-10	8260B	1	01-APR-10
TRIP BLANK-033110	L10040012-11	8260B	1	01-APR-10

Microbac

Report Number: **L10040012**
Report Date : **April 9, 2010**

Sample Number: **L10040012-01**
Client ID: **MW19GW1828-033110**
Matrix: **Water**
Workgroup Number: **WG327524**
Collect Date: **03/31/2010 13:05**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030C/5035A**
Analytical Method: **8260B**
Analyst: **adc**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS16**
Prep Date: **04/02/2010 20:16**
Cal Date: **03/03/2010 14:51**
Run Date: **04/02/2010 20:16**
File ID: **16M03941**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	10.0	0.500
Chloroform	67-66-3		U	5.00	0.125
Chloromethane	74-87-3		U	10.0	0.500
Methylene chloride	75-09-2		U	5.00	0.250
Trichloroethene	79-01-6	20.9		5.00	0.250
Trichlorofluoromethane	75-69-4	0.469	J	10.0	0.250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	111	86	118	
1,2-Dichloroethane-d4	116	80	120	
Toluene-d8	107	88	110	
4-Bromofluorobenzene	105	86	115	

J The analyte was positively identified, but the quantitation was below the RL
U Not detected at or above the reporting limit (RL).

Report Number: **L10040012**
Report Date : **April 9, 2010**

Sample Number: **L10040012-02**
Client ID: **MW09GW1424-033110**
Matrix: **Water**
Workgroup Number: **WG327524**
Collect Date: **03/31/2010 12:20**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030C/5035A**
Analytical Method: **8260B**
Analyst: **adc**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS16**
Prep Date: **04/02/2010 20:48**
Cal Date: **03/03/2010 14:51**
Run Date: **04/02/2010 20:48**
File ID: **16M03942**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	10.0	0.500
Chloroform	67-66-3		U	5.00	0.125
Chloromethane	74-87-3		U	10.0	0.500
Methylene chloride	75-09-2		U	5.00	0.250
Trichloroethene	79-01-6	19.6		5.00	0.250
Trichlorofluoromethane	75-69-4	0.657	J	10.0	0.250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	110	86	118	
1,2-Dichloroethane-d4	113	80	120	
Toluene-d8	107	88	110	
4-Bromofluorobenzene	107	86	115	

J The analyte was positively identified, but the quantitation was below the RL
U Not detected at or above the reporting limit (RL).

Report Number: **L10040012**
Report Date : **April 9, 2010**

Sample Number: **L10040012-03**
Client ID: **FD02-033110**
Matrix: **Water**
Workgroup Number: **WG327524**
Collect Date: **03/31/2010 00:01**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030C/5035A**
Analytical Method: **8260B**
Analyst: **adc**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS16**
Prep Date: **04/02/2010 21:20**
Cal Date: **03/03/2010 14:51**
Run Date: **04/02/2010 21:20**
File ID: **16M03943**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	10.0	0.500
Chloroform	67-66-3		U	5.00	0.125
Chloromethane	74-87-3		U	10.0	0.500
Methylene chloride	75-09-2		U	5.00	0.250
Trichloroethene	79-01-6	19.1		5.00	0.250
Trichlorofluoromethane	75-69-4	0.660	J	10.0	0.250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	112	86	118	
1,2-Dichloroethane-d4	115	80	120	
Toluene-d8	106	88	110	
4-Bromofluorobenzene	106	86	115	

J The analyte was positively identified, but the quantitation was below the RL
U Not detected at or above the reporting limit (RL).

Report Number: **L10040012**
Report Date : **April 9, 2010**

Sample Number: **L10040012-04**
Client ID: **MW06GW1020-033110**
Matrix: **Water**
Workgroup Number: **WG327596**
Collect Date: **03/31/2010 11:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030C**
Analytical Method: **8260B**
Analyst: **TMB**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS16**
Prep Date: **04/05/2010 16:33**
Cal Date: **03/03/2010 14:51**
Run Date: **04/05/2010 16:33**
File ID: **16M03968**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	10.0	0.500
Chloroform	67-66-3		U	5.00	0.125
Chloromethane	74-87-3		U	10.0	0.500
Methylene chloride	75-09-2		U	5.00	0.250
Trichloroethene	79-01-6	23.7		5.00	0.250
Trichlorofluoromethane	75-69-4	1.10	J	10.0	0.250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	112	86	118	
1,2-Dichloroethane-d4	119	80	120	
Toluene-d8	104	88	110	
4-Bromofluorobenzene	106	86	115	

J The analyte was positively identified, but the quantitation was below the RL
U Not detected at or above the reporting limit (RL).

Report Number: **L10040012**
Report Date : **April 9, 2010**

Sample Number: **L10040012-05**
Client ID: **MW12GW1424-033110**
Matrix: **Water**
Workgroup Number: **WG327524**
Collect Date: **03/31/2010 11:20**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030C/5035A**
Analytical Method: **8260B**
Analyst: **adc**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS16**
Prep Date: **04/02/2010 21:52**
Cal Date: **03/03/2010 14:51**
Run Date: **04/02/2010 21:52**
File ID: **16M03944**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	10.0	0.500
Chloroform	67-66-3		U	5.00	0.125
Chloromethane	74-87-3		U	10.0	0.500
Methylene chloride	75-09-2		U	5.00	0.250
Trichloroethene	79-01-6	12.8		5.00	0.250
Trichlorofluoromethane	75-69-4	0.778	J	10.0	0.250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	111	86	118	
1,2-Dichloroethane-d4	115	80	120	
Toluene-d8	106	88	110	
4-Bromofluorobenzene	106	86	115	

J The analyte was positively identified, but the quantitation was below the RL
U Not detected at or above the reporting limit (RL).

Report Number: **L10040012**
Report Date : **April 9, 2010**

Sample Number: **L10040012-06**
Client ID: **MW22GW2535-033110**
Matrix: **Water**
Workgroup Number: **WG327524**
Collect Date: **03/31/2010 10:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030C/5035A**
Analytical Method: **8260B**
Analyst: **adc**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS16**
Prep Date: **04/02/2010 22:24**
Cal Date: **03/03/2010 14:51**
Run Date: **04/02/2010 22:24**
File ID: **16M03945**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	10.0	0.500
Chloroform	67-66-3		U	5.00	0.125
Chloromethane	74-87-3		U	10.0	0.500
Methylene chloride	75-09-2		U	5.00	0.250
Trichloroethene	79-01-6		U	5.00	0.250
Trichlorofluoromethane	75-69-4		U	10.0	0.250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	110	86	118	
1,2-Dichloroethane-d4	115	80	120	
Toluene-d8	107	88	110	
4-Bromofluorobenzene	107	86	115	

U Not detected at or above the reporting limit (RL).

Report Number: **L10040012**
Report Date : **April 9, 2010**

Sample Number: **L10040012-07**
Client ID: **MW23GW3040-033110**
Matrix: **Water**
Workgroup Number: **WG327524**
Collect Date: **03/31/2010 10:10**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030C/5035A**
Analytical Method: **8260B**
Analyst: **adc**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS16**
Prep Date: **04/02/2010 22:56**
Cal Date: **03/03/2010 14:51**
Run Date: **04/02/2010 22:56**
File ID: **16M03946**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	10.0	0.500
Chloroform	67-66-3		U	5.00	0.125
Chloromethane	74-87-3		U	10.0	0.500
Methylene chloride	75-09-2		U	5.00	0.250
Trichloroethene	79-01-6		U	5.00	0.250
Trichlorofluoromethane	75-69-4		U	10.0	0.250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	111	86	118	
1,2-Dichloroethane-d4	115	80	120	
Toluene-d8	106	88	110	
4-Bromofluorobenzene	106	86	115	

U Not detected at or above the reporting limit (RL).

Report Number: **L10040012**
Report Date : **April 9, 2010**

Sample Number: **L10040012-08**
Client ID: **MW16GW1020-033110**
Matrix: **Water**
Workgroup Number: **WG327596**
Collect Date: **03/31/2010 09:25**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **5030C**
Analytical Method: **8260B**
Analyst: **TMB**
Dilution: **1000**
Units: **ug/L**

Instrument: **HPMS16**
Prep Date: **04/05/2010 17:05**
Cal Date: **03/03/2010 14:51**
Run Date: **04/05/2010 17:05**
File ID: **16M03969**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	10000	500
Chloroform	67-66-3		U	5000	125
Chloromethane	74-87-3		U	10000	500
Methylene chloride	75-09-2		U	5000	250
Trichloroethene	79-01-6		U	5000	250
Trichlorofluoromethane	75-69-4	148000		10000	250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	111	86	118	
1,2-Dichloroethane-d4	114	80	120	
Toluene-d8	104	88	110	
4-Bromofluorobenzene	106	86	115	

U Not detected at or above the reporting limit (RL).

Report Number: **L10040012**
Report Date : **April 9, 2010**

Sample Number: **L10040012-09**
Client ID: **MW11GW0919-033110**
Matrix: **Water**
Workgroup Number: **WG327524**
Collect Date: **03/31/2010 08:45**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **5030C/5035A**
Analytical Method: **8260B**
Analyst: **adc**
Dilution: **50**
Units: **ug/L**

Instrument: **HPMS16**
Prep Date: **04/02/2010 19:12**
Cal Date: **03/03/2010 14:51**
Run Date: **04/02/2010 19:12**
File ID: **16M03939**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	500	25.0
Chloroform	67-66-3		U	250	6.25
Chloromethane	74-87-3		U	500	25.0
Methylene chloride	75-09-2		U	250	12.5
Trichloroethene	79-01-6		U	250	12.5
Trichlorofluoromethane	75-69-4	7660		500	12.5

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	111	86	118	
1,2-Dichloroethane-d4	115	80	120	
Toluene-d8	107	88	110	
4-Bromofluorobenzene	107	86	115	

U Not detected at or above the reporting limit (RL).

Report Number: **L10040012**
Report Date : **April 9, 2010**

Sample Number: **L10040012-10**
Client ID: **MW10GW1732-033110**
Matrix: **Water**
Workgroup Number: **WG327524**
Collect Date: **03/31/2010 14:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030C/5035A**
Analytical Method: **8260B**
Analyst: **adc**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS16**
Prep Date: **04/02/2010 23:28**
Cal Date: **03/03/2010 14:51**
Run Date: **04/02/2010 23:28**
File ID: **16M03947**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	10.0	0.500
Chloroform	67-66-3		U	5.00	0.125
Chloromethane	74-87-3		U	10.0	0.500
Methylene chloride	75-09-2	0.412	J	5.00	0.250
Trichloroethene	79-01-6	9.96		5.00	0.250
Trichlorofluoromethane	75-69-4		U	10.0	0.250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	111	86	118	
1,2-Dichloroethane-d4	117	80	120	
Toluene-d8	107	88	110	
4-Bromofluorobenzene	106	86	115	

J The analyte was positively identified, but the quantitation was below the RL
U Not detected at or above the reporting limit (RL).

Report Number: **L10040012**
Report Date : **April 9, 2010**

Sample Number: **L10040012-11**
Client ID: **TRIP BLANK-033110**
Matrix: **Water**
Workgroup Number: **WG327524**
Collect Date: **03/31/2010 00:01**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030C/5035A**
Analytical Method: **8260B**
Analyst: **adc**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS16**
Prep Date: **04/02/2010 18:07**
Cal Date: **03/03/2010 14:51**
Run Date: **04/02/2010 18:07**
File ID: **16M03937**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	10.0	0.500
Chloroform	67-66-3		U	5.00	0.125
Chloromethane	74-87-3		U	10.0	0.500
Methylene chloride	75-09-2		U	5.00	0.250
Trichloroethene	79-01-6		U	5.00	0.250
Trichlorofluoromethane	75-69-4		U	10.0	0.250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	111	86	118	
1,2-Dichloroethane-d4	115	80	120	
Toluene-d8	107	88	110	
4-Bromofluorobenzene	106	86	115	

U Not detected at or above the reporting limit (RL).

2.1.1.2 QC Summary Data

Example 8260 Calculations

1.0 Calculating the Response Factor (RF) from the initial calibration (ICAL) data:

RF = [(Ax) (Cis)] / [(Ais) (Cx)]

where:	Example
Ax = Area of the characteristic ion for the compound being measured:	3399156
Cis = Concentration of the specific internal standard (ug/mL)	25
Ais = Area of the characteristic ion of the specific internal standard	846471
Cx = Concentration of the compound in the standard being measured (ug/mL)	100
RF = Calculated Response Factor	**1.0039**

2.0 Calculating the concentration (C) of a compound in water using the average RF: *

Cx = [(Ax) (Cis) (Vn)(D)] / [(Ais) (RF) (Vs)]

where:	**Example**
Ax = Area of the characteristic ion for the compound being measured	**3122498**
Cis = Concentration of the specific internal standard (ug/L)	**25**
D = Dilution factor for sample as a multiplier (10x = 10)	**1**
Ais = Area of the characteristic ion of the specific internal standard	**611048**
RF = Average RF from the ICAL	**1.004**
Vs = Purge volume of sample (mL)	**10**
Vn = Nominal purge volume of sample (mL) (10.0 mL)	**10**
Cx = Concentration of the compound in the sample being measured (ug/L)	**127.2428**

3.0 Calculating the concentration (C) of a compound in soil using the average RF: *

Cx = [(Ax) (Cis) (Wn)(D)] / [(Ais) (RF) (Ws)]

where:	**Example**
Ax = Area of the characteristic ion for the compound being measured	**3122498**
Cis = Concentration of the specific internal standard (ug/L)	**25**
D = Dilution factor for sample as a multiplier (10x = 10)	**1**
Ais = Area of the characteristic ion of the specific internal standard	**611048**
RF = Average RF from the ICAL	**1.004**
Ws = Weight of sample purged (g)	**5**
Wn = Nominal purge weight (g) (5.0 g)	**5**
Cx = Concentration of the compound in the sample being measured (ug/L)	**127.2428**

Dry weight correction:

Percent solids (PCT_S)	**50**
Cd = (Cx) (100)/PCT_S	**254.4856**

* Concentrations appearing on the instrument quantitation reports are on-column results and do not take into account initial volume, final volume, and the dilution factor.

4.0 Concentration from Linear Regression

Step 1: Retrieve Curve Data From Plot, y = mx + b

y = response ratio = response of analyte / response of IS = Ax/Ais

x = amount ratio = concentration analyte/concentration internal standard = Cx / Cis

m = slope from curve = 0.213

b = intercept from curve = - 0.00642

Step 2: Calculate y from Quantitation Report

y = 86550/593147 = 0.1459

Step 3: Solve for x

x = (y - b)/m = [(0.1459 -(- 0.00642)]/ 0.213 = 0.7152

Step 4: Solve for analyte concentration Cx

Cx = Cis (x) = (25.0)(0.7152) = 17.88

Example Spreadsheet Calculation:

Slope from curve, m:	**0.213**
Intercept from curve, b:	**-0.00642**
Area of analyte, Ax:	**86550**
Area of Internal Standard , Ais:	**593147**
Concentration of IS, Cis	**25.00**
Response Ratio:	**0.145917**
Amount Ratio:	**0.715195**
Concentration:	**17.87988**
Units of Internal Standard:	**ug/L**

5.0 Concentration from Quadratic Regression

Step 1 - Retrieve Curve Data from Plot, y = Ax^2 + Bx + C
Where:
Ax^2 + Bx + (C - y) = 0
A, B, C = constants from the ICAL quadratic regression
y = Response ratio = Area of analyte/Area of internal standard (IS)
x = Amount ratio = Concentration of analyte/concentration of IS

Step 2: Calculate y from Quantitation Report

y = Ax/Ais

Step 3: Solve for x using the quadratic formula
Ax^2 + Bx + C - y = 0

$$x = \frac{b \pm \sqrt{\left(b^2 - 4a(c - y)\right)}}{2a}$$ (Two possible solutions)

Step 4: Solve for analyte concentration Cx

Cx = (Cis)(Amount ratio)

Example Spreadsheet Calculation:

Value of A from plot:	**-0.00629**	
Value of B from plot:	**0.511**	
Value of C from plot:	**-0.0276**	
Area of unknown from quantitation report:	**293821**	
Area of IS from quantiation report:	**784848**	
Response ratio, y:	**0.374367**	
C - y:	**-0.40197**	
Root 1 - Computed amount ratio , X1:	**80.44567**	
Root 2 - Computed amount ratio , X2:	**0.794396**	use this solution
Concentration of IS, Cis:	**25.00**	
Concentration of analyte, Cx:	**19.86**	ug/L

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Instrument Run Log

Instrument: HPMS16 Dataset: 030310
Analyst1: MDA Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 14
Method: 624 SOP: MSV10 Rev: 7
Method: 5030C/5035A SOP: PAT01 Rev: 12
Maintenance Log ID: 32074

Internal Standard: STD37947 Surrogate Standard: STD37948
CCV: NA LCS: STD37815 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG324784

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	16M03417	WG324784-01 50ng BFB	NA	1	1	STD37932	03/03/10 10:45
2	16M03418	WG324784-02 1ug/L STD 8260	NA	1	1	STD37954	03/03/10 11:16
3	16M03419	WG324784-03 2ug/L STD 8260	NA	1	1	STD37954	03/03/10 11:47
4	16M03420	WG324784-04 5ug/L STD 8260	NA	1	1	STD37954	03/03/10 12:17
5	16M03421	WG324784-05 10ug/L STD 8260	NA	1	1	STD37954	03/03/10 12:47
6	16M03422	WG324784-06 20ug/L STD 8260	NA	1	1	STD37954	03/03/10 13:18
7	16M03423	WG324784-07 50ug/L STD 8260	NA	1	1	STD37954	03/03/10 13:48
8	16M03424	WG324784-08 100ug/L STD 8260	NA	1	1	STD37954	03/03/10 14:21
9	16M03425	WG324784-09 200ug/L STD 8260	NA	1	1	STD37954	03/03/10 14:51
10	16M03426	RINSE	NA	1	1		03/03/10 15:21
11	16M03427	RINSE	NA	1	1		03/03/10 15:52
12	16M03428	WG324784-10 50ug/L ICV 8260	NA	1	1	STD37815	03/03/10 16:22
13	16M03429	RINSE	NA	1	1		03/03/10 16:52
14	16M03430	VA 50UG/L	NA	1	1		03/03/10 17:23

Approved: March 08, 2010

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS16 Dataset: 040210
Analyst1: ADC Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 14
Method: 5030C/5035A SOP: PAT01 Rev: 12

Maintenance Log ID: 32469

Internal Standard: STD38148 Surrogate Standard: STD38148
CCV: STD38408 LCS: STD38179 MS/MSD: STD38179

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG3237524

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	16M03925	WG327523-01 50ng BFB STD 8260	NA	1	1	STD37932	04/02/10 11:40
2	16M03926	WG327523-02 50ug/L CCV STD 8260	NA	1	1	STD38408	04/02/10 12:06
3	16M03927	RINSE	NA	1	1		04/02/10 12:45
4	16M03928	WG327524-01 VBLK0402 BLANK STD 826	NA	1	1		04/02/10 13:18
5	16M03929	WG327524-02 20ug/L LCS STD 8260	NA	1	1	STD38179	04/02/10 13:50
6	16M03930	WG327524-03 20ug/L LCSDUP STD 8260	NA	1	1	STD38179	04/02/10 14:22
7	16M03931	RINSE	NA	1	1		04/02/10 14:54
8	16M03932	L10040055-01 A	7	1	1		04/02/10 15:26
9	16M03933	L10040055-02 A	7	1	1		04/02/10 15:58
10	16M03934	L10040055-03 A	7	1	1		04/02/10 16:31
11	16M03935	L10040089-01 A 826-LOW	7	1	1		04/02/10 17:03
12	16M03936	L10040089-02 A 826-LOW	7	1	1		04/02/10 17:35
13	16M03937	L10040012-11 A 826-SPE1	<2	1	1		04/02/10 18:07
14	16M03938	L10040050-01 A 826-BETX	<2	1	1		04/02/10 18:40
15	16M03939	L10040012-09 A 50X 826-SPE1	<2	1	50		04/02/10 19:12
16	16M03940	L10040012-08 A 2000X 826-SPE1	<2	1	2000		04/02/10 19:44
17	16M03941	L10040012-01 A 826-SPE1	<2	1	1		04/02/10 20:16
18	16M03942	L10040012-02 A 826-SPE1	<2	1	1		04/02/10 20:48
19	16M03943	L10040012-03 A 826-SPE1	<2	1	1		04/02/10 21:20
20	16M03944	L10040012-05 A 826-SPE1	<2	1	1		04/02/10 21:52
21	16M03945	L10040012-06 A 826-SPE1	<2	1	1		04/02/10 22:24
22	16M03946	L10040012-07 A 826-SPE1	<2	1	1		04/02/10 22:56
23	16M03947	L10040012-10 A 826-SPE1	<2	1	1		04/02/10 23:28
24	16M03948	L10040012-04 C 826-SPE1	<2	1	1		04/02/10 23:59
25	16M03949	RINSE	NA	1	1		04/03/10 00:31
26	16M03950	RINSE	NA	1	1		04/03/10 01:03
27	16M03951	RINSE	NA	1	1		04/03/10 01:35
28	16M03952	SYSTEM CHECK	NA	1	1		04/03/10 02:07

Comments

Seq.	Rerun	Dil.	Reason	Analytes
3	X	1	Carry-over contamination	
File ID: 16M03927				

Approved: April 05, 2010

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS16 Dataset: 040210
Analyst1: ADC Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 14
Method: 5030C/5035A SOP: PAT01 Rev: 12

Maintenance Log ID: 32469

Internal Standard: STD38148 Surrogate Standard: STD38148
CCV: STD38408 LCS: STD38179 MS/MSD: STD38179

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG3237524

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
			Carry over from ccv, DNR.	
7	X	1	Carry-over contamination	
File ID: 16M03931				
			Carry over from lcsdup, DNR.	
16	X	1000	Analyzed too dilute	
File ID: 16M03940				
			DNR.	
24	X	1	Missed Tune	
File ID: 16M03948				
			DNR.	

Approved: April 05, 2010

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS16 Dataset: 040510
Analyst1: TMB Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 14
Method: 5030C/5035A SOP: PAT01 Rev: 12

Maintenance Log ID: 32481

Internal Standard: STD38148 Surrogate Standard: STD38148
CCV: STD38484 LCS: STD38179 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG327596

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	16M03953	RINSE	NA	1	1		04/05/10 07:49
2	16M03954	WG327595-01 50ng BFB STD 8260	NA	1	1	STD38491	04/05/10 09:07
3	16M03955	WG327595-02 50ug/L CCV STD 8260	NA	1	1	STD38484	04/05/10 09:34
4	16M03956	RINSE	NA	1	1		04/05/10 10:06
5	16M03957	WG327596-01 VBLK0405 BLANK STD 826	NA	1	1		04/05/10 10:39
6	16M03958	WG327596-02 20UG/L LCS STD 8260	NA	1	1	STD38179	04/05/10 11:11
7	16M03959	WG327596-03 20UG/L LCSDUP STD 8260	NA	1	1	STD38179	04/05/10 11:43
8	16M03960	RINSE	NA	1	1		04/05/10 12:15
9	16M03961	L10040092-01 A 826-LOW	7	1	1		04/05/10 12:48
10	16M03962	L10040092-02 A 826-LOW	7	1	1		04/05/10 13:19
11	16M03963	L10040092-03 A 826-LOW	7	1	1		04/05/10 13:52
12	16M03964	L10040092-04 A 826-LOW	7	1	1		04/05/10 14:24
13	16M03965	L10040097-01 A 826-LOW	7	1	1		04/05/10 14:56
14	16M03966	L10040097-02 A 826-LOW	7	1	1		04/05/10 15:29
15	16M03967	RINSE	NA	1	1		04/05/10 16:01
16	16M03968	L10040012-04 A\&B 826-SPE1	<2	1	1		04/05/10 16:33
17	16M03969	L10040012-08 B 1000X 826-SPE1	<2	1	1000		04/05/10 17:05
18	16M03970	RINSE	NA	1	1		04/05/10 17:37
19	16M03971	RINSE	NA	1	1		04/05/10 18:10

Comments

Seq.	Rerun	Dil.	Reason	Analytes
4	X	1	Carry-over contamination	
File ID: 16M03956				
Carry over from ccv, DNR.				
8	X	1	Carry-over contamination	
File ID: 16M03960				
Carry over from lcsdup. DNR.				

Approved: April 06, 2010

Page: 1

Microbac Laboratories Inc.

Data Checklist

Date: 03-MAR-2010
Analyst: MDA
Analyst: NA
Method: 8260/624
Instrument: HPMS16
Curve Workgroup: NA
Runlog ID: 32848
Analytical Workgroups: WG324784

System Performance Check	X
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	NA
Project/Client Specific Requirements	NA
Special Standards	NA
Blanks	NA
TCL's	NA
Surrogates	NA
LCS (Laboratory Control Sample)	NA
Recoveries	NA
Surrogates	NA
MS/MSD/Duplicates	NA
Samples	NA
TCL Hits	NA
Spectra of TCL Hits	NA
Surrogates	NA
Internal Standards Criteria	NA
Library Searches	NA
Calculations & Correct Factors	NA
Dilutions Run	NA
Reruns	NA
Manual Integrations	NA
Case Narrative	NA
Results Reporting/Data Qualifiers	NA
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	MDA
Secondary Reviewer	FJB
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
05-MAR-2010

Secondary Reviewer:
08-MAR-2010

CHECKLIST1 - Modified 03/05/2008
Generated: MAR-08-2010 14:42:13

Microbac Laboratories Inc.

Data Checklist

Date: 02-APR-2010
Analyst: ADC
Analyst: NA
Method: 8260
Instrument: HPMS16
Curve Workgroup: NA
Runlog ID: 33406
Analytical Workgroups: WG327524

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	X
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	NA
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	MES
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
05-APR-2010
Tiffany Bailey

Secondary Reviewer:
05-APR-2010

CHECKLIST1 - Modified 03/05/2008
Generated: APR-05-2010 14:41:27

Microbac Laboratories Inc.

Data Checklist

Date: 05-APR-2010
Analyst: TMB
Analyst: NA
Method: 8260
Instrument: HPMS16
Curve Workgroup: NA
Runlog ID: 33424
Analytical Workgroups: WG327596

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	X
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	NA
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	MES
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
05-APR-2010

Tiffany Bailey

Secondary Reviewer:
06-APR-2010

CHECKLIST1 - Modified 03/05/2008
Generated: APR-06-2010 15:38:13

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B AAB#: WG327524

Login Number: L10040012

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MW19GW1828-033110	01	03/31/10							14		04/02/10	2.3	14	
MW09GW1424-033110	02	03/31/10							14		04/02/10	2.4	14	
FD02-033110	03	03/31/10							14		04/02/10	2.9	14	
MW12GW1424-033110	05	03/31/10							14		04/02/10	2.4	14	
MW22GW2535-033110	06	03/31/10							14		04/02/10	2.5	14	
MW23GW3040-033110	07	03/31/10							14		04/02/10	2.5	14	
MW11GW0919-033110	09	03/31/10							14		04/02/10	2.4	14	
MW10GW1732-033110	10	03/31/10							14		04/02/10	2.4	14	
TRIP BLANK-033110	11	03/31/10							14		04/02/10	2.8	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 1634679
Report generated 04/09/2010 08:01

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B AAB#: WG327596

Login Number: L10040012

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MW06GW1020-033110	04	03/31/10							14		04/05/10	5.2	14	
MW16GW1020-033110	08	03/31/10							14		04/05/10	5.3	14	

* = SEE PROJECT QAPP REQUIREMENTS

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L10040012
Instrument Id: HPMS16
Workgroup (AAB#): WG327596

Method: 8260
CAL ID: HPMS16-03-MAR-10
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L10040012-04	1.00	01	119	112	106	104
L10040012-08	1000	DL01	114	111	106	104
WG327596-01	1.00	01	114	111	105	106
WG327596-02	1.00	01	112	111	104	105
WG327596-03	1.00	01	111	111	104	104

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	80	-	120
2 - Dibromofluoromethane	86	-	118
3 - 4-Bromofluorobenzene	86	-	115
4 - Toluene-d8	88	-	110

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 1634687
Report generated: 04/09/2010 08:01

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L10040012
Instrument Id: HPMS16
Workgroup (AAB#): WG327524

Method: 8260
CAL ID: HPMS16-03-MAR-10
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L10040012-01	1.00	01	116	111	105	107
L10040012-02	1.00	01	113	110	107	107
L10040012-03	1.00	01	115	112	106	106
L10040012-05	1.00	01	115	111	106	106
L10040012-06	1.00	01	115	110	107	107
L10040012-07	1.00	01	115	111	106	106
L10040012-09	50.0	DL01	115	111	107	107
L10040012-10	1.00	01	117	111	106	107
L10040012-11	1.00	01	115	111	106	107
WG327524-01	1.00	01	113	110	105	107
WG327524-02	1.00	01	112	110	107	106
WG327524-03	1.00	01	109	109	106	106

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	80	-	120
2 - Dibromofluoromethane	86	-	118
3 - 4-Bromofluorobenzene	86	-	115
4 - Toluene-d8	88	-	110

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 1634687
Report generated: 04/09/2010 08:01

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L10040012
Work Group: WG327524
Blank File ID: 16M03928
Blank Sample ID: WG327524-01
Prep Date: 04/02/10 13:18
Instrument ID: HPMS16
Analyzed Date: 04/02/10 13:18
Method: 8260B
Analyst: adc

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG327524-02	16M03929	04/02/10 13:50	01
LCS2	WG327524-03	16M03930	04/02/10 14:22	01
TRIP BLANK-033110	L10040012-11	16M03937	04/02/10 18:07	01
MW11GW0919-033110	L10040012-09	16M03939	04/02/10 19:12	DL01
MW19GW1828-033110	L10040012-01	16M03941	04/02/10 20:16	01
MW09GW1424-033110	L10040012-02	16M03942	04/02/10 20:48	01
FD02-033110	L10040012-03	16M03943	04/02/10 21:20	01
MW12GW1424-033110	L10040012-05	16M03944	04/02/10 21:52	01
MW22GW2535-033110	L10040012-06	16M03945	04/02/10 22:24	01
MW23GW3040-033110	L10040012-07	16M03946	04/02/10 22:56	01
MW10GW1732-033110	L10040012-10	16M03947	04/02/10 23:28	01

Report Name: BLANK_SUMMARY
PDF File ID: 1634680
Report generated 04/09/2010 08:01

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L10040012
Work Group: WG327596
Blank File ID: 16M03957
Blank Sample ID: WG327596-01
Prep Date: 04/05/10 10:39
Instrument ID: HPMS16
Analyzed Date: 04/05/10 10:39
Method: 8260B
Analyst: TMB

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG327596-02	16M03958	04/05/10 11:11	01
LCS2	WG327596-03	16M03959	04/05/10 11:43	01
MW06GW1020-033110	L10040012-04	16M03968	04/05/10 16:33	01
MW16GW1020-033110	L10040012-08	16M03969	04/05/10 17:05	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 1634680
Report generated 04/09/2010 08:01

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L10040012 Prep Date: 04/02/10 13:18 Sample ID: WG327524-01
Instrument ID: HPMS16 Run Date: 04/02/10 13:18 Prep Method: 5030C/5035A
File ID: 16M03928 Analyst: adc Method: 8260B
Workgroup (AAB#): WG327524 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS16-03-MAR-10

Analytes	MDL	RL	Concentration	Dilution	Qualifier
Bromomethane	0.500	10.0	0.500	1	U
Chloroform	0.125	5.00	0.125	1	U
Chloromethane	0.500	10.0	0.500	1	U
Methylene chloride	0.250	5.00	0.250	1	U
Trichloroethene	0.250	5.00	0.250	1	U
Trichlorofluoromethane	0.250	10.0	0.250	1	U

Surrogates	% Recovery	Surrogate Limits			Qualifier
Dibromofluoromethane	110	86	-	118	PASS
1,2-Dichloroethane-d4	113	80	-	120	PASS
Toluene-d8	107	88	-	110	PASS
4-Bromofluorobenzene	105	86	-	115	PASS

MDL Method Detection Limit
RL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name:BLANK
PDF ID: 1634681
09-APR-2010 08:01

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L10040012 Prep Date: 04/05/10 10:39 Sample ID: WG327596-01
Instrument ID: HPMS16 Run Date: 04/05/10 10:39 Prep Method: 5030C
File ID: 16M03957 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG327596 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS16-03-MAR-10

Analytes	MDL	RL	Concentration	Dilution	Qualifier
Bromomethane	0.500	10.0	0.500	1	U
Chloroform	0.125	5.00	0.125	1	U
Chloromethane	0.500	10.0	0.500	1	U
Methylene chloride	0.250	5.00	0.250	1	U
Trichloroethene	0.250	5.00	0.250	1	U
Trichlorofluoromethane	0.250	10.0	0.250	1	U

Surrogates	% Recovery	Surrogate Limits			Qualifier
Dibromofluoromethane	111	86	-	118	PASS
1,2-Dichloroethane-d4	114	80	-	120	PASS
Toluene-d8	106	88	-	110	PASS
4-Bromofluorobenzene	105	86	-	115	PASS

MDL Method Detection Limit
RL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name:BLANK
PDF ID: 1634681
09-APR-2010 08:01

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L10040012 Analyst: adc Prep Method: 5030C/5035A
Instrument ID: HPMS16 Matrix: Water Method: 8260B
Workgroup (AAB#): WG327524 Units: ug/L
QC Key: ASHLAND Lot #: STD38179

Sample ID: WG327524-02 LCS File ID: 16M03929 Run Date: 04/02/2010 13:50
Sample ID: WG327524-03 LCS2 File ID: 16M03930 Run Date: 04/02/2010 14:22

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Bromomethane	20.0	14.1	70.6	20.0	14.1	70.7	0.0670	30 - 145	20	
Chloroform	20.0	20.2	101	20.0	20.2	101	0.116	80 - 125	20	
Chloromethane	20.0	16.2	80.8	20.0	16.2	81.2	0.588	40 - 125	20	
Methylene chloride	20.0	20.0	100	20.0	20.0	99.9	0.370	80 - 123	20	
Trichloroethene	20.0	20.3	102	20.0	20.5	103	0.983	80 - 122	20	
Trichlorofluoromethane	20.0	18.9	94.3	20.0	18.8	94.2	0.138	62 - 151	20	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
1,2-Dichloroethane-d4	112	109	80 - 120	PASS
Dibromofluoromethane	110	109	86 - 118	PASS
4-Bromofluorobenzene	107	106	86 - 115	PASS
Toluene-d8	106	106	88 - 110	PASS

* EXCEEDS %REC LIMIT
# EXCEEDS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1630918
Report generated: 04/09/2010 08:01

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L10040012 Analyst: TMB Prep Method: 5030C
Instrument ID: HPMS16 Matrix: Water Method: 8260B
Workgroup (AAB#): WG327596 Units: ug/L
QC Key: ASHLAND Lot #: STD38179

Sample ID: WG327596-02 LCS File ID: 16M03958 Run Date: 04/05/2010 11:11
Sample ID: WG327596-03 LCS2 File ID: 16M03959 Run Date: 04/05/2010 11:43

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Bromomethane	20.0	15.2	75.8	20.0	16.4	82.1	7.94	30 - 145	20	
Chloroform	20.0	20.5	103	20.0	20.0	100	2.48	80 - 125	20	
Chloromethane	20.0	20.7	104	20.0	19.9	99.5	4.16	40 - 125	20	
Methylene chloride	20.0	20.9	105	20.0	20.3	101	3.08	80 - 123	20	
Trichloroethene	20.0	20.9	105	20.0	20.3	101	3.13	80 - 122	20	
Trichlorofluoromethane	20.0	20.5	103	20.0	20.1	101	1.92	62 - 151	20	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
1,2-Dichloroethane-d4	112	111	80 - 120	PASS
Dibromofluoromethane	111	111	86 - 118	PASS
4-Bromofluorobenzene	104	104	86 - 115	PASS
Toluene-d8	105	104	88 - 110	PASS

* EXCEEDS %REC LIMIT
# EXCEEDS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1630918
Report generated: 04/09/2010 08:01

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L10040012
Instrument: HPMS16
Analyst: MDA
Workgroup: WG324784

Tune ID: WG324784-01
Run Date: 03/03/2010
Run Time: 10:45
File ID: 16M03417
Cal ID: HPMS16-03-MAR-10

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	22.8	3310	PASS
75.0	95.0	30.0	60.0	49.2	7134	PASS
95.0	95.0	100	100	100	14502	PASS
96.0	95.0	5.00	9.00	6.35	921	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	82.8	12007	PASS
175	174	5.00	9.00	7.79	935	PASS
176	174	95.0	101	97.5	11701	PASS
177	176	5.00	9.00	7.08	828	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG324784-02	STD	01	03/03/2010 11:16	
WG324784-03	STD	01	03/03/2010 11:47	
WG324784-04	STD	01	03/03/2010 12:17	
WG324784-05	STD	01	03/03/2010 12:47	
WG324784-06	STD	01	03/03/2010 13:18	
WG324784-07	STD-CCV	01	03/03/2010 13:48	
WG324784-08	STD	01	03/03/2010 14:21	
WG324784-09	STD	01	03/03/2010 14:51	
WG324784-10	SSCV	01	03/03/2010 16:22	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 1634684
Report generated 04/09/2010 08:01

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L10040012
Instrument: HPMS16
Analyst: adc
Workgroup: WG327523

Tune ID: WG327523-01
Run Date: 04/02/2010
Run Time: 11:40
File ID: 16M03925
Cal ID: HPMS16-03-MAR-10

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	23.7	2426	PASS
75.0	95.0	30.0	60.0	49.7	5079	PASS
95.0	95.0	100	100	100	10222	PASS
96.0	95.0	5.00	9.00	6.39	653	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	83.7	8551	PASS
175	174	5.00	9.00	8.24	705	PASS
176	174	95.0	101	97.1	8305	PASS
177	176	5.00	9.00	6.18	513	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG327523-02	CCV	01	04/02/2010 12:06	
WG327524-01	BLANK	01	04/02/2010 13:18	
WG327524-02	LCS	01	04/02/2010 13:50	
WG327524-03	LCS2	01	04/02/2010 14:22	
L10040012-11	TRIP BLANK-033110	01	04/02/2010 18:07	
L10040012-09	MW11GW0919-033110	DL01	04/02/2010 19:12	
L10040012-01	MW19GW1828-033110	01	04/02/2010 20:16	
L10040012-02	MW09GW1424-033110	01	04/02/2010 20:48	
L10040012-03	FD02-033110	01	04/02/2010 21:20	
L10040012-05	MW12GW1424-033110	01	04/02/2010 21:52	
L10040012-06	MW22GW2535-033110	01	04/02/2010 22:24	
L10040012-07	MW23GW3040-033110	01	04/02/2010 22:56	
L10040012-10	MW10GW1732-033110	01	04/02/2010 23:28	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 1634684
Report generated 04/09/2010 08:01

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L10040012
Instrument: HPMS16
Analyst: TMB
Workgroup: WG327595

Tune ID: WG327595-01
Run Date: 04/05/2010
Run Time: 09:07
File ID: 16M03954
Cal ID: HPMS16-03-MAR-10

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	24.6	6282	PASS
75.0	95.0	30.0	60.0	50.6	12907	PASS
95.0	95.0	100	100	100	25524	PASS
96.0	95.0	5.00	9.00	6.55	1673	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	74.1	18920	PASS
175	174	5.00	9.00	7.57	1433	PASS
176	174	95.0	101	99.7	18854	PASS
177	176	5.00	9.00	6.51	1227	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG327595-02	CCV	01	04/05/2010 09:34	
WG327596-01	BLANK	01	04/05/2010 10:39	
WG327596-02	LCS	01	04/05/2010 11:11	
WG327596-03	LCS2	01	04/05/2010 11:43	
L10040012-04	MW06GW1020-033110	01	04/05/2010 16:33	
L10040012-08	MW16GW1020-033110	DL01	04/05/2010 17:05	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 1634684
Report generated 04/09/2010 08:01

INITIAL CALIBRATION SUMMARY

Login Number: L10040012 **Instrument ID:** HPMS16
Analytical Method: 8260B **Initial Calibration Date:** 03-MAR-10 14:51
ICAL Workgroup: WG324784 **Column ID:** F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R^2)
Chloroform	CCC	0.4383	4.47		
1,1,2,2-Tetrachloroethane	SPCC	0.3511	7.67		
1,1-Dichloroethane	SPCC	0.4659	4.27		
Bromoform	SPCC	0.1480	14.0		
Chlorobenzene	SPCC	0.8715	5.25		
Chloromethane	SPCC	0.3798	4.66		
Bromomethane		0.1525	16.5	0.99800	
Methylene Chloride		0.2264	1.79		
Trichloroethene		0.2715	7.77		
Trichlorofluoromethane		0.4034	6.45		

R = Correlation coefficient; 0.995 minimum
R^2 = Coefficient of determination; 0.99 minimum

If the %RSD is greater than the limit specified by the method or project QAP, then linear or quadratic equations will be used.

INT_CAL - Modified 03/06/2008
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Report generated 04/09/2010 08:01

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L10040012
Analytical Method: 8260B

Instrument ID: HPMS16
Initial Calibration Date: 03-MAR-10 14:51
Column ID: F

Analyte	WG324784-02			WG324784-03			WG324784-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloroform	1.00	11686.0000	0.3965	2.00	26803.0000	0.4580	5.00	62850.0000	0.4267
1,1,2,2-Tetrachloroethane	1.00	3478.00000	0.2891	2.00	8154.00000	0.3398	5.00	22128.0000	0.3640
1,1-Dichloroethane	1.00	12606.0000	0.4278	2.00	26425.0000	0.4515	5.00	66914.0000	0.4543
Bromoform	1.00	2590.00000	0.1102	2.00	6065.00000	0.1300	5.00	15856.0000	0.1363
Chlorobenzene	1.00	18538.0000	0.7886	2.00	38998.0000	0.8360	5.00	100834.000	0.8668
Chloromethane	1.00	12408.0000	0.4210	2.00	21446.0000	0.3664	5.00	55324.0000	0.3756
Bromomethane	1.00	3670.00000	0.1245	2.00	6886.00000	0.1177	5.00	20340.0000	0.1381
Methylene Chloride	1.00	6384.00000	0.2166	2.00	13419.0000	0.2293	5.00	33330.0000	0.2263
Trichloroethene	1.00	6710.00000	0.2277	2.00	15014.0000	0.2565	5.00	38917.0000	0.2642
Trichlorofluoromethane	1.00	11768.0000	0.3993	2.00	20353.0000	0.3478	5.00	57387.0000	0.3896

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Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L10040012
Analytical Method: 8260B
Instrument ID: HPMS16
Initial Calibration Date: 03-MAR-10 14:51
Column ID: F

Analyte	WG324784-05			WG324784-06			WG324784-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloroform	10.0	133226.000	0.4480	20.0	272896.000	0.4498	50.0	689741.000	0.4492
1,1,2,2-Tetrachloroethane	10.0	45272.0000	0.3687	20.0	92238.0000	0.3681	50.0	237729.000	0.3669
1,1-Dichloroethane	10.0	141001.000	0.4741	20.0	293730.000	0.4842	50.0	744242.000	0.4847
Bromoform	10.0	35212.0000	0.1511	20.0	74377.0000	0.1560	50.0	199650.000	0.1655
Chlorobenzene	10.0	206670.000	0.8870	20.0	435798.000	0.9140	50.0	1114145.00	0.9234
Chloromethane	10.0	110552.000	0.3717	20.0	234652.000	0.3868	50.0	570623.000	0.3716
Bromomethane	10.0	43028.0000	0.1447	20.0	97540.0000	0.1608	50.0	261031.000	0.1700
Methylene Chloride	10.0	67412.0000	0.2267	20.0	138743.000	0.2287	50.0	352221.000	0.2294
Trichloroethene	10.0	82954.0000	0.2789	20.0	173187.000	0.2855	50.0	439743.000	0.2864
Trichlorofluoromethane	10.0	124581.000	0.4189	20.0	262262.000	0.4323	50.0	633327.000	0.4125

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Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L10040012
Analytical Method: 8260B
Instrument ID: HPMS16
Initial Calibration Date: 03-MAR-10 14:51
Column ID: F

Analyte	WG324784-08			WG324784-09		
	CONC	RESP	RF	CONC	RESP	RF
Chloroform	100	1390574.00	0.4451	200	2717570.00	0.4333
1,1,2,2-Tetrachloroethane	100	488921.000	0.3604	200	968855.000	0.3517
1,1-Dichloroethane	100	1499790.00	0.4800	200	2950645.00	0.4704
Bromoform	100	423061.000	0.1690	200	849478.000	0.1655
Chlorobenzene	100	2270130.00	0.9070	200	4358215.00	0.8489
Chloromethane	100	1168546.00	0.3740	200	2327153.00	0.3710
Bromomethane	100	555971.000	0.1779	200	1170676.00	0.1866
Methylene Chloride	100	712748.000	0.2281	200	1416785.00	0.2259
Trichloroethene	100	896703.000	0.2870	200	1792422.00	0.2858
Trichlorofluoromethane	100	1312107.00	0.4199	200	2551044.00	0.4067

INT_CAL - Modified 03/06/2008
PDF File ID: 1634682
Report generated 04/09/2010 08:01

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L10040012 Run Date: 03/03/2010 Sample ID: WG324784-10
Instrument ID: HPMS16 Run Time: 16:22 Method: 8260B
File ID: 16M03428 Analyst: MDA QC Key: ASHLAND
ICal Workgroup: WG324784 Cal ID: HPMS16 - 03-MAR-10

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloroform	CCC	50.0	49.2	ug/L	0.431	1.60	25	
Chloromethane	SPCC	50.0	51.1	ug/L	0.388	2.10	25	
Chlorobenzene	SPCC	50.0	52.1	ug/L	0.907	4.10	25	
1,1,2,2-Tetrachloroethane	SPCC	50.0	52.2	ug/L	0.366	4.30	25	
Bromoform	SPCC	50.0	53.0	ug/L	0.157	6.00	25	
1,1-Dichloroethane	SPCC	50.0	51.1	ug/L	0.476	2.20	25	
Bromomethane		50.0	47.9	ug/L	0.171	4.10	25	
Methylene Chloride		50.0	50.5	ug/L	0.228	1.00	25	
Trichloroethene		50.0	52.2	ug/L	0.283	4.40	25	
Trichlorofluoromethane		50.0	51.3	ug/L	0.414	2.70	25	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L10040012 Run Date: 04/02/2010 Sample ID: WG327523-02
Instrument ID: HPMS16 Run Time: 12:06 Method: 8260B
File ID: 16M03926 Analyst: adc QC Key: ASHLAND
Workgroup (AAB#): WG327524 Cal ID: HPMS16 - 03-MAR-10
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	49.8	ug/L	0.437	0.333	20	
1,1-Dichloroethene	CCC	50.0	50.3	ug/L	0.399	0.624	20	
1,2-Dichloropropane	CCC	50.0	50.5	ug/L	0.249	0.906	20	
Ethylbenzene	CCC	50.0	49.7	ug/L	0.479	0.507	20	
Toluene	CCC	50.0	49.1	ug/L	1.25	1.90	20	
Vinyl Chloride	CCC	50.0	47.3	ug/L	0.238	5.43	20	
Chloromethane	SPCC	50.0	47.2	ug/L	0.359	5.57	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	49.9	ug/L	0.351	0.173	20	
1,1-Dichloroethane	SPCC	50.0	50.4	ug/L	0.470	0.799	20	
Bromoform	SPCC	50.0	53.5	ug/L	0.158	6.93	20	
Chlorobenzene	SPCC	50.0	49.5	ug/L	0.863	0.901	20	
Bromomethane		50.0	44.0	ug/L	0.157	12.0	20	
Methylene Chloride		50.0	48.3	ug/L	0.219	3.36	20	
Trichloroethene		50.0	50.1	ug/L	0.272	0.267	20	
Trichlorofluoromethane		50.0	52.6	ug/L	0.424	5.19	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 1634685
Report generated 04/09/2010 08:01

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L10040012 Run Date: 04/05/2010 Sample ID: WG327595-02
Instrument ID: HPMS16 Run Time: 09:34 Method: 8260B
File ID: 16M03955 Analyst: TMB QC Key: ASHLAND
Workgroup (AAB#): WG327596 Cal ID: HPMS16 - 03-MAR-10
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	51.5	ug/L	0.451	3.06	20	
1,1-Dichloroethene	CCC	50.0	52.8	ug/L	0.419	5.69	20	
1,2-Dichloropropane	CCC	50.0	53.3	ug/L	0.263	6.56	20	
Ethylbenzene	CCC	50.0	51.0	ug/L	0.490	1.91	20	
Toluene	CCC	50.0	49.9	ug/L	1.27	0.194	20	
Vinyl Chloride	CCC	50.0	44.9	ug/L	0.226	10.1	20	
Chloromethane	SPCC	50.0	43.2	ug/L	0.328	13.6	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	53.3	ug/L	0.374	6.57	20	
1,1-Dichloroethane	SPCC	50.0	52.3	ug/L	0.487	4.52	20	
Bromoform	SPCC	50.0	57.0	ug/L	0.169	14.1	20	
Chlorobenzene	SPCC	50.0	50.3	ug/L	0.876	0.560	20	
Bromomethane		50.0	38.4	ug/L	0.137	23.2	20	*
Methylene Chloride		50.0	51.2	ug/L	0.232	2.37	20	
Trichloroethene		50.0	52.3	ug/L	0.284	4.58	20	
Trichlorofluoromethane		50.0	51.0	ug/L	0.411	1.94	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 1634685
Report generated 04/09/2010 08:01

Microbac Laboratories Inc.

INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L10040012
Instrument ID: HPMS16
Workgroup (AAB#): WG327524

ICAL CCV Number: WG324784-07
CAL ID: HPMS16-03-MAR-10
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG324784-07	NA	NA	323957	603256	767729
Upper Limit	NA	NA	647914	1206512	1535458
Lower Limit	NA	NA	161979	301628	383865
L10040012-01	1.00	01	330465	626795	782411
L10040012-02	1.00	01	319524	620033	774897
L10040012-03	1.00	01	322392	627089	773553
L10040012-05	1.00	01	323794	627364	770455
L10040012-06	1.00	01	322235	620621	770382
L10040012-07	1.00	01	324264	622691	769527
L10040012-09	50.0	DL01	320827	628122	781360
L10040012-10	1.00	01	324340	619058	764724
L10040012-11	1.00	01	327474	633357	783533
WG327524-01	1.00	01	342821	655780	814586
WG327524-02	1.00	01	363531	684285	839135
WG327524-03	1.00	01	359568	680926	837817

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 1634686
Report generated 04/09/2010 08:01

Microbac Laboratories Inc.

INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L10040012
Instrument ID: HPMS16
Workgroup (AAB#): WG327596

ICAL CCV Number: WG324784-07
CAL ID: HPMS16 - 03-MAR-10
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG324784-07	NA	NA	323957	603256	767729
Upper Limit	NA	NA	647914	1206512	1535458
Lower Limit	NA	NA	161979	301628	383865
L10040012-04	1.00	01	335394	637154	764985
L10040012-08	1000	DL01	330430	631689	760001
WG327596-01	1.00	01	358639	668715	809905
WG327596-02	1.00	01	377171	688060	822579
WG327596-03	1.00	01	380177	698941	825702

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 1634686
Report generated 04/09/2010 08:01

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY

(COMPARED TO MIDPOINT OF ICAL)

Login Number: L10040012

Instrument ID: HPMS16

Workgroup (AAB#): WG327524

ICAL CCV Number: WG324784-07

CAL ID: HPMS16-03-MAR-10

Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG324784-07	NA	NA	16.86	14.06	10.44
Upper Limit	NA	NA	17.36	14.56	10.94
Lower Limit	NA	NA	16.36	13.56	9.94
L10040012-01	1.00	01	16.86	14.06	10.44
L10040012-02	1.00	01	16.86	14.07	10.44
L10040012-03	1.00	01	16.86	14.07	10.44
L10040012-05	1.00	01	16.86	14.07	10.44
L10040012-06	1.00	01	16.86	14.07	10.44
L10040012-07	1.00	01	16.86	14.07	10.44
L10040012-09	50.0	DL01	16.86	14.07	10.44
L10040012-10	1.00	01	16.86	14.07	10.44
L10040012-11	1.00	01	16.86	14.06	10.44
WG327524-01	1.00	01	16.86	14.06	10.44
WG327524-02	1.00	01	16.86	14.06	10.44
WG327524-03	1.00	01	16.86	14.06	10.44

IS-1 - 1,4-Dichlorobenzene-d4

IS-2 - Chlorobenzene-d5

IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008

PDF File ID: 1634688

Report generated: 04/09/2010 08:01

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY

(COMPARED TO MIDPOINT OF ICAL)

Login Number: L10040012

Instrument ID: HPMS16

Workgroup (AAB#): WG327596

ICAL CCV Number: WG324784-07

CAL ID: HPMS16-03-MAR-10

Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG324784-07	NA	NA	16.86	14.06	10.44
Upper Limit	NA	NA	17.36	14.56	10.94
Lower Limit	NA	NA	16.36	13.56	9.94
L10040012-04	1.00	01	16.86	14.07	10.44
L10040012-08	1000	DL01	16.86	14.07	10.44
WG327596-01	1.00	01	16.86	14.06	10.44
WG327596-02	1.00	01	16.86	14.06	10.44
WG327596-03	1.00	01	16.86	14.06	10.44

IS-1 - 1,4-Dichlorobenzene-d4

IS-2 - Chlorobenzene-d5

IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008

PDF File ID: 1634688

Report generated: 04/09/2010 08:01

3.0 Attachments

Microbac Laboratories Inc.
Analyst Listing
April 9, 2010

ADC – ANTHONY D. CANTER	AJF – AMANDA J. FICKIESEN	ALB – ANNIE L. BROWN
AML – TONY M. LONG	BLG – BRENDA L. GREENWALT	BRG – BRENDA R. GREGORY
CAA – CASSIE A. AUGENSTEIN	CAF – CHERYL A. FLOWERS	CAH – CHUCK A. HALL
CEB – CHAD E. BARNES	CLC – CHRYS L. CRAWFORD	CLW – CHARISSA L. WINTERS
CPD – CHAD P. DAVIS	CSH – CHRIS S. HILL	DDE – DEBRA D. ELLIOTT
DEL – DON E. LIGHTFRITZ	DEV – DAVID E. VANDENBERG	DGB – DOUGLAS G. BUTCHER
DIH – DEANNA I. HESSON	DLB – DAVID L. BUMGARNER	DLP – DOROTHY L. PAYNE
DLR – DIANNA L. RAUCH	DR – DEANNA ROBERTS	ECL – ERIC C. LAWSON
EDA – ERIN D. AGEE	ERP – ERIN R. PORTER	FJB – FRANCES J. BOLDEN
HAV – HEMA VILASAGAR	HJR – HOLLY J. REED	JBK – JEREMY B. KINNEY
JDH – JUSTIN D. HESSON	JKT – JANE K. THOMPSON	JWR – JOHN W. RICHARDS
JWS – JACK W. SHEAVES	JYH – JI Y. HU	KEB – KATIE E. BARNES
KHR – KIM H. RHODES	KRA – KATHY R. ALBERTSON	LKN – LINDA K. NEDEFF
LSB – LESLIE S. BUCINA	MDA – MIKE D. ALBERTSON	MDC – MIKE D. COCHRAN
MES – MARY E. SCHILLING	MMB – MAREN M. BEERY	MRT – MICHELLE R. TAYLOR
MSW – MATT S. WILSON	PDM – PIERCE D. MORRIS	RAH – ROY A. HALSTEAD
RB – BOB BUCHANAN	REK – BOB E. KYER	RLK – ROBIN L. KLINGER
RWC – RODNEY W. CAMPBELL	SLM – STEPHANIE L. MOSSBURG	SLP – SHERI L. PFALZGRAF
TIP – TAE I. PARRISH	TMB – TIFFANY M. BAILEY	TMM – TAMMY M. MORRIS
VC – VICKI COLLIER	WTD – WADE T. DELONG	

Microbac Laboratories Inc.
List of Valid Qualifiers
April 09, 2010

Qualkey: CLP

Qualifier	Description
E	Estimated concentration due to interference
E	Semiquantitative result (out of instrument calibration range)
J	Estimated concentration.
J	The analyte was positively identified, but the quantitation was below the RL
J,B	Analyte detected in both the method blank and sample above the MDL.
U	Not detected at or above the reporting limit (RL).

*****Special Notes for Organic Analytes**

1. Acrolein and acrylonitrile by method 624 are semi-quantitative screens only.
2. 1,2-Diphenylhydrazine is unstable and is reported as azobenzene.
3. N-nitrosodiphenylamine cannot be separated from diphenylamine.
4. 3-Methylphenol and 4-Methylphenol are unresolvable compounds.
5. m-Xylene and p-Xylene are unresolvable compounds.
6. The reporting limits for Appendix II/IX compounds by method 8270 are based on EPA estimated PQLs referenced in 40 CFR Part 264, Appendix IX. They are not always achievable for every compound an are matrix dependent.

COC No. A 16502

158 Starlite Drive
Marietta, OH 45750

Microbac

CHAIN-OF-CUSTODY RECORD

Phone: 740-373-4071
Fax: 740-373-4835

Company Name: CH2MHILL

Project Contact: Bernice Kidd | Contact Phone #: 530-229-3203

Turn Around Requirements: STL | Location: Ashland, OH

Project ID: Dow. Ashland

Sampler (print): D. Tecle | Signature: Dan Tecle

Program: ☐ CWA ☐ RCRA ☐ DOD ☐ AFCEE ☐ Other _____

ADDITIONAL REQUIREMENTS

Sample I.D. No.	Comp	Grab	Date	Time	Matrix*	NUMBER OF CONTAINERS	Hold	VOCs	TOTAL # (LAB USE)
MW19GW1828-033110		X	03/31/10	1305	GW	3		X	
MW09GW1424-033110		X	03/31/10	1220	GW	3		X	
FD02-033110		X		—		3		X	
MW06GW1020-033110		X		1140		3		X	
MW12GW1424-033110		X		1120		3		X	
MW22GW2535-033110		X		1045		3		X	
MW23GW3040-033110		X		1010		3		X	
MW16GW1020-033110		X		0925		3		X	
MW11GW0919-033110		X		0845		3		X	
MW10GW1732-033110		X		1450		3		X	
TRIPBLANK-033110		X	03/31/10	—	—	2		X	

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Dawn Tecle	03/31/10	1600	Microbac OVD Received: 04/01/2010 10:23 By: DON LIGHTFRITZ Don E Lightfritz		
Relinquished by: (Signature)	Date	Time			

221000005184

Remarks:

*Water (W), Soil (S), Solid Waste (SD), Unknown (X)

Page _____ of _____

1000005184

COOLER INSPECTION

Received: 04/01/2010 10:23
Delivery Method: FedEx
Opened By: Don Lightfritz
Comments:

Login(s): L10040012

Cooler(s)

Cooler #	Temp Gun	Temp	Tracking #	COC #	Comments
0014006	H	3.0	345750911100000387231150786220007	COC16502	

1	Yes	Were shipping coolers sealed?
2	Yes	Were custody seals intact?
3	Yes	Were cooler temperatures in range of 0-6?
4	Yes	Was ice present?
5	Yes	Were COC's received/information complete/signed and dated?
6	Yes	Were sample containers and labels intact and match COC?
7	Yes	Were the correct containers and volumes received?
8	Yes	Were samples received within EPA hold times?
9	Yes	Were correct perservatives used? (water only)
10	NA	Were pH ranges acceptable? (voa's excluded)
11	Yes	Were VOA samples free of headspace (<6mm)?

Microbac - Ohio Valley Division
158 Starlite Drive
Marietta, OH 45750
Tel: (740)373-4071 Fax: (740)373-4835

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L10040012
Account: 2736
Project: 2736.059
Samples: 11
Due Date: 15-APR-2010

Samplenum	Container ID	Products
L10040012-01	674295	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

Samplenum	Container ID	Products
L10040012-02	674296	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Internal Chain of Custody Report

Login: L10040012
Account: 2736
Project: 2736.059
Samples: 11
Due Date: 15-APR-2010

Samplenum	Container ID	Products
L10040012-03	674297	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

Samplenum	Container ID	Products
L10040012-04	674298	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Internal Chain of Custody Report

Login: L10040012
Account: 2736
Project: 2736.059
Samples: 11
Due Date: 15-APR-2010

Samplenum	Container ID	Products
L10040012-05	674299	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

Samplenum	Container ID	Products
L10040012-06	674300	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Internal Chain of Custody Report

Login: L10040012
Account: 2736
Project: 2736.059
Samples: 11
Due Date: 15-APR-2010

Samplenum	Container ID	Products
L10040012-07	674301	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

Samplenum	Container ID	Products
L10040012-08	674302	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Internal Chain of Custody Report

Login: L10040012
Account: 2736
Project: 2736.059
Samples: 11
Due Date: 15-APR-2010

Samplenum	Container ID	Products
L10040012-09	674303	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

Samplenum	Container ID	Products
L10040012-10	674304	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

Samplenum	Container ID	Products
L10040012-11	674305	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	01-APR-2010 11:40	JKT	
2	ANALYZ	V1	ORG4	01-APR-2010 15:33	MES	RLK

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

158 Starlite Drive, Marietta, OH 45750 • T:740-373-4071 • F:740-373-4835 • http://www.microbac.com

Laboratory Report Number: L10100650

Client: Shane Lowe, CH2MHill, St. Louis, MO, 63102

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories.

Review and compilation of your report was completed by Microbac's Sales and Service Team. If you have questions, comments or require further assistance regarding this report, please contact your team member noted in the reviewed box below at 800-373-4071. Team member e-mail addresses also appear here for your convenience.

Kathy Albertson	*Team Chemist/Data Specialist*	Kathy.Albertson@microbac.com
Stephanie Mossburg	*Team Chemist/Data Specialist*	Stephanie.Mossburg@microbac.com
Tony Long	*Team Chemist/Data Specialist*	Tony.Long@microbac.com
Amanda Fickiesen	*Client Services Specialist*	Amanda.Fickiesen@microbac.com
Annie Brown	*Client Services Specialist*	Annie.Brown@microbac.com

This report was reviewed on November 11, 2010.

Kathy Albertson - Team Chemist/Data Specialist

I certify that all test results meet all of the requirements of the accrediting authority listed below. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

This report was certified on November 11, 2010.

David Vandenberg - Managing Director

State of origin: Ohio
Accrediting authority: N/A ID:N/A
QAPP: ASHLAND
This report contains a total of 101 pages.

Look closer. Go further. Do more.

Microbac

Microbac Laboratories, Inc.
Ohio Valley Division
158 Starlite Drive
Marietta, OH 45750

Phone: 800.373.4071
Fax: 740.373.4835

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User ID: jdoe@abc.com
Password: demo

Contact your Microbac service representative to set up a *FREE* account today!

LOOK CLOSER, GO FURTHER, DO MORE.

Microbac REPORT L10100650
PREPARED FOR CH2MHILL, Inc
WORK ID:

1.0 Introduction

Login Number: L10100650

Department: Login

Analyst: N/A

Chain of Custody:

Shipment Conditions

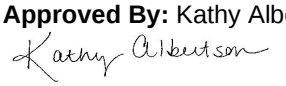
COC #	Cooler #	Temperature
COC21203	0013631	4.0

Sample Management: All samples were received intact.

Sample Identification

Lab ID	Client ID
L10100650-01	MW21GW2434-102110
L10100650-02	MW19GW1828-102110
L10100650-03	MW12GW1424-102110
L10100650-04	MW22GW2535-102110
L10100650-05	MW10GW1732-102110
L10100650-06	MW09GW1424-102110
L10100650-07	MW23GW3040-102110
L10100650-08	MW20GW2333-102110
L10100650-09	MW18GW3035-102210
L10100650-10	MW16GW1020-102210
L10100650-11	MW11GW0919-102210
L10100650-12	MW18GW3035-102210-MS
L10100650-13	MW18GW3035-102210-MSD
L10100650-14	FD01-102110
L10100650-15	FD02-102110
L10100650-16	TRIP BLANK-102210

Narrative ID: 13731
Approved By: Kathy Albertson



2.1 Volatiles Data

2.1.1 Volatiles GCMS Data (8260)

2.1.1.1 Summary Data

Login Number: L10100650

Department: Volatiles

Analyst: Mary Schilling
Analyst #2: N/A

METHOD

Preparation SW-846 5030C/5035A

Analysis SW-846 8260B

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC All acceptance criteria were met.

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES All acceptance criteria were met.

Internal Standards: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Other: Samples 10 and 11 required dilution analyses.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak. In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

Reason #2: Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak. This phenomena is common at low concentrations where the signal:noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low area counts for the target compound.

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

Reason #4: System Establishes Incorrect Baseline. There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and should be corrected via manual procedures.

Reason #5: Miscellaneous. Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 14929
Approved By: Michael Albertson

LABORATORY REPORT

L10100650

11/11/10 11:04

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: CH2MHILL, Inc
CH2MHill
727 North 1st Street, Suite 400
St. Louis, MO 63102
Attention: Shane Lowe

Project Number: 2736.059
Project: Dow Ashland Soil & Groundwater
Site: ASHLAND, OHIO

P.O. Number: 934254

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
MW21GW2434-102110	L10100650-01	8260B	1	23-OCT-10
MW19GW1828-102110	L10100650-02	8260B	1	23-OCT-10
MW12GW1424-102110	L10100650-03	8260B	1	23-OCT-10
MW22GW2535-102110	L10100650-04	8260B	1	23-OCT-10
MW10GW1732-102110	L10100650-05	8260B	1	23-OCT-10
MW09GW1424-102110	L10100650-06	8260B	1	23-OCT-10
MW23GW3040-102110	L10100650-07	8260B	1	23-OCT-10
MW20GW2333-102110	L10100650-08	8260B	1	23-OCT-10
MW18GW3035-102210	L10100650-09	8260B	1	23-OCT-10
MW16GW1020-102210	L10100650-10	8260B	5000	23-OCT-10
MW16GW1020-102210	L10100650-10	8260B	1000	23-OCT-10
MW11GW0919-102210	L10100650-11	8260B	50	23-OCT-10
MW11GW0919-102210	L10100650-11	8260B	5	23-OCT-10
MW18GW3035-102210-MS	L10100650-12	8260B	1	23-OCT-10
MW18GW3035-102210-MSD	L10100650-13	8260B	1	23-OCT-10
FD01-102110	L10100650-14	8260B	1	23-OCT-10
FD02-102110	L10100650-15	8260B	1	23-OCT-10
TRIP BLANK-102210	L10100650-16	8260B	1	23-OCT-10

Report Number: **L10100650**
Report Date : **November 11, 2010**

Sample Number: **L10100650-01**
Client ID: **MW21GW2434-102110**
Matrix: **Water**
Workgroup Number: **WG347229**
Collect Date: **10/21/2010 15:55**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B/5030C/5035**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS10**
Prep Date: **10/30/2010 18:28**
Cal Date: **10/29/2010 15:40**
Run Date: **10/30/2010 18:28**
File ID: **10M83131**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	10.0	0.500
Chloroform	67-66-3		U	5.00	0.125
Chloromethane	74-87-3	0.557	J	10.0	0.500
Methylene chloride	75-09-2	0.626	J	5.00	0.250
Trichloroethene	79-01-6	0.292	J	5.00	0.250
Trichlorofluoromethane	75-69-4		U	10.0	0.250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	95.4	86	118	
1,2-Dichloroethane-d4	91.0	80	120	
Toluene-d8	101	88	110	
4-Bromofluorobenzene	100	86	115	

U Not detected at or above the reporting limit (RL).
J The analyte was positively identified, but the quantitation was below the RL.

Report Number: **L10100650**
Report Date : **November 11, 2010**

Sample Number: **L10100650-02**
Client ID: **MW19GW1828-102110**
Matrix: **Water**
Workgroup Number: **WG347229**
Collect Date: **10/21/2010 11:00**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B/5030C/5035**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS10**
Prep Date: **10/30/2010 20:36**
Cal Date: **10/29/2010 15:40**
Run Date: **10/30/2010 20:36**
File ID: **10M83135**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	10.0	0.500
Chloroform	67-66-3		U	5.00	0.125
Chloromethane	74-87-3		U	10.0	0.500
Methylene chloride	75-09-2	0.786	J	5.00	0.250
Trichloroethene	79-01-6	23.2		5.00	0.250
Trichlorofluoromethane	75-69-4		U	10.0	0.250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	94.9	86	118	
1,2-Dichloroethane-d4	93.4	80	120	
Toluene-d8	102	88	110	
4-Bromofluorobenzene	102	86	115	

U Not detected at or above the reporting limit (RL).
J The analyte was positively identified, but the quantitation was below the RL.

Report Number: **L10100650**
Report Date : **November 11, 2010**

Sample Number: **L10100650-03**
Client ID: **MW12GW1424-102110**
Matrix: **Water**
Workgroup Number: **WG347229**
Collect Date: **10/21/2010 14:25**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B/5030C/5035**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS10**
Prep Date: **10/30/2010 21:08**
Cal Date: **10/29/2010 15:40**
Run Date: **10/30/2010 21:08**
File ID: **10M83136**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	10.0	0.500
Chloroform	67-66-3		U	5.00	0.125
Chloromethane	74-87-3		U	10.0	0.500
Methylene chloride	75-09-2	0.598	J	5.00	0.250
Trichloroethene	79-01-6	21.6		5.00	0.250
Trichlorofluoromethane	75-69-4		U	10.0	0.250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	96.2	86	118	
1,2-Dichloroethane-d4	95.0	80	120	
Toluene-d8	101	88	110	
4-Bromofluorobenzene	101	86	115	

U Not detected at or above the reporting limit (RL).
J The analyte was positively identified, but the quantitation was below the RL.

Report Number: **L10100650**
Report Date : **November 11, 2010**

Sample Number: **L10100650-04**
Client ID: **MW22GW2535-102110**
Matrix: **Water**
Workgroup Number: **WG347229**
Collect Date: **10/21/2010 14:05**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B/5030C/5035**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS10**
Prep Date: **10/30/2010 21:40**
Cal Date: **10/29/2010 15:40**
Run Date: **10/30/2010 21:40**
File ID: **10M83137**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	10.0	0.500
Chloroform	67-66-3		U	5.00	0.125
Chloromethane	74-87-3	0.558	J	10.0	0.500
Methylene chloride	75-09-2	0.586	J	5.00	0.250
Trichloroethene	79-01-6		U	5.00	0.250
Trichlorofluoromethane	75-69-4		U	10.0	0.250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	95.2	86	118	
1,2-Dichloroethane-d4	93.6	80	120	
Toluene-d8	98.7	88	110	
4-Bromofluorobenzene	101	86	115	

U Not detected at or above the reporting limit (RL).
J The analyte was positively identified, but the quantitation was below the RL.

Report Number: **L10100650**
Report Date : **November 11, 2010**

Sample Number: **L10100650-05**
Client ID: **MW10GW1732-102110**
Matrix: **Water**
Workgroup Number: **WG347229**
Collect Date: **10/21/2010 12:20**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B/5030C/5035**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS10**
Prep Date: **10/30/2010 22:11**
Cal Date: **10/29/2010 15:40**
Run Date: **10/30/2010 22:11**
File ID: **10M83138**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	10.0	0.500
Chloroform	67-66-3		U	5.00	0.125
Chloromethane	74-87-3		U	10.0	0.500
Methylene chloride	75-09-2		U	5.00	0.250
Trichloroethene	79-01-6	12.6		5.00	0.250
Trichlorofluoromethane	75-69-4		U	10.0	0.250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	96.9	86	118	
1,2-Dichloroethane-d4	93.9	80	120	
Toluene-d8	101	88	110	
4-Bromofluorobenzene	103	86	115	

U Not detected at or above the reporting limit (RL).

Report Number: **L10100650**
Report Date : **November 11, 2010**

Sample Number: **L10100650-06**
Client ID: **MW09GW1424-102110**
Matrix: **Water**
Workgroup Number: **WG347229**
Collect Date: **10/21/2010 11:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B/5030C/5035**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS10**
Prep Date: **10/30/2010 22:43**
Cal Date: **10/29/2010 15:40**
Run Date: **10/30/2010 22:43**
File ID: **10M83139**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	10.0	0.500
Chloroform	67-66-3		U	5.00	0.125
Chloromethane	74-87-3	0.581	J	10.0	0.500
Methylene chloride	75-09-2	0.653	J	5.00	0.250
Trichloroethene	79-01-6	33.6		5.00	0.250
Trichlorofluoromethane	75-69-4	0.963	J	10.0	0.250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	96.7	86	118	
1,2-Dichloroethane-d4	95.7	80	120	
Toluene-d8	101	88	110	
4-Bromofluorobenzene	100	86	115	

U Not detected at or above the reporting limit (RL).
J The analyte was positively identified, but the quantitation was below the RL.

Report Number: **L10100650**
Report Date : **November 11, 2010**

Sample Number: **L10100650-07**
Client ID: **MW23GW3040-102110**
Matrix: **Water**
Workgroup Number: **WG347229**
Collect Date: **10/21/2010 15:10**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B/5030C/5035**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS10**
Prep Date: **10/30/2010 23:15**
Cal Date: **10/29/2010 15:40**
Run Date: **10/30/2010 23:15**
File ID: **10M83140**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	10.0	0.500
Chloroform	67-66-3		U	5.00	0.125
Chloromethane	74-87-3		U	10.0	0.500
Methylene chloride	75-09-2	0.550	J	5.00	0.250
Trichloroethene	79-01-6		U	5.00	0.250
Trichlorofluoromethane	75-69-4		U	10.0	0.250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	98.1	86	118	
1,2-Dichloroethane-d4	93.7	80	120	
Toluene-d8	99.8	88	110	
4-Bromofluorobenzene	101	86	115	

U Not detected at or above the reporting limit (RL).
J The analyte was positively identified, but the quantitation was below the RL.

Report Number: **L10100650**
Report Date : **November 11, 2010**

Sample Number: **L10100650-08**
Client ID: **MW20GW2333-102110**
Matrix: **Water**
Workgroup Number: **WG347260**
Collect Date: **10/21/2010 16:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B/5030C/5035**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **10/31/2010 21:59**
Cal Date: **10/28/2010 14:02**
Run Date: **10/31/2010 21:59**
File ID: **6M95061**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	10.0	0.500
Chloroform	67-66-3		U	5.00	0.125
Chloromethane	74-87-3		U	10.0	0.500
Methylene chloride	75-09-2	0.648	J	5.00	0.250
Trichloroethene	79-01-6		U	5.00	0.250
Trichlorofluoromethane	75-69-4		U	10.0	0.250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	96.4	86	118	
1,2-Dichloroethane-d4	94.0	80	120	
Toluene-d8	98.8	88	110	
4-Bromofluorobenzene	101	86	115	

U Not detected at or above the reporting limit (RL).
J The analyte was positively identified, but the quantitation was below the RL.

Report Number: **L10100650**
Report Date : **November 11, 2010**

Sample Number: **L10100650-09**
Client ID: **MW18GW3035-102210**
Matrix: **Water**
Workgroup Number: **WG347229**
Collect Date: **10/22/2010 09:00**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B/5030C/5035**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS10**
Prep Date: **10/30/2010 19:00**
Cal Date: **10/29/2010 15:40**
Run Date: **10/30/2010 19:00**
File ID: **10M83132**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	10.0	0.500
Chloroform	67-66-3		U	5.00	0.125
Chloromethane	74-87-3		U	10.0	0.500
Methylene chloride	75-09-2	0.608	J	5.00	0.250
Trichloroethene	79-01-6		U	5.00	0.250
Trichlorofluoromethane	75-69-4		U	10.0	0.250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	98.0	86	118	
1,2-Dichloroethane-d4	92.9	80	120	
Toluene-d8	99.5	88	110	
4-Bromofluorobenzene	103	86	115	

U Not detected at or above the reporting limit (RL).
J The analyte was positively identified, but the quantitation was below the RL.

Report Number: **L10100650**
Report Date : **November 11, 2010**

Sample Number: **L10100650-10**
Client ID: **MW16GW1020-102210**
Matrix: **Water**
Workgroup Number: **WG347279**
Collect Date: **10/22/2010 10:10**
Sample Tag: **DL02**

PrePrep Method: **NONE**
Prep Method: **5030B/5030C/5035**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **5000**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **11/01/2010 13:16**
Cal Date: **10/28/2010 14:02**
Run Date: **11/01/2010 13:16**
File ID: **6M95080**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	50000	2500
Chloroform	67-66-3		U	25000	625
Chloromethane	74-87-3		U	50000	2500
Methylene chloride	75-09-2	3440	J	25000	1250
Trichloroethene	79-01-6		U	25000	1250
Trichlorofluoromethane	75-69-4	323000		50000	1250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	98.3	86	118	
1,2-Dichloroethane-d4	95.3	80	120	
Toluene-d8	98.9	88	110	
4-Bromofluorobenzene	99.1	86	115	

U Not detected at or above the reporting limit (RL).
J The analyte was positively identified, but the quantitation was below the RL.

Report Number: **L10100650**
Report Date : **November 11, 2010**

Sample Number: **L10100650-10**
Client ID: **MW16GW1020-102210**
Matrix: **Water**
Workgroup Number: **WG347260**
Collect Date: **10/22/2010 10:10**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **5030B/5030C/5035**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1000**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **11/01/2010 00:08**
Cal Date: **10/28/2010 14:02**
Run Date: **11/01/2010 00:08**
File ID: **6M95065**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	10000	500
Chloroform	67-66-3		U	5000	125
Chloromethane	74-87-3		U	10000	500
Methylene chloride	75-09-2	527	J	5000	250
Trichloroethene	79-01-6		U	5000	250
Trichlorofluoromethane	75-69-4	337000	E	10000	250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	95.7	86	118	
1,2-Dichloroethane-d4	91.8	80	120	
Toluene-d8	98.2	88	110	
4-Bromofluorobenzene	102	86	115	

E Semiquantitative result (out of instrument calibration range)
U Not detected at or above the reporting limit (RL).
J The analyte was positively identified, but the quantitation was below the RL.

Report Number: **L10100650**
Report Date : **November 11, 2010**

Sample Number: **L10100650-11**
Client ID: **MW11GW0919-102210**
Matrix: **Water**
Workgroup Number: **WG347260**
Collect Date: **10/22/2010 09:30**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **5030B/5030C/5035**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **50**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **11/01/2010 00:40**
Cal Date: **10/28/2010 14:02**
Run Date: **11/01/2010 00:40**
File ID: **6M95066**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	500	25.0
Chloroform	67-66-3		U	250	6.25
Chloromethane	74-87-3		U	500	25.0
Methylene chloride	75-09-2	29.9	J	250	12.5
Trichloroethene	79-01-6		U	250	12.5
Trichlorofluoromethane	75-69-4	1050		500	12.5

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	96.5	86	118	
1,2-Dichloroethane-d4	91.8	80	120	
Toluene-d8	99.4	88	110	
4-Bromofluorobenzene	101	86	115	

U Not detected at or above the reporting limit (RL).
J The analyte was positively identified, but the quantitation was below the RL.

Report Number: **L10100650**
Report Date : **November 11, 2010**

Sample Number: **L10100650-11**
Client ID: **MW11GW0919-102210**
Matrix: **Water**
Workgroup Number: **WG347279**
Collect Date: **10/22/2010 09:30**
Sample Tag: **DL02**

PrePrep Method: **NONE**
Prep Method: **5030B/5030C/5035**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **5**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **11/01/2010 15:58**
Cal Date: **10/28/2010 14:02**
Run Date: **11/01/2010 15:58**
File ID: **6M95085**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	50.0	2.50
Chloroform	67-66-3		U	25.0	0.625
Chloromethane	74-87-3		U	50.0	2.50
Methylene chloride	75-09-2	6.26	J	25.0	1.25
Trichloroethene	79-01-6	2.07	J	25.0	1.25
Trichlorofluoromethane	75-69-4	8020	E	50.0	1.25

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	97.8	86	118	
1,2-Dichloroethane-d4	93.5	80	120	
Toluene-d8	98.5	88	110	
4-Bromofluorobenzene	98.7	86	115	

E Semiquantitative result (out of instrument calibration range)
U Not detected at or above the reporting limit (RL).
J The analyte was positively identified, but the quantitation was below the RL.

Report Number: **L10100650**
Report Date : **November 11, 2010**

Sample Number: **L10100650-12**
Client ID: **MW18GW3035-102210-MS**
Matrix: **Water**
Workgroup Number: **WG347229**
Collect Date: **10/22/2010 09:00**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B/5030C/5035**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS10**
Prep Date: **10/30/2010 19:32**
Cal Date: **10/29/2010 15:40**
Run Date: **10/30/2010 19:32**
File ID: **10M83133**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9	22.1		10.0	0.500
Chloroform	67-66-3	19.4		5.00	0.125
Chloromethane	74-87-3	20.6		10.0	0.500
Methylene chloride	75-09-2	20.7		5.00	0.250
Trichloroethene	79-01-6	18.5		5.00	0.250
Trichlorofluoromethane	75-69-4	19.6		10.0	0.250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	94.8	86	118	
1,2-Dichloroethane-d4	91.8	80	120	
Toluene-d8	99.2	88	110	
4-Bromofluorobenzene	99.4	86	115	

Report Number: **L10100650**
Report Date : **November 11, 2010**

Sample Number: **L10100650-13**
Client ID: **MW18GW3035-102210-MSD**
Matrix: **Water**
Workgroup Number: **WG347229**
Collect Date: **10/22/2010 09:00**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B/5030C/5035**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS10**
Prep Date: **10/30/2010 20:04**
Cal Date: **10/29/2010 15:40**
Run Date: **10/30/2010 20:04**
File ID: **10M83134**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9	23.3		10.0	0.500
Chloroform	67-66-3	19.6		5.00	0.125
Chloromethane	74-87-3	20.6		10.0	0.500
Methylene chloride	75-09-2	21.2		5.00	0.250
Trichloroethene	79-01-6	18.9		5.00	0.250
Trichlorofluoromethane	75-69-4	19.2		10.0	0.250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	98.6	86	118	
1,2-Dichloroethane-d4	93.5	80	120	
Toluene-d8	100	88	110	
4-Bromofluorobenzene	98.4	86	115	

Report Number: **L10100650**
Report Date : **November 11, 2010**

Sample Number:	L10100650-14	PrePrep Method:	NONE	Instrument:	HPMS10
Client ID:	FD01-102110	Prep Method:	5030B/5030C/5035	Prep Date:	10/30/2010 23:47
Matrix:	Water	Analytical Method:	8260B	Cal Date:	10/29/2010 15:40
Workgroup Number:	WG347229	Analyst:	MES	Run Date:	10/30/2010 23:47
Collect Date:	10/21/2010 00:01	Dilution:	1	File ID:	10M83141
Sample Tag:	01	Units:	ug/L		

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	10.0	0.500
Chloroform	67-66-3		U	5.00	0.125
Chloromethane	74-87-3		U	10.0	0.500
Methylene chloride	75-09-2	0.535	J	5.00	0.250
Trichloroethene	79-01-6	34.1		5.00	0.250
Trichlorofluoromethane	75-69-4	0.954	J	10.0	0.250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	97.7	86	118	
1,2-Dichloroethane-d4	94.8	80	120	
Toluene-d8	102	88	110	
4-Bromofluorobenzene	101	86	115	

U Not detected at or above the reporting limit (RL).
J The analyte was positively identified, but the quantitation was below the RL.

Report Number: **L10100650**
Report Date : **November 11, 2010**

Sample Number: **L10100650-15**
Client ID: **FD02-102110**
Matrix: **Water**
Workgroup Number: **WG347229**
Collect Date: **10/21/2010 00:01**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B/5030C/5035**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS10**
Prep Date: **10/31/2010 00:19**
Cal Date: **10/29/2010 15:40**
Run Date: **10/31/2010 00:19**
File ID: **10M83142**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	10.0	0.500
Chloroform	67-66-3		U	5.00	0.125
Chloromethane	74-87-3		U	10.0	0.500
Methylene chloride	75-09-2	0.741	J	5.00	0.250
Trichloroethene	79-01-6	0.253	J	5.00	0.250
Trichlorofluoromethane	75-69-4		U	10.0	0.250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	97.0	86	118	
1,2-Dichloroethane-d4	92.1	80	120	
Toluene-d8	99.7	88	110	
4-Bromofluorobenzene	102	86	115	

U Not detected at or above the reporting limit (RL).
J The analyte was positively identified, but the quantitation was below the RL.

Report Number: **L10100650**
Report Date : **November 11, 2010**

Sample Number: **L10100650-16**
Client ID: **TRIP BLANK-102210**
Matrix: **Water**
Workgroup Number: **WG347260**
Collect Date: **10/22/2010 00:01**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B/5030C/5035**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **10/31/2010 16:32**
Cal Date: **10/28/2010 14:02**
Run Date: **10/31/2010 16:32**
File ID: **6M95051**

Analyte	CAS. Number	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	10.0	0.500
Chloroform	67-66-3		U	5.00	0.125
Chloromethane	74-87-3		U	10.0	0.500
Methylene chloride	75-09-2	0.299	J	5.00	0.250
Trichloroethene	79-01-6		U	5.00	0.250
Trichlorofluoromethane	75-69-4		U	10.0	0.250

Surrogate	% Recovery	Lower	Upper	Qual
Dibromofluoromethane	92.4	86	118	
1,2-Dichloroethane-d4	88.6	80	120	
Toluene-d8	97.2	88	110	
4-Bromofluorobenzene	104	86	115	

U Not detected at or above the reporting limit (RL).
J The analyte was positively identified, but the quantitation was below the RL.

2.1.1.2 QC Summary Data

Example 8260 Calculations

1.0 Calculating the Response Factor (RF) from the initial calibration (ICAL) data:

RF = [(Ax) (Cis)] / [(Ais) (Cx)]

where:	Example
Ax = Area of the characteristic ion for the compound being measured:	3399156
Cis = Concentration of the specific internal standard (ug/mL)	25
Ais = Area of the characteristic ion of the specific internal standard	846471
Cx = Concentration of the compound in the standard being measured (ug/mL)	100
RF = Calculated Response Factor	**1.0039**

2.0 Calculating the concentration (C) of a compound in water using the average RF: *

Cx = [(Ax) (Cis) (Vn)(D)] / [(Ais) (RF) (Vs)]

where:	**Example**
Ax = Area of the characteristic ion for the compound being measured	**3122498**
Cis = Concentration of the specific internal standard (ug/L)	**25**
D = Dilution factor for sample as a multiplier (10x = 10)	**1**
Ais = Area of the characteristic ion of the specific internal standard	**611048**
RF = Average RF from the ICAL	**1.004**
Vs = Purge volume of sample (mL)	**10**
Vn = Nominal purge volume of sample (mL) (10.0 mL)	**10**
Cx = Concentration of the compound in the sample being measured (ug/L)	**127.2428**

3.0 Calculating the concentration (C) of a compound in soil using the average RF: *

Cx = [(Ax) (Cis) (Wn)(D)] / [(Ais) (RF) (Ws)]

where:	**Example**
Ax = Area of the characteristic ion for the compound being measured	**3122498**
Cis = Concentration of the specific internal standard (ug/L)	**25**
D = Dilution factor for sample as a multiplier (10x = 10)	**1**
Ais = Area of the characteristic ion of the specific internal standard	**611048**
RF = Average RF from the ICAL	**1.004**
Ws = Weight of sample purged (g)	**5**
Wn = Nominal purge weight (g) (5.0 g)	**5**
Cx = Concentration of the compound in the sample being measured (ug/L)	**127.2428**

Dry weight correction:

Percent solids (PCT_S)	**50**
Cd = (Cx) (100)/PCT_S	**254.4856**

* Concentrations appearing on the instrument quantitation reports are on-column results and do not take into account initial volume, final volume, and the dilution factor.

4.0 Concentration from Linear Regression

Step 1: Retrieve Curve Data From Plot, y = mx + b

y = response ratio = response of analyte / response of IS = Ax/Ais

x = amount ratio = concentration analyte/concentration internal standard = Cx / Cis

m = slope from curve = 0.213

b = intercept from curve = - 0.00642

Step 2: Calculate y from Quantitation Report

y = 86550/593147 = 0.1459

Step 3: Solve for x

x = (y - b)/m = [(0.1459 -(- 0.00642)]/ 0.213 = 0.7152

Step 4: Solve for analyte concentration Cx

Cx = Cis (x) = (25.0)(0.7152) = 17.88

Example Spreadsheet Calculation:

Slope from curve, m:	**0.213**
Intercept from curve, b:	**-0.00642**
Area of analyte, Ax:	**86550**
Area of Internal Standard , Ais:	**593147**
Concentration of IS, Cis	**25.00**
Response Ratio:	**0.145917**
Amount Ratio:	**0.715195**
Concentration:	**17.87988**
Units of Internal Standard:	**ug/L**

5.0 Concentration from Quadratic Regression

Step 1 - Retrieve Curve Data from Plot, y = Ax^2 + Bx + C
Where:
Ax^2 + Bx + (C - y) = 0
A, B, C = constants from the ICAL quadratic regression
y = Response ratio = Area of analyte/Area of internal standard (IS)
x = Amount ratio = Concentration of analyte/concentration of IS

Step 2: Calculate y from Quantitation Report

y = Ax/Ais

Step 3: Solve for x using the quadratic formula
Ax^2 + Bx + C - y = 0

$$x = \frac{b \pm \sqrt{\left(b^2 - 4a(c - y)\right)}}{2a}$$ (Two possible solutions)

Step 4: Solve for analyte concentration Cx

Cx = (Cis)(Amount ratio)

Example Spreadsheet Calculation:

Value of A from plot:	**-0.00629**	
Value of B from plot:	**0.511**	
Value of C from plot:	**-0.0276**	
Area of unknown from quantitation report:	**293821**	
Area of IS from quantiation report:	**784848**	
Response ratio, y:	**0.374367**	
C - y:	**-0.40197**	
Root 1 - Computed amount ratio , X1:	**80.44567**	
Root 2 - Computed amount ratio , X2:	**0.794396**	use this solution
Concentration of IS, Cis:	**25.00**	
Concentration of analyte, Cx:	**19.86**	ug/L

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS6 Dataset: 102810
Analyst1: MES Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 14
Method: 624 SOP: MSV10 Rev: 8
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 12
Maintenance Log ID: 35161

Internal Standard: STD41933 Surrogate Standard: STD41934
CCV: STD42152 LCS: STD42098 MS/MSD: STD42098

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG346949,WG347063,WG347037

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	6M94935	RINSE	NA	1	1		10/28/10 08:10
2	6M94936	WG346949-01 50NG BFB STD 8260	NA	1	1	STD41748	10/28/10 08:49
3	6M94937	WG346949-02 0.3ug/L WATER STD 8260	NA	1	1	STD42152	10/28/10 09:15
4	6M94938	WG346949-03 0.4ug/L WATER STD 8260	NA	1	1	STD42152	10/28/10 09:46
5	6M94939	WG346949-04 1ug/L WATER STD 8260	NA	1	1	STD42152	10/28/10 10:18
6	6M94940	WG346949-05 2ug/L WATER STD 8260	NA	1	1	STD42152	10/28/10 10:50
7	6M94941	WG346949-06 5 ug/L WATER STD 8260	NA	1	1	STD42152	10/28/10 11:21
8	6M94942	WG346949-07 20 ug/L WATER STD 8260	NA	1	1	STD42152	10/28/10 11:53
9	6M94943	WG346949-08 50 ug/L WATER STD 8260	NA	1	1	STD42152	10/28/10 12:26
10	6M94944	WG346949-09 100 ug/L WATER STD 8260	NA	1	1	STD42152	10/28/10 12:58
11	6M94945	WG346949-10 200 ug/L WATER STD 8260	NA	1	1	STD42152	10/28/10 13:30
12	6M94946	WG346949-11 300 ug/L WATER STD 8260	NA	1	1	STD42152	10/28/10 14:02
13	6M94947	RINSE	NA	1	1		10/28/10 14:33
14	6M94948	WG346949-12 50ug/L ALT SOURCE	NA	1	1	STD42098	10/28/10 15:04
17	6M94951	L10100732-02 M1 25000X 8260 0.99g/10m	NA	11	2500		10/28/10 16:41
19	6M94953	WG346905-04 L10100654-01 DUP 50000X	NA	11	5000		10/28/10 17:46
20	6M94954	RINSE	NA	1	1		10/28/10 18:18
21	6M94955	OXY CHECK	NA	1	1		10/28/10 18:50
22	6M94956	WG347062-01 50NG BFB STD 8260	NA	1	1	STD41748	10/28/10 19:18
23	6M94957	WG347062-02 50ug/L WATER STD 8260	NA	1	1	STD42152	10/28/10 19:43
24	6M94958	WG347067-01 100ug/L APPIX CCV	NA	1	1	SD41937	10/28/10 20:16
25	6M94959	WG347063-01 VBLK1028 BLANK 8260	NA	1	1		10/28/10 20:48
26	6M94960	WG347063-02 20ug/L LCS 8260	NA	1	1	STD42098	10/28/10 21:21
27	6M94961	L10100001-01 826-SPE	NA	1	1	STD41741	10/28/10 21:53
28	6M94962	L10100003-01 826-SPE	NA	1	1	STD41741	10/28/10 22:26
29	6M94963	L10100523-17 A 826-SPE	NA	1	1		10/28/10 22:58
30	6M94964	L10100523-01 B 826-SPE	NA	1	1		10/28/10 23:30
31	6M94965	L10100523-03 A 826-SPE	NA	1	1		10/29/10 00:03
32	6M94966	L10100523-05 A 826-SPE	NA	1	1		10/29/10 00:35
33	6M94967	L10100523-07 A 826-SPE	NA	1	1		10/29/10 01:08
34	6M94968	L10100591-02 A 826-SPE	NA	1	1		10/29/10 01:40
35	6M94969	L10100591-03 MS A 826-SPE	NA	1	1	STD42098	10/29/10 02:12
36	6M94970	L10100591-04 MSD A 826-SPE	NA	1	1	STD42098	10/29/10 02:45
37	6M94971	L10100487-14 C 50X 826-SPE	NA	1	50		10/29/10 03:17

Approved: October 31, 2010

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS6 Dataset: 102810
Analyst1: MES Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 14
Method: 624 SOP: MSV10 Rev: 8
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 12
Maintenance Log ID: 35161

Internal Standard: STD41933 Surrogate Standard: STD41934
CCV: STD42152 LCS: STD42098 MS/MSD: STD42098

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG346949,WG347063,WG347037

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
38	6M94972	L10100523-09 A 826-SPE	NA	1	1		10/29/10 03:49
39	6M94973	L10100523-13 A 826-SPE	NA	1	1		10/29/10 04:21
40	6M94974	L10100523-15 A 826-SPE	NA	1	1		10/29/10 04:53
41	6M94975	L10100591-01 A 826-SPE	NA	1	1		10/29/10 05:25
42	6M94976	L10100591-05 A 826-SPE	NA	1	1		10/29/10 05:57
43	6M94977	L10100523-11 A 10X 826-SPE	NA	1	10		10/29/10 06:29
44	6M94978	L10100732-02 5000X 8260 0.99g/10mL	NA	11	500		10/29/10 07:01
45	6M94979	RINSE	NA	1	1		10/29/10 07:33
46	6M94980	RINSE	NA	1	1		10/29/10 08:06
47	6M94981	RINSE	NA	1	1		10/29/10 08:37
48	6M94949	WG347037-01 EXT VBLK1028 BLANK 826	NA	11	50		10/28/10 15:37
49	6M94950	WG347037-02 20ug/L EXT LCS	NA	11	50	STD42098	10/28/10 16:09
50	6M94952	WG346905-03 L10100654-01 50000X 826	NA	11	5000		10/28/10 17:14

Comments

Seq.	Rerun	Dil.	Reason	Analytes
17	X	5000	Analyzed too dilute	
File ID: 6M94951				

Approved: October 31, 2010

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS10 Dataset: 102910
Analyst1: TMB Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 14
Method: 624 SOP: MSV10 Rev: 8
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 12
Maintenance Log ID: 35162

Internal Standard: STD41949 Surrogate Standard: STD42193
CCV: STD42152 LCS: STD42196 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG347091

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	10M83098	RINSE	NA	1	1		10/29/10 09:48
2	10M83099	WG347091-01 50ng BFB STD 8260	NA	1	1	STD41748	10/29/10 10:21
3	10M83100	WG347091-02 0.3ug/L STD 8260	NA	1	1	STD42152	10/29/10 10:45
4	10M83101	WG347091-03 0.4ug/L STD 8260	NA	1	1	STD42152	10/29/10 11:18
5	10M83102	WG347091-04 1ug/L STD 8260	NA	1	1	STD42152	10/29/10 11:50
6	10M83103	WG347091-05 2ug/L STD 8260	NA	1	1	STD42152	10/29/10 12:22
7	10M83104	WG347091-06 5ug/L STD 8260	NA	1	1	STD42152	10/29/10 13:01
8	10M83105	WG347091-07 20ug/L STD 8260	NA	1	1	STD42152	10/29/10 13:33
9	10M83106	WG347091-08 50ug/L STD 8260	NA	1	1	STD42152	10/29/10 14:04
10	10M83107	WG347091-09 100ug/L STD 8260	NA	1	1	STD42152	10/29/10 14:36
11	10M83108	WG347091-10 200ug/L STD 8260	NA	1	1	STD42152	10/29/10 15:08
12	10M83109	WG347091-11 300ug/L STD 8260	NA	1	1	STD42152	10/29/10 15:40
13	10M83110	RINSE	NA	1	1		10/29/10 16:11
14	10M83111	RINSE	NA	1	1		10/29/10 16:43
15	10M83112	RINSE	NA	1	1		10/29/10 17:35
16	10M83113	WG347091-12 50ug/L ALT SRC STD 8260	NA	1	1	STD42098	10/29/10 18:13
17	10M83114	RINSE	NA	1	1		10/29/10 18:45
18	10M83115	WG347091-12 50ug/L ALT SRC STD 8260	NA	1	1	STD42196	10/29/10 19:17
19	10M83116	RINSE	NA	1	1		10/29/10 19:49

Comments

Seq.	Rerun	Dil.	Reason	Analytes
16	X			
File ID: 10M83113				
	Gases were low, DNR.			

Approved: November 02, 2010

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS10 Dataset: 103010
Analyst1: MES Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 14
Method: 624 SOP: MSV10 Rev: 8
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 12
Maintenance Log ID: 35184

Internal Standard: STD41949 Surrogate Standard: STD42193
CCV: STD42152 LCS: STD42190 MS/MSD: STD42196

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG347229

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	10M83118	RINSE	NA	1	1		10/30/10 10:46
2	10M83119	RINSE	NA	1	1		10/30/10 11:44
3	10M83120	WG347228-01 50NG BFB STD 8260	NA	1	1	STD41748	10/30/10 12:47
4	10M83121	WG347228-02 50ug/L WATER STD 8260	NA	1	1	STD42152	10/30/10 13:11
5	10M83122	RINSE	NA	1	1		10/30/10 13:43
6	10M83123	WG347229-01 VBLK1030 BLANK 8260	NA	1	1		10/30/10 14:14
7	10M83124	WG347229-02 20ug/L LCS 8260	NA	1	1	STD42190	10/30/10 14:46
8	10M83125	L10100527-03 A 826-SPE	<2	1	1		10/30/10 15:18
9	10M83126	L10100527-01 A 826-SPE	<2	1	1		10/30/10 15:49
10	10M83127	L10100527-02 A 826-SPE	<2	1	1		10/30/10 16:21
11	10M83128	L10100622-03 A 826-A9	<2	1	1		10/30/10 16:53
12	10M83129	L10100622-01 A 826-A9	<2	1	1		10/30/10 17:24
13	10M83130	L10100622-02 A 826-A9	<2	1	1		10/30/10 17:56
14	10M83131	L10100650-01 A 826-SPE1	<2	1	1		10/30/10 18:28
15	10M83132	L10100650-09 A 826-SPE1	<2	1	1		10/30/10 19:00
16	10M83133	L10100650-12 MS A 826-SPE1	<2	1	1	STD42196	10/30/10 19:32
17	10M83134	L10100650-13 MSD A 826-SPE1	<2	1	1	STD42196	10/30/10 20:04
18	10M83135	L10100650-02 A 826-SPE1	<2	1	1		10/30/10 20:36
19	10M83136	L10100650-03 A 826-SPE1	<2	1	1		10/30/10 21:08
20	10M83137	L10100650-04 A 826-SPE1	<2	1	1		10/30/10 21:40
21	10M83138	L10100650-05 A 826-SPE1	7	1	1		10/30/10 22:11
22	10M83139	L10100650-06 A 826-SPE1	<2	1	1		10/30/10 22:43
23	10M83140	L10100650-07 A 826-SPE1	<2	1	1		10/30/10 23:15
24	10M83141	L10100650-14 A 826-SPE1	<2	1	1		10/30/10 23:47
25	10M83142	L10100650-15 A 826-SPE1	<2	1	1		10/31/10 00:19
26	10M83143	RINSE	NA	1	1		10/31/10 00:50
27	10M83144	WG347229-06 624 BLANK	NA	1	1		10/31/10 01:22
30	10M83147	OXY RINSE	NA	1	1		10/31/10 01:57
31	10M83148	RINSE	NA	1	1		10/31/10 02:29
32	10M83149	RINSE	NA	1	1		10/31/10 03:00
33	10M83145	L10100752-01 B 624	<2	2	1		10/31/10 01:54
34	10M83146	L10100752-03 B 624	<2	2	1		10/31/10 01:25

Approved: November 02, 2010

Microbac Laboratories Inc.

Instrument Run Log

Instrument:	HPMS10	Dataset:	103010		
Analyst1:	MES	Analyst2:	NA		
Method:	8260B	SOP:	MSV01	Rev:	14
Method:	624	SOP:	MSV10	Rev:	8
Method:	5030B/5030C/5035A	SOP:	PAT01	Rev:	12
Maintenance Log ID:	35184				

Internal Standard:	STD41949	Surrogate Standard:	STD42193		
CCV:	STD42152	LCS:	STD42190	MS/MSD:	STD42196

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG347229

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
5	X	1	Carry-over contamination	
File ID: 10M83122				
Carry over from ccv. DNR.				

Approved: November 02, 2010

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS6 Dataset: 103110
Analyst1: MES Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 14
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 12

Maintenance Log ID: 35291

Internal Standard: STD41933 Surrogate Standard: STD42207
CCV: STD42152 LCS: STD42196 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG347260

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	6M95043	RINSE	NA	1	1		10/31/10 12:21
2	6M95044	WG347259-01 50NG BFB STD 8260	NA	1	1	STD41748	10/31/10 12:55
3	6M95045	WG347259-02 50ug/L WATER STD 8260	NA	1	1	STD42152	10/31/10 13:21
4	6M95046	RINSE	NA	1	1		10/31/10 13:53
5	6M95047	WG347260-01 VBLK1031 BLANK 8260	NA	1	1		10/31/10 14:25
6	6M95048	WG347260-02 20ug/L LCS 8260	NA	1	1	STD42196	10/31/10 14:57
7	6M95049	WG347260-03 20ug/L LCSDUP 8260	NA	1	1	STD42196	10/31/10 15:29
8	6M95050	L10100601-04 C D1 1000X 826-SPE	<2	1	1000		10/31/10 16:00
9	6M95051	L10100650-16 A 826-SPE1	<2	1	1		10/31/10 16:32
10	6M95052	L10100730-04 A 826-SPE	<2	1	1		10/31/10 17:05
11	6M95053	L10100746-14 A 826-SPE1	<2	1	1		10/31/10 17:38
12	6M95054	L10100746-13 A 826-SPE1	<2	1	1		10/31/10 18:11
13	6M95055	L10100585-11 B 826-SPE	<2	1	1		10/31/10 18:43
14	6M95056	L10100585-07 B 2.5X 826-SPE	<2	1	2.5		10/31/10 19:16
15	6M95057	L10100585-29 B 2X 826-SPE	<2	1	2		10/31/10 19:49
16	6M95058	L10100730-05 A 826-SPE	<2	1	1		10/31/10 20:21
17	6M95059	L10100730-06 A 826-SPE	<2	1	1		10/31/10 20:54
18	6M95060	L10100730-07 A 826-SPE	<2	1	1		10/31/10 21:26
19	6M95061	L10100650-08 A 826-SPE1	<2	1	1		10/31/10 21:59
20	6M95062	L10100587-03 C D1 20000X 826-SPE1	<2	1	20000		10/31/10 22:31
21	6M95063	L10100587-04 B D1 5000X 826-SPE1	<2	1	5000		10/31/10 23:03
22	6M95064	L10100585-09 B D1 10X 826-SPE	<2	1	10		10/31/10 23:35
23	6M95065	L10100650-10 A 1000X 826-SPE1	<2	1	1000		11/01/10 00:08
24	6M95066	L10100650-11 A D1 50X 826-SPE1	<2	1	50		11/01/10 00:40
25	6M95067	RINSE	NA	1	1		11/01/10 01:12
26	6M95068	RINSE	NA	1	1		11/01/10 01:44
27	6M95069	RINSE	NA	1	1		11/01/10 02:16

Comments

Seq.	Rerun	Dil.	Reason	Analytes
23	X	5000	Over Calibration Range	trichlorofluoromethane
File ID: 6M95065				

Approved: November 10, 2010

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS6 Dataset: 103110
Analyst1: MES Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 14
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 12

Maintenance Log ID: 35291

Internal Standard: STD41933 Surrogate Standard: STD42207
CCV: STD42152 LCS: STD42196 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG347260

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
24	X	5	Analyzed too dilute	
File ID: 6M95066				

Approved: November 10, 2010

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS6 Dataset: 110110
Analyst1: MES Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 14
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 12
Method: 624 SOP: MSV10 Rev: 8
Maintenance Log ID: 35316

Internal Standard: STD41933 Surrogate Standard: STD42377
CCV: STD42152 LCS: STD42196 MS/MSD: STD42196

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG347279

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	6M95070	WG347278-01 50NG BFB STD 8260	NA	1	1	STD41748	11/01/10 08:03
2	6M95071	WG347278-02 50ug/L WATER STD 8260	NA	1	1	STD42152	11/01/10 08:34
3	6M95072	RINSE	NA	1	1		11/01/10 09:05
4	6M95073	WG347279-01 VBLK1101 BLANK 8260	NA	1	1		11/01/10 09:36
5	6M95074	WG347279-02 20ug/L LCS 8260	NA	1	1	STD42196	11/01/10 10:07
6	6M95075	L10100826-05 A 826-SPE	<2	1	1		11/01/10 10:38
7	6M95076	L10100793-09 A 826-SPE	<2	1	1		11/01/10 11:09
8	6M95077	L10100823-15 A 826-SPE	<2	1	1		11/01/10 11:41
9	6M95078	L10100777-04 B D1 500X 826-SPE	<2	1	500		11/01/10 12:13
10	6M95079	L10100826-03 B D1 500X 826-SPE	5	1	500		11/01/10 12:44
11	6M95080	L10100650-10 B D1 5000X 826-SPE	<2	1	5000		11/01/10 13:16
12	6M95081	L10100793-01 A 826-SPE	<2	1	1		11/01/10 13:48
16	6M95085	L10100650-11 B 5X 826-SPE	<2	1	5		11/01/10 15:58
17	6M95086	L10100793-02 A 826-SPE	<2	1	1		11/01/10 16:30
18	6M95087	L10100793-03 A 826-SPE	<2	1	1		11/01/10 17:02
19	6M95088	L10100793-04 A 826-SPE	<2	1	1		11/01/10 17:35
20	6M95089	L10100793-05 A 826-SPE	<2	1	1		11/01/10 18:07
21	6M95090	L10100793-06 A 826-SPE	<2	1	1		11/01/10 18:39
22	6M95091	L10100793-07 A 826-SPE	<2	1	1		11/01/10 19:12
23	6M95092	L10100793-08 A 826-SPE	<2	1	1		11/01/10 19:45
24	6M95093	RINSE	NA	1	1		11/01/10 20:17
25	6M95094	WG347279-06 624 BLANK	NA	2	1		11/01/10 20:49
26	6M95095	L10110036-01 A 624	<2	2	1		11/01/10 21:21
27	6M95096	L10110036-02 A 624	<2	2	1		11/01/10 21:53
28	6M95097	RINSE	NA	1	1		11/01/10 22:25
29	6M95098	RINSE	NA	1	1		11/01/10 22:57
30	6M95099	RINSE	NA	1	1		11/01/10 23:28
31	6M95100	L10110016-01 A 826-SPE	<2	1	1		11/02/10 00:00
32	6M95101	L10110016-02 A 826-SPE	7	1	1		11/02/10 00:31
33	6M95082	L10100823-12 A 826-SPE	<2	1	1		11/01/10 14:21
34	6M95083	L10100823-13 MS A 826-SPE	<2	1	1	STD42196	11/01/10 14:53
35	6M95084	L10100823-14 MSD A 826-SPE	<2	1	1	STD42196	11/01/10 15:26

Approved: November 11, 2010

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument:	HPMS6	Dataset:	110110		
Analyst1:	MES	Analyst2:	NA		
Method:	8260B	SOP:	MSV01	Rev:	14
Method:	5030B/5030C/5035A	SOP:	PAT01	Rev:	12
Method:	624	SOP:	MSV10	Rev:	8
Maintenance Log ID:	35316				

Internal Standard: STD41933 Surrogate Standard: STD42377

CCV: STD42152 LCS: STD42196 MS/MSD: STD42196

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG347279

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
16	X	100	Over Calibration Range	trichlorofluoromethane
File ID: 6M95085				
17	X	1	Carry-over contamination	
File ID: 6M95086				
	DNR			

Approved: November 11, 2010

Microbac Laboratories Inc.

Data Checklist

Date: 28-OCT-2010
Analyst: MES
Analyst: NA
Method: 8260/624
Instrument: HPMS6
Curve Workgroup: NA
Runlog ID: 37227
Analytical Workgroups: WG346949,WG347063,WG347037

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	X
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	X
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	MES
Secondary Reviewer	MDA
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
29-OCT-2010

Secondary Reviewer:
31-OCT-2010

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-08-2010 14:39:18

Microbac Laboratories Inc.

Data Checklist

Date: 29-OCT-2010
Analyst: TMB
Analyst: NA
Method: 8260B/624
Instrument: HPMS10
Curve Workgroup: NA
Runlog ID: 37231
Analytical Workgroups: WG347091

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	X
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	NA
Reruns	NA
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	MDC
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
29-OCT-2010

Secondary Reviewer:
02-NOV-2010

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-05-2010 08:53:08

Microbac Laboratories Inc.

Data Checklist

Date: 30-OCT-2010
Analyst: MES
Analyst: NA
Method: 8260B/624
Instrument: HPMS10
Curve Workgroup: NA
Runlog ID: 37254
Analytical Workgroups: WG347229

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	X
Surrogates	X
Internal Standards Criteria	X
Library Searches	X
Calculations & Correct Factors	X
Dilutions Run	NA
Reruns	NA
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	MDC
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
01-NOV-2010

Secondary Reviewer:
02-NOV-2010

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-02-2010 14:26:32

Microbac Laboratories Inc.

Data Checklist

Date: 31-OCT-2010
Analyst: MES
Analyst: NA
Method: 8260
Instrument: HPMS6
Curve Workgroup: NA
Runlog ID: 37414
Analytical Workgroups: WG347260

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	X
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	MES
Secondary Reviewer	MDA
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer: 09-NOV-2010

Secondary Reviewer: 10-NOV-2010

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-10-2010 09:40:24

Microbac Laboratories Inc.

Data Checklist

Date: 01-NOV-2010
Analyst: MES
Analyst: NA
Method: 8260/624
Instrument: HPMS6
Curve Workgroup: NA
Runlog ID: 37291
Analytical Workgroups: WG347279

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	X
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	MES
Secondary Reviewer	MDA
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
10-NOV-2010

Secondary Reviewer:
11-NOV-2010

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-11-2010 10:21:37

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B AAB#: WG347229

Login Number: L10100650

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MW21GW2434-102110	01	10/21/10							14		10/30/10	9.1	14	
MW19GW1828-102110	02	10/21/10							14		10/30/10	9.4	14	
MW12GW1424-102110	03	10/21/10							14		10/30/10	9.3	14	
MW22GW2535-102110	04	10/21/10							14		10/30/10	9.3	14	
MW10GW1732-102110	05	10/21/10							14		10/30/10	9.4	14	
MW09GW1424-102110	06	10/21/10							14		10/30/10	9.5	14	
MW23GW3040-102110	07	10/21/10							14		10/30/10	9.3	14	
MW18GW3035-102210	09	10/22/10							14		10/30/10	8.4	14	
MW18GW3035-102210-MS	12	10/22/10							14		10/30/10	8.4	14	
MW18GW3035-102210-MSD	13	10/22/10							14		10/30/10	8.5	14	
FD01-102110	14	10/21/10							14		10/30/10	10	14	
FD02-102110	15	10/21/10							14		10/31/10	10	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 1834692
Report generated 11/11/2010 10:40

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B AAB#: WG347260

Login Number: L10100650

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MW20GW2333-102110	08	10/21/10							14		10/31/10	10.2	14	
MW16GW1020-102210	10	10/22/10							14		11/01/10	9.6	14	
MW11GW0919-102210	11	10/22/10							14		11/01/10	9.6	14	
TRIP BLANK-102210	16	10/22/10							14		10/31/10	9.7	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 1834692
Report generated 11/11/2010 10:40

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B AAB#: WG347279

Login Number: L10100650

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MW16GW1020-102210	10	10/22/10							14		11/01/10	10.1	14	
MW11GW0919-102210	11	10/22/10							14		11/01/10	10.3	14	

* = SEE PROJECT QAPP REQUIREMENTS

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L10100650
Instrument Id: HPMS6
Workgroup (AAB#): WG347279

Method: 8260
CAL ID: HPMS6-28-OCT-10
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L10100650-10	5000	DL02	95.3	98.3	99.1	98.9
L10100650-11	5.00	DL02	93.5	97.8	98.7	98.5
WG347279-01	1.00	01	87.1	90.1	98.8	99.1
WG347279-02	1.00	01	84.9	87.2	96.7	97.8
WG347279-06	1.00	01	93.5	96.8	98.9	97.9

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	80	-	120
2 - Dibromofluoromethane	86	-	118
3 - 4-Bromofluorobenzene	86	-	115
4 - Toluene-d8	88	-	110

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 1824295
Report generated: 11/11/2010 10:40

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L10100650
Instrument Id: HPMS6
Workgroup (AAB#): WG347260

Method: 8260
CAL ID: HPMS6-28-OCT-10
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L10100650-08	1.00	01	94.0	96.4	101	98.8
L10100650-10	1000	DL01	91.8	95.7	102	98.2
L10100650-11	50.0	DL01	91.8	96.5	101	99.4
L10100650-16	1.00	01	88.6	92.4	104	97.2
WG347260-01	1.00	01	92.7	95.3	102	98.5
WG347260-02	1.00	01	93.5	95.5	100	99.3
WG347260-03	1.00	01	86.8	91.2	99.1	97.5

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	80	-	120
2 - Dibromofluoromethane	86	-	118
3 - 4-Bromofluorobenzene	86	-	115
4 - Toluene-d8	88	-	110

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 1824295
Report generated: 11/11/2010 10:40

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L10100650
Instrument Id: HPMS10
Workgroup (AAB#): WG347229

Method: 8260
CAL ID: HPMS10-29-OCT-10
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L10100650-01	1.00	01	91.0	95.4	100	101
L10100650-02	1.00	01	93.4	94.9	102	102
L10100650-03	1.00	01	95.0	96.2	101	101
L10100650-04	1.00	01	93.6	95.2	101	98.7
L10100650-05	1.00	01	93.9	96.9	103	101
L10100650-06	1.00	01	95.7	96.7	100	101
L10100650-07	1.00	01	93.7	98.1	101	99.8
L10100650-09	1.00	01	92.9	98.0	103	99.5
L10100650-12	1.00	01	91.8	94.8	99.4	99.2
L10100650-13	1.00	01	93.5	98.6	98.4	100
L10100650-14	1.00	01	94.8	97.7	101	102
L10100650-15	1.00	01	92.1	97.0	102	99.7
WG347229-01	1.00	01	91.9	97.8	104	99.4
WG347229-02	1.00	01	94.9	94.6	98.6	101
WG347229-06	1.00	01	94.8	97.5	101	99.7

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	80	-	120
2 - Dibromofluoromethane	86	-	118
3 - 4-Bromofluorobenzene	86	-	115
4 - Toluene-d8	88	-	110

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 1824295
Report generated: 11/11/2010 10:40

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L10100650
Work Group: WG347229
Blank File ID: 10M83123
Blank Sample ID: WG347229-01
Prep Date: 10/30/10 14:14
Instrument ID: HPMS10
Analyzed Date: 10/30/10 14:14
Method: 8260B
Analyst: MES

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG347229-02	10M83124	10/30/10 14:46	01
MW21GW2434-102110	L10100650-01	10M83131	10/30/10 18:28	01
MW18GW3035-102210	L10100650-09	10M83132	10/30/10 19:00	01
MW18GW3035-102210-MS	L10100650-12	10M83133	10/30/10 19:32	01
MW18GW3035-102210-MSD	L10100650-13	10M83134	10/30/10 20:04	01
MW19GW1828-102110	L10100650-02	10M83135	10/30/10 20:36	01
MW12GW1424-102110	L10100650-03	10M83136	10/30/10 21:08	01
MW22GW2535-102110	L10100650-04	10M83137	10/30/10 21:40	01
MW10GW1732-102110	L10100650-05	10M83138	10/30/10 22:11	01
MW09GW1424-102110	L10100650-06	10M83139	10/30/10 22:43	01
MW23GW3040-102110	L10100650-07	10M83140	10/30/10 23:15	01
FD01-102110	L10100650-14	10M83141	10/30/10 23:47	01
FD02-102110	L10100650-15	10M83142	10/31/10 00:19	01

Report Name: BLANK_SUMMARY
PDF File ID: 1834693
Report generated 11/11/2010 10:40

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L10100650
Work Group: WG347260
Blank File ID: 6M95047
Blank Sample ID: WG347260-01
Prep Date: 10/31/10 14:25
Instrument ID: HPMS6
Analyzed Date: 10/31/10 14:25
Method: 8260B
Analyst: MES

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG347260-02	6M95048	10/31/10 14:57	01
LCS2	WG347260-03	6M95049	10/31/10 15:29	01
TRIP BLANK-102210	L10100650-16	6M95051	10/31/10 16:32	01
MW20GW2333-102110	L10100650-08	6M95061	10/31/10 21:59	01
MW16GW1020-102210	L10100650-10	6M95065	11/01/10 00:08	DL01
MW11GW0919-102210	L10100650-11	6M95066	11/01/10 00:40	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 1834693
Report generated 11/11/2010 10:40

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L10100650
Work Group: WG347279
Blank File ID: 6M95073
Blank Sample ID: WG347279-01
Prep Date: 11/01/10 09:36
Instrument ID: HPMS6
Analyzed Date: 11/01/10 09:36
Method: 8260B
Analyst: MES

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG347279-02	6M95074	11/01/10 10:07	01
MW16GW1020-102210	L10100650-10	6M95080	11/01/10 13:16	DL02
MW11GW0919-102210	L10100650-11	6M95085	11/01/10 15:58	DL02

Report Name: BLANK_SUMMARY
PDF File ID: 1834693
Report generated 11/11/2010 10:40

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L10100650 Prep Date: 10/30/10 14:14 Sample ID: WG347229-01
Instrument ID: HPMS10 Run Date: 10/30/10 14:14 Prep Method: 5030B/5030C/503
File ID: 10M83123 Analyst: MES Method: 8260B
Workgroup (AAB#): WG347229 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS10-29-OCT-10

Analytes	MDL	RL	Concentration	Dilution	Qualifier
Bromomethane	0.500	10.0	0.500	1	U
Chloroform	0.125	5.00	0.125	1	U
Chloromethane	0.500	10.0	0.500	1	U
Methylene chloride	0.250	5.00	0.342	1	J
Trichloroethene	0.250	5.00	0.250	1	U
Trichlorofluoromethane	0.250	10.0	0.250	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	97.8	86 - 118	PASS
1,2-Dichloroethane-d4	91.9	80 - 120	PASS
Toluene-d8	99.4	88 - 110	PASS
4-Bromofluorobenzene	104	86 - 115	PASS

MDL Method Detection Limit
RL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name:BLANK
PDF ID: 1834694
11-NOV-2010 10:40

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L10100650 Prep Date: 10/31/10 14:25 Sample ID: WG347260-01
Instrument ID: HPMS6 Run Date: 10/31/10 14:25 Prep Method: 5030B/5030C/503
File ID: 6M95047 Analyst: MES Method: 8260B
Workgroup (AAB#): WG347260 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS6-28-OCT-10

Analytes	MDL	RL	Concentration	Dilution	Qualifier
Bromomethane	0.500	10.0	0.500	1	U
Chloroform	0.125	5.00	0.125	1	U
Chloromethane	0.500	10.0	0.500	1	U
Methylene chloride	0.250	5.00	0.359	1	J
Trichloroethene	0.250	5.00	0.250	1	U
Trichlorofluoromethane	0.250	10.0	0.250	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	95.3	86 - 118	PASS
1,2-Dichloroethane-d4	92.7	80 - 120	PASS
Toluene-d8	98.5	88 - 110	PASS
4-Bromofluorobenzene	102	86 - 115	PASS

MDL Method Detection Limit
RL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name:BLANK
PDF ID: 1834694
11-NOV-2010 10:40

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L10100650 Prep Date: 11/01/10 09:36 Sample ID: WG347279-01
Instrument ID: HPMS6 Run Date: 11/01/10 09:36 Prep Method: 5030B/5030C/503
File ID: 6M95073 Analyst: MES Method: 8260B
Workgroup (AAB#): WG347279 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS6-28-OCT-10

Analytes	MDL	RL	Concentration	Dilution	Qualifier
Bromomethane	0.500	10.0	0.500	1	U
Chloroform	0.125	5.00	0.125	1	U
Chloromethane	0.500	10.0	0.500	1	U
Methylene chloride	0.250	5.00	0.250	1	U
Trichloroethene	0.250	5.00	0.250	1	U
Trichlorofluoromethane	0.250	10.0	0.250	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	90.1	86 - 118	PASS
1,2-Dichloroethane-d4	87.1	80 - 120	PASS
Toluene-d8	99.1	88 - 110	PASS
4-Bromofluorobenzene	98.8	86 - 115	PASS

MDL Method Detection Limit
RL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name:BLANK
PDF ID: 1834694
11-NOV-2010 10:40

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L10100650 Run Date: 10/30/2010 Sample ID: WG347229-02
Instrument ID: HPMS10 Run Time: 14:46 Prep Method: 5030B/5030C/503
File ID: 10M83124 Analyst: MES Method: 8260B
Workgroup (AAB#): WG347229 Matrix: Water Units: ug/L
QC Key: ASHLAND Lot#: STD42190 Cal ID: HPMS10-29-OCT-10

Analytes	Expected	Found	% Rec	LCS Limits	Q
Bromomethane	20.0	21.0	105	30 - 145	
Chloroform	20.0	19.5	97.3	80 - 125	
Chloromethane	20.0	17.8	89.2	40 - 125	
Methylene chloride	20.0	19.1	95.7	80 - 123	
Trichloroethene	20.0	19.4	96.9	80 - 122	
Trichlorofluoromethane	20.0	21.5	107	62 - 151	

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	94.6	86 - 118	PASS
1,2-Dichloroethane-d4	94.9	80 - 120	PASS
Toluene-d8	101	88 - 110	PASS
4-Bromofluorobenzene	98.6	86 - 115	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 1824290
Report generated: 11/11/2010 10:40

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L10100650 Run Date: 11/01/2010 Sample ID: WG347279-02
Instrument ID: HPMS6 Run Time: 10:07 Prep Method: 5030B/5030C/503
File ID: 6M95074 Analyst: MES Method: 8260B
Workgroup (AAB#): WG347279 Matrix: Water Units: ug/L
QC Key: ASHLAND Lot#: STD42196 Cal ID: HPMS6-28-OCT-10

Analytes	Expected	Found	% Rec	LCS Limits	Q
Bromomethane	20.0	18.8	93.9	30 - 145	
Chloroform	20.0	19.0	94.9	80 - 125	
Chloromethane	20.0	21.9	109	40 - 125	
Methylene chloride	20.0	18.8	93.8	80 - 123	
Trichloroethene	20.0	19.9	99.5	80 - 122	
Trichlorofluoromethane	20.0	19.4	96.9	62 - 151	

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	87.2	86 - 118	PASS
1,2-Dichloroethane-d4	84.9	80 - 120	PASS
Toluene-d8	97.8	88 - 110	PASS
4-Bromofluorobenzene	96.7	86 - 115	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 1824290
Report generated: 11/11/2010 10:40

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L10100650 Analyst: MES Prep Method: 5030B/5030C/503
Instrument ID: HPMS6 Matrix: Water Method: 8260B
Workgroup (AAB#): WG347260 Units: ug/L
QC Key: ASHLAND Lot #: STD42196

Sample ID: WG347260-02 LCS File ID: 6M95048 Run Date: 10/31/2010 14:57
Sample ID: WG347260-03 LCS2 File ID: 6M95049 Run Date: 10/31/2010 15:29

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Bromomethane	20.0	19.2	95.9	20.0	20.4	102	6.19	30 - 145	20	
Chloroform	20.0	19.0	94.8	20.0	18.6	93.1	1.82	80 - 125	20	
Chloromethane	20.0	17.5	87.4	20.0	19.7	98.6	12.0	40 - 125	20	
Methylene chloride	20.0	18.0	89.9	20.0	18.3	91.6	1.95	80 - 123	20	
Trichloroethene	20.0	17.8	88.9	20.0	18.9	94.6	6.19	80 - 122	20	
Trichlorofluoromethane	20.0	19.9	99.7	20.0	20.0	100	0.291	62 - 151	20	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
1,2-Dichloroethane-d4	93.5	86.8	80 - 120	PASS
Dibromofluoromethane	95.5	91.2	86 - 118	PASS
4-Bromofluorobenzene	100	99.1	86 - 115	PASS
Toluene-d8	99.3	97.5	88 - 110	PASS

* EXCEEDS %REC LIMIT
\# EXCEEDS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1832748
Report generated: 11/11/2010 10:40

Microbac Laboratories Inc.

MS/MSD REPORT

Loginnum: L10100650 Cal ID: HPMS10- 29-OCT-10 Worknum: WG347229

Instrument ID: HPMS10 Contract #: Prep Method: 5030B/5030C/

Parent ID: L10100650-09 File ID: 10M83132 Dil: 1 Method: 5035A

Sample ID: L10100650-12 MS File ID: 10M83133 Dil: 1 Matrix: 8260B

Sample ID: L10100650-13 MSD File ID: 10M83134 Dil: 1 Units: Water

ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Bromomethane	U	20.0	22.1	110	20.0	23.3	117	5.49	30 - 145	20	
Chloroform	U	20.0	19.4	96.8	20.0	19.6	98.2	1.43	80 - 125	20	
Chloromethane	U	20.0	20.6	103	20.0	20.6	103	0.0453	40 - 125	20	
Methylene chloride	0.608	20.0	20.7	100	20.0	21.2	103	2.40	80 - 123	20	
Trichloroethene	U	20.0	18.5	92.4	20.0	18.9	94.4	2.14	80 - 122	20	
Trichlorofluoromethane	U	20.0	19.6	97.8	20.0	19.2	96	1.86	62 - 151	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008

PDF File ID: 1824291

Report generated 11/11/2010 10:40

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L10100650
Instrument: HPMS10
Analyst: TMB
Workgroup: WG347091

Tune ID: WG347091-01
Run Date: 10/29/2010
Run Time: 10:21
File ID: 10M83099
Cal ID: HPMS10-29-OCT-10

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	37.6	37861	PASS
75.0	95.0	30.0	60.0	53.9	54168	PASS
95.0	95.0	100	100	100	100562	PASS
96.0	95.0	5.00	9.00	6.71	6748	PASS
173	174	0	2.00	0.721	485	PASS
174	95.0	50.0	100	66.9	67245	PASS
175	174	5.00	9.00	7.70	5176	PASS
176	174	95.0	101	97.4	65501	PASS
177	176	5.00	9.00	7.03	4607	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG347091-02	STD	01	10/29/2010 10:45	
WG347091-03	STD	01	10/29/2010 11:18	
WG347091-04	STD	01	10/29/2010 11:50	
WG347091-05	STD	01	10/29/2010 12:22	
WG347091-06	STD	01	10/29/2010 13:01	
WG347091-07	STD	01	10/29/2010 13:33	
WG347091-08	STD-CCV	01	10/29/2010 14:04	
WG347091-09	STD	01	10/29/2010 14:36	
WG347091-10	STD	01	10/29/2010 15:08	
WG347091-11	STD	01	10/29/2010 15:40	
WG347091-12	SSCV	01	10/29/2010 19:17	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 1834696
Report generated 11/11/2010 10:40

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L10100650
Instrument: HPMS10
Analyst: MES
Workgroup: WG347228

Tune ID: WG347228-01
Run Date: 10/30/2010
Run Time: 12:47
File ID: 10M83120
Cal ID: HPMS10-29-OCT-10

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	33.6	41816	PASS
75.0	95.0	30.0	60.0	52.0	64784	PASS
95.0	95.0	100	100	100	124616	PASS
96.0	95.0	5.00	9.00	6.93	8631	PASS
173	174	0	2.00	0.245	227	PASS
174	95.0	50.0	100	74.5	92786	PASS
175	174	5.00	9.00	7.15	6638	PASS
176	174	95.0	101	95.5	88568	PASS
177	176	5.00	9.00	6.44	5702	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG347228-02	CCV	01	10/30/2010 13:11	
WG347229-01	BLANK	01	10/30/2010 14:14	
WG347229-01	BLANK	01	10/30/2010 14:14	
WG347229-02	LCS	01	10/30/2010 14:46	
L10100650-01	MW21GW2434-102110	01	10/30/2010 18:28	
L10100650-09	MW18GW3035-102210	01	10/30/2010 19:00	
WG347229-03	REF	01	10/30/2010 19:00	
L10100650-12	MW18GW3035-102210-MS	01	10/30/2010 19:32	
WG347229-04	MS	01	10/30/2010 19:32	
L10100650-13	MW18GW3035-102210-MSD	01	10/30/2010 20:04	
WG347229-05	MSD	01	10/30/2010 20:04	
L10100650-02	MW19GW1828-102110	01	10/30/2010 20:36	
L10100650-03	MW12GW1424-102110	01	10/30/2010 21:08	
L10100650-04	MW22GW2535-102110	01	10/30/2010 21:40	
L10100650-05	MW10GW1732-102110	01	10/30/2010 22:11	
L10100650-06	MW09GW1424-102110	01	10/30/2010 22:43	
L10100650-07	MW23GW3040-102110	01	10/30/2010 23:15	
L10100650-14	FD01-102110	01	10/30/2010 23:47	
L10100650-15	FD02-102110	01	10/31/2010 00:19	
WG347229-06	BLANK2	01	10/31/2010 01:22	*
WG347229-06	BLANK2	01	10/31/2010 01:22	*

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 1834696
Report generated 11/11/2010 10:40

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L10100650
Instrument: HPMS6
Analyst: MES
Workgroup: WG346949

Tune ID: WG346949-01
Run Date: 10/28/2010
Run Time: 08:49
File ID: 6M94936
Cal ID: HPMS6-28-OCT-10

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	27.0	12664	PASS
75.0	95.0	30.0	60.0	48.4	22661	PASS
95.0	95.0	100	100	100	46861	PASS
96.0	95.0	5.00	9.00	7.21	3379	PASS
173	174	0	2.00	0.709	305	PASS
174	95.0	50.0	100	91.8	43024	PASS
175	174	5.00	9.00	7.32	3149	PASS
176	174	95.0	101	99.0	42576	PASS
177	176	5.00	9.00	6.40	2724	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG346949-02	STD	01	10/28/2010 09:15	
WG346949-03	STD	01	10/28/2010 09:46	
WG346949-04	STD	01	10/28/2010 10:18	
WG346949-05	STD	01	10/28/2010 10:50	
WG346949-06	STD	01	10/28/2010 11:21	
WG346949-07	STD	01	10/28/2010 11:53	
WG346949-08	STD-CCV	01	10/28/2010 12:26	
WG346949-09	STD	01	10/28/2010 12:58	
WG346949-10	STD	01	10/28/2010 13:30	
WG346949-11	STD	01	10/28/2010 14:02	
WG346949-12	SSCV	01	10/28/2010 15:04	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 1834696
Report generated 11/11/2010 10:40

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L10100650
Instrument: HPMS6
Analyst: MES
Workgroup: WG347259

Tune ID: WG347259-01
Run Date: 10/31/2010
Run Time: 12:55
File ID: 6M95044
Cal ID: HPMS6-28-OCT-10

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	26.5	10103	PASS
75.0	95.0	30.0	60.0	47.8	18205	PASS
95.0	95.0	100	100	100	38072	PASS
96.0	95.0	5.00	9.00	6.81	2594	PASS
173	174	0	2.00	0.824	277	PASS
174	95.0	50.0	100	88.3	33618	PASS
175	174	5.00	9.00	7.12	2394	PASS
176	174	95.0	101	97.8	32888	PASS
177	176	5.00	9.00	6.13	2015	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG347259-02	CCV	01	10/31/2010 13:21	
WG347260-01	BLANK	01	10/31/2010 14:25	
WG347260-02	LCS	01	10/31/2010 14:57	
WG347260-03	LCS2	01	10/31/2010 15:29	
L10100650-16	TRIP BLANK-102210	01	10/31/2010 16:32	
L10100650-08	MW20GW2333-102110	01	10/31/2010 21:59	
L10100650-10	MW16GW1020-102210	DL01	11/01/2010 00:08	
L10100650-11	MW11GW0919-102210	DL01	11/01/2010 00:40	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 1834696
Report generated 11/11/2010 10:40

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L10100650
Instrument: HPMS6
Analyst: MES
Workgroup: WG347278

Tune ID: WG347278-01
Run Date: 11/01/2010
Run Time: 08:03
File ID: 6M95070
Cal ID: HPMS6-28-OCT-10

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	28.0	18541	PASS
75.0	95.0	30.0	60.0	48.8	32288	PASS
95.0	95.0	100	100	100	66165	PASS
96.0	95.0	5.00	9.00	6.25	4136	PASS
173	174	0	2.00	0.904	525	PASS
174	95.0	50.0	100	87.8	58066	PASS
175	174	5.00	9.00	6.87	3992	PASS
176	174	95.0	101	95.1	55224	PASS
177	176	5.00	9.00	5.90	3257	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG347278-02	CCV	01	11/01/2010 08:34	
WG347279-01	BLANK	01	11/01/2010 09:36	
WG347279-02	LCS	01	11/01/2010 10:07	
L10100650-10	MW16GW1020-102210	DL02	11/01/2010 13:16	
WG347279-03	REF	01	11/01/2010 14:21	
WG347279-04	MS	01	11/01/2010 14:53	
WG347279-05	MSD	01	11/01/2010 15:26	
L10100650-11	MW11GW0919-102210	DL02	11/01/2010 15:58	
WG347279-06	BLANK2	01	11/01/2010 20:49	*

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 1834696
Report generated 11/11/2010 10:40

INITIAL CALIBRATION SUMMARY

Login Number: L10100650 **Instrument ID:** HPMS10
Analytical Method: 8260B **Initial Calibration Date:** 29-OCT-10 15:40
ICAL Workgroup: WG347091 **Column ID:** F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R^2)
Chloroform	CCC	0.4737	2.84		
1,1,2,2-Tetrachloroethane	SPCC	0.6051	5.78		
1,1-Dichloroethane	SPCC	0.7024	3.82		
Bromoform	SPCC	0.1738	11.0		
Chlorobenzene	SPCC	0.9321	7.63		
Chloromethane	SPCC	1.003	9.05		
Bromomethane		0.1249	9.01		
Methylene Chloride		0.2763	4.40		
Trichloroethene		0.2444	5.52		
Trichlorofluoromethane		0.3967	3.63		

R = Correlation coefficient; 0.995 minimum
R^2 = Coefficient of determination; 0.99 minimum

If the %RSD is greater than the limit specified by the method or project QAP, then linear or quadratic equations will be used.

INITIAL CALIBRATION SUMMARY

Login Number: L10100650 **Instrument ID:** HPMS6
Analytical Method: 8260B **Initial Calibration Date:** 28-OCT-10 14:02
ICAL Workgroup: WG346949 **Column ID:** F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R^2)
Chloroform	CCC	0.4388	4.84		
1,1,2,2-Tetrachloroethane	SPCC	0.3802	15.2		1.00000
1,1-Dichloroethane	SPCC	0.4946	4.99		
Bromoform	SPCC	0.1715	9.09		
Chlorobenzene	SPCC	0.9705	1.42		
Chloromethane	SPCC	0.5822	9.39		
Bromomethane		0.1513	9.74		
Methylene Chloride		0.2621	6.06		
Trichloroethene		0.3134	7.89		
Trichlorofluoromethane		0.4318	9.80		

R = Correlation coefficient; 0.995 minimum
R^2 = Coefficient of determination; 0.99 minimum

If the %RSD is greater than the limit specified by the method or project QAP, then linear or quadratic equations will be used.

INT_CAL - Modified 03/06/2008
PDF File ID: 1834695
Report generated 11/11/2010 10:40

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L10100650
Analytical Method: 8260B

Instrument ID: HPMS10
Initial Calibration Date: 29-OCT-10 15:40
Column ID: F

Analyte	WG347091-02			WG347091-03			WG347091-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloroform	0.300	4393.00000	0.4895	0.400	5730.00000	0.5008	1.00	13165.0000	0.4681
1,1,2,2-Tetrachloroethane	NA	NA	NA	0.400	2459.00000	0.6364	1.00	5303.00000	0.5535
1,1-Dichloroethane	NA	NA	NA	0.400	8739.00000	0.7637	1.00	19480.0000	0.6926
Bromoform	NA	NA	NA	NA	NA	NA	1.00	2955.00000	0.1489
Chlorobenzene	NA	NA	NA	0.400	8901.00000	1.087	1.00	18855.0000	0.9502
Chloromethane	NA	NA	NA	NA	NA	NA	1.00	30776.0000	1.094
Bromomethane	NA	NA	NA	NA	NA	NA	1.00	3889.00000	0.1383
Methylene Chloride	NA	NA	NA	NA	NA	NA	1.00	8351.00000	0.2969
Trichloroethene	NA	NA	NA	0.400	2856.00000	0.2496	1.00	7578.00000	0.2694
Trichlorofluoromethane	NA	NA	NA	0.400	4673.00000	0.4084	1.00	10668.0000	0.3793

INT_CAL - Modified 03/06/2008
PDF File ID: 1834695
Report generated 11/11/2010 10:40

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L10100650
Analytical Method: 8260B

Instrument ID: HPMS10
Initial Calibration Date: 29-OCT-10 15:40
Column ID: F

Analyte	WG347091-05			WG347091-06			WG347091-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloroform	2.00	27109.0000	0.4741	5.00	68139.0000	0.4670	20.0	274621.000	0.4583
1,1,2,2-Tetrachloroethane	2.00	12895.0000	0.6607	5.00	31742.0000	0.6298	20.0	133596.000	0.6046
1,1-Dichloroethane	2.00	40285.0000	0.7046	5.00	103838.000	0.7117	20.0	407435.000	0.6800
Bromoform	2.00	6342.00000	0.1561	5.00	16931.0000	0.1637	20.0	73621.0000	0.1691
Chlorobenzene	2.00	35392.0000	0.8709	5.00	92939.0000	0.8984	20.0	375446.000	0.8625
Chloromethane	2.00	64597.0000	1.130	5.00	154998.000	1.062	20.0	557263.000	0.9300
Bromomethane	2.00	7984.00000	0.1396	5.00	16831.0000	0.1154	20.0	65250.0000	0.1089
Methylene Chloride	2.00	15858.0000	0.2774	5.00	42015.0000	0.2880	20.0	158762.000	0.2650
Trichloroethene	2.00	12867.0000	0.2250	5.00	34027.0000	0.2332	20.0	143374.000	0.2393
Trichlorofluoromethane	2.00	23651.0000	0.4137	5.00	55715.0000	0.3819	20.0	235568.000	0.3931

INT_CAL - Modified 03/06/2008
PDF File ID: 1834695
Report generated 11/11/2010 10:40

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L10100650
Analytical Method: 8260B

Instrument ID: HPMS10
Initial Calibration Date: 29-OCT-10 15:40
Column ID: F

Analyte	WG347091-08			WG347091-09			WG347091-10		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloroform	50.0	702125.000	0.4617	100	1456782.00	0.4705	200	3165121.00	0.4730
1,1,2,2-Tetrachloroethane	50.0	351332.000	0.5872	100	747356.000	0.5888	200	1617245.00	0.5801
1,1-Dichloroethane	50.0	1040324.00	0.6841	100	2137708.00	0.6904	200	4628072.00	0.6917
Bromoform	50.0	208318.000	0.1886	100	453805.000	0.1967	200	976730.000	0.1933
Chlorobenzene	50.0	1001655.00	0.9070	100	2132248.00	0.9242	200	4830933.00	0.9563
Chloromethane	50.0	1475654.00	0.9704	100	2887268.00	0.9325	200	6037937.00	0.9024
Bromomethane	50.0	188841.000	0.1242	100	391885.000	0.1266	200	811450.000	0.1213
Methylene Chloride	50.0	402132.000	0.2644	100	838306.000	0.2708	200	1816531.00	0.2715
Trichloroethene	50.0	364714.000	0.2398	100	761327.000	0.2459	200	1692544.00	0.2530
Trichlorofluoromethane	50.0	604132.000	0.3973	100	1190258.00	0.3844	200	2777962.00	0.4152

INT_CAL - Modified 03/06/2008
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Report generated 11/11/2010 10:40

Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L10100650
Analytical Method: 8260B

Instrument ID: HPMS10
Initial Calibration Date: 29-OCT-10 15:40
Column ID: F

Analyte	WG347091-11		
	CONC	RESP	RF
Chloroform	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	NA	NA
1,1-Dichloroethane	NA	NA	NA
Bromoform	NA	NA	NA
Chlorobenzene	NA	NA	NA
Chloromethane	NA	NA	NA
Bromomethane	NA	NA	NA
Methylene Chloride	NA	NA	NA
Trichloroethene	NA	NA	NA
Trichlorofluoromethane	NA	NA	NA

INT_CAL - Modified 03/06/2008
PDF File ID: 1834695
Report generated 11/11/2010 10:40

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L10100650
Analytical Method: 8260B

Instrument ID: HPMS6
Initial Calibration Date: 28-OCT-10 14:02
Column ID: F

Analyte	WG346949-02			WG346949-03			WG346949-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloroform	0.300	3705.00000	0.4349	0.400	4341.00000	0.3967	1.00	10679.0000	0.4344
1,1,2,2-Tetrachloroethane	NA	NA	NA	0.400	1251.00000	0.2650	1.00	5447.00000	0.4650
1,1-Dichloroethane	NA	NA	NA	0.400	5127.00000	0.4685	1.00	11689.0000	0.4754
Bromoform	NA	NA	NA	NA	NA	NA	1.00	3250.00000	0.1488
Chlorobenzene	NA	NA	NA	0.400	8664.00000	0.9607	1.00	20943.0000	0.9589
Chloromethane	NA	NA	NA	NA	NA	NA	1.00	15963.0000	0.6493
Bromomethane	NA	NA	NA	NA	NA	NA	1.00	4217.00000	0.1715
Methylene Chloride	NA	NA	NA	NA	NA	NA	1.00	7013.00000	0.2852
Trichloroethene	NA	NA	NA	0.400	3652.00000	0.3337	1.00	6493.00000	0.2641
Trichlorofluoromethane	NA	NA	NA	0.400	3685.00000	0.3367	1.00	10533.0000	0.4284

INT_CAL - Modified 03/06/2008
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Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L10100650
Analytical Method: 8260B

Instrument ID: HPMS6
Initial Calibration Date: 28-OCT-10 14:02
Column ID: F

Analyte	WG346949-05			WG346949-06			WG346949-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloroform	2.00	23225.0000	0.4375	5.00	56523.0000	0.4333	20.0	236709.000	0.4295
1,1,2,2-Tetrachloroethane	2.00	10206.0000	0.4175	5.00	25176.0000	0.4113	20.0	103890.000	0.3802
1,1-Dichloroethane	2.00	27327.0000	0.5147	5.00	63014.0000	0.4830	20.0	258813.000	0.4696
Bromoform	2.00	6747.00000	0.1511	5.00	18788.0000	0.1690	20.0	86943.0000	0.1824
Chlorobenzene	2.00	42398.0000	0.9493	5.00	108526.000	0.9760	20.0	463335.000	0.9719
Chloromethane	2.00	33830.0000	0.6372	5.00	78358.0000	0.6007	20.0	322128.000	0.5845
Bromomethane	2.00	7409.00000	0.1396	5.00	17232.0000	0.1321	20.0	77142.0000	0.1400
Methylene Chloride	2.00	14970.0000	0.2820	5.00	34374.0000	0.2635	20.0	136784.000	0.2482
Trichloroethene	2.00	15769.0000	0.2970	5.00	39059.0000	0.2994	20.0	176226.000	0.3198
Trichlorofluoromethane	2.00	23642.0000	0.4453	5.00	56380.0000	0.4322	20.0	237626.000	0.4312

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Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L10100650
Analytical Method: 8260B

Instrument ID: HPMS6
Initial Calibration Date: 28-OCT-10 14:02
Column ID: F

Analyte	WG346949-08			WG346949-09			WG346949-10		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloroform	50.0	619183.000	0.4497	100	1501145.00	0.4697	200	3152227.00	0.4633
1,1,2,2-Tetrachloroethane	50.0	257897.000	0.3714	100	530737.000	0.3635	200	1096697.00	0.3674
1,1-Dichloroethane	50.0	679161.000	0.4933	100	1697299.00	0.5310	200	3548061.00	0.5215
Bromoform	50.0	224793.000	0.1832	100	475001.000	0.1833	200	986420.000	0.1826
Chlorobenzene	50.0	1205287.00	0.9822	100	2570608.00	0.9921	200	5252496.00	0.9725
Chloromethane	50.0	800599.000	0.5815	100	1641315.00	0.5135	200	3463165.00	0.5090
Bromomethane	50.0	211358.000	0.1535	100	497533.000	0.1557	200	1133793.00	0.1666
Methylene Chloride	50.0	356592.000	0.2590	100	801579.000	0.2508	200	1675369.00	0.2462
Trichloroethene	50.0	456985.000	0.3319	100	1058279.00	0.3311	200	2244230.00	0.3298
Trichlorofluoromethane	50.0	599969.000	0.4358	100	1511793.00	0.4730	200	3207777.00	0.4715

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Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L10100650
Analytical Method: 8260B

Instrument ID: HPMS6
Initial Calibration Date: 28-OCT-10 14:02
Column ID: F

Analyte	WG346949-11		
	CONC	RESP	RF
Chloroform	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	NA	NA
1,1-Dichloroethane	NA	NA	NA
Bromoform	NA	NA	NA
Chlorobenzene	NA	NA	NA
Chloromethane	NA	NA	NA
Bromomethane	NA	NA	NA
Methylene Chloride	NA	NA	NA
Trichloroethene	NA	NA	NA
Trichlorofluoromethane	NA	NA	NA

INT_CAL - Modified 03/06/2008
PDF File ID: 1834695
Report generated 11/11/2010 10:40

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L10100650 Run Date: 10/29/2010 Sample ID: WG347091-12
Instrument ID: HPMS10 Run Time: 19:17 Method: 8260B
File ID: 10M83115 Analyst: TMB QC Key: ASHLAND
ICal Workgroup: WG347091 Cal ID: HPMS10 - 29-OCT-10

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloroform	CCC	50.0	47.9	ug/L	0.453	4.30	25	
Chloromethane	SPCC	50.0	45.5	ug/L	0.913	8.90	25	
1,1,2,2-Tetrachloroethane	SPCC	50.0	49.4	ug/L	0.598	1.20	25	
Chlorobenzene	SPCC	50.0	47.0	ug/L	0.875	6.10	25	
1,1-Dichloroethane	SPCC	50.0	47.2	ug/L	0.663	5.60	25	
Bromoform	SPCC	50.0	50.9	ug/L	0.177	1.70	25	
Bromomethane		50.0	47.5	ug/L	0.119	5.00	25	
Methylene Chloride		50.0	47.4	ug/L	0.262	5.10	25	
Trichloroethene		50.0	47.7	ug/L	0.233	4.60	25	
Trichlorofluoromethane		50.0	51.9	ug/L	0.412	3.80	25	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L10100650 Run Date: 10/28/2010 Sample ID: WG346949-12
Instrument ID: HPMS6 Run Time: 15:04 Method: 8260B
File ID: 6M94948 Analyst: MES QC Key: ASHLAND
ICal Workgroup: WG346949 Cal ID: HPMS6 - 28-OCT-10

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloroform	CCC	50.0	48.7	ug/L	0.428	2.50	25	
Chloromethane	SPCC	50.0	45.3	ug/L	0.527	9.40	25	
1,1,2,2-Tetrachloroethane	SPCC	50.0	48.8	ug/L	0.363	2.50	25	
Chlorobenzene	SPCC	50.0	48.6	ug/L	0.943	2.80	25	
1,1-Dichloroethane	SPCC	50.0	47.8	ug/L	0.473	4.40	25	
Bromoform	SPCC	50.0	49.5	ug/L	0.170	1.00	25	
Bromomethane		50.0	48.5	ug/L	0.147	3.10	25	
Methylene Chloride		50.0	46.3	ug/L	0.243	7.40	25	
Trichloroethene		50.0	49.7	ug/L	0.312	0.600	25	
Trichlorofluoromethane		50.0	50.5	ug/L	0.436	0.900	25	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L10100650 Run Date: 10/30/2010 Sample ID: WG347228-02
Instrument ID: HPMS10 Run Time: 13:11 Method: 8260B
File ID: 10M83121 Analyst: MES QC Key: ASHLAND
Workgroup (AAB#): WG347229 Cal ID: HPMS10 - 29-OCT-10
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	50.6	ug/L	0.479	1.14	20	
1,1-Dichloroethene	CCC	50.0	53.3	ug/L	0.241	6.56	20	
1,2-Dichloropropane	CCC	50.0	50.3	ug/L	0.394	0.578	20	
Ethylbenzene	CCC	50.0	51.9	ug/L	0.507	3.82	20	
Toluene	CCC	50.0	50.4	ug/L	1.42	0.809	20	
Vinyl Chloride	CCC	50.0	42.6	ug/L	0.481	14.9	20	
Chloromethane	SPCC	50.0	41.7	ug/L	0.837	16.5	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	43.9	ug/L	0.532	12.2	20	
1,1-Dichloroethane	SPCC	50.0	49.8	ug/L	0.699	0.425	20	
Bromoform	SPCC	50.0	48.6	ug/L	0.169	2.77	20	
Chlorobenzene	SPCC	50.0	49.0	ug/L	0.914	1.99	20	
Bromomethane		50.0	56.0	ug/L	0.140	12.0	20	
Methylene Chloride		50.0	48.8	ug/L	0.269	2.48	20	
Trichloroethene		50.0	51.1	ug/L	0.250	2.13	20	
Trichlorofluoromethane		50.0	53.7	ug/L	0.426	7.32	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 1824293
Report generated 11/11/2010 10:40

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L10100650 Run Date: 10/31/2010 Sample ID: WG347259-02
Instrument ID: HPMS6 Run Time: 13:21 Method: 8260B
File ID: 6M95045 Analyst: MES QC Key: ASHLAND
Workgroup (AAB#): WG347260 Cal ID: HPMS6 - 28-OCT-10
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	50.5	ug/L	0.443	1.04	20	
1,1-Dichloroethene	CCC	50.0	52.3	ug/L	0.434	4.54	20	
1,2-Dichloropropane	CCC	50.0	48.0	ug/L	0.268	3.92	20	
Ethylbenzene	CCC	50.0	50.2	ug/L	0.482	0.415	20	
Toluene	CCC	50.0	50.7	ug/L	1.29	1.46	20	
Vinyl Chloride	CCC	50.0	46.0	ug/L	0.349	8.01	20	
Chloromethane	SPCC	50.0	44.1	ug/L	0.513	11.8	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	48.2	ug/L	0.359	3.50	20	
1,1-Dichloroethane	SPCC	50.0	50.6	ug/L	0.500	1.18	20	
Bromoform	SPCC	50.0	51.4	ug/L	0.176	2.83	20	
Chlorobenzene	SPCC	50.0	48.7	ug/L	0.945	2.59	20	
Bromomethane		50.0	56.7	ug/L	0.171	13.3	20	
Methylene Chloride		50.0	47.1	ug/L	0.247	5.88	20	
Trichloroethene		50.0	48.8	ug/L	0.306	2.36	20	
Trichlorofluoromethane		50.0	53.8	ug/L	0.464	7.53	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 1824293
Report generated 11/11/2010 10:40

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L10100650 Run Date: 11/01/2010 Sample ID: WG347278-02
Instrument ID: HPMS6 Run Time: 08:34 Method: 8260B
File ID: 6M95071 Analyst: MES QC Key: ASHLAND
Workgroup (AAB#): WG347279 Cal ID: HPMS6 - 28-OCT-10
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	52.5	ug/L	0.461	5.09	20	
1,1-Dichloroethene	CCC	50.0	56.1	ug/L	0.466	12.2	20	
1,2-Dichloropropane	CCC	50.0	49.1	ug/L	0.274	1.78	20	
Ethylbenzene	CCC	50.0	51.9	ug/L	0.498	3.86	20	
Toluene	CCC	50.0	53.1	ug/L	1.35	6.27	20	
Vinyl Chloride	CCC	50.0	47.9	ug/L	0.364	4.22	20	
Chloromethane	SPCC	50.0	49.2	ug/L	0.573	1.53	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	45.4	ug/L	0.338	9.30	20	
1,1-Dichloroethane	SPCC	50.0	52.8	ug/L	0.523	5.62	20	
Bromoform	SPCC	50.0	48.6	ug/L	0.167	2.71	20	
Chlorobenzene	SPCC	50.0	49.4	ug/L	0.959	1.16	20	
Bromomethane		50.0	52.6	ug/L	0.159	5.17	20	
Methylene Chloride		50.0	48.0	ug/L	0.252	3.94	20	
Trichloroethene		50.0	50.5	ug/L	0.316	0.936	20	
Trichlorofluoromethane		50.0	58.6	ug/L	0.506	17.1	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 1824293
Report generated 11/11/2010 10:40

Microbac Laboratories Inc.

INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L10100650
Instrument ID: HPMS6
Workgroup (AAB#): WG347260

ICAL CCV Number: WG346949-08
CAL ID: HPMS6-28-OCT-10
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG346949-08	NA	NA	347179	613551	688406
Upper Limit	NA	NA	694358	1227102	1376812
Lower Limit	NA	NA	173590	306776	344203
L10100650-08	1.00	01	266891	507699	601073
L10100650-10	1000	DL01	253087	490380	587425
L10100650-11	50.0	DL01	259954	490651	583615
L10100650-16	1.00	01	290459	556783	630575
WG347260-01	1.00	01	302606	567755	676649
WG347260-02	1.00	01	330149	590003	718505
WG347260-03	1.00	01	333189	602109	695928

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 1834697
Report generated 11/11/2010 10:40

Microbac Laboratories Inc.

INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L10100650
Instrument ID: HPMS6
Workgroup (AAB#): WG347279

ICAL CCV Number: WG346949-08
CAL ID: HPMS6-28-OCT-10
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG346949-08	NA	NA	347179	613551	688406
Upper Limit	NA	NA	694358	1227102	1376812
Lower Limit	NA	NA	173590	306776	344203
L10100650-10	5000	DL02	270918	513351	599401
L10100650-11	5.00	DL02	275382	517426	621647
WG347279-01	1.00	01	280166	542502	605055
WG347279-02	1.00	01	317607	560817	622745

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 1834697
Report generated 11/11/2010 10:40

Microbac Laboratories Inc.

INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L10100650
Instrument ID: HPMS10
Workgroup (AAB#): WG347229

ICAL CCV Number: WG347091-08
CAL ID: HPMS10-29-OCT-10
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG347091-08	NA	NA	299181	552204	760341
Upper Limit	NA	NA	598362	1104408	1520682
Lower Limit	NA	NA	149591	276102	380171
L10100650-01	1.00	01	258964	530373	747982
L10100650-02	1.00	01	249533	517616	723967
L10100650-03	1.00	01	243804	502799	699517
L10100650-04	1.00	01	243005	502946	685754
L10100650-05	1.00	01	232801	487926	685513
L10100650-06	1.00	01	231609	484175	673615
L10100650-07	1.00	01	234068	480051	668811
L10100650-09	1.00	01	247371	514731	709070
L10100650-12	1.00	01	276383	543892	740270
L10100650-13	1.00	01	286196	546776	745515
L10100650-14	1.00	01	227572	474292	661562
L10100650-15	1.00	01	224571	474281	659277
WG347229-01	1.00	01	304351	643224	880165
WG347229-02	1.00	01	341894	647957	894388

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 1834697
Report generated 11/11/2010 10:40

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY

(COMPARED TO MIDPOINT OF ICAL)

Login Number: L10100650

Instrument ID: HPMS6

Workgroup (AAB#): WG347260

ICAL CCV Number: WG346949-08

CAL ID: HPMS6-28-OCT-10

Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG346949-08	NA	NA	19.21	15.64	11.13
Upper Limit	NA	NA	19.71	16.14	11.63
Lower Limit	NA	NA	18.71	15.14	10.63
L10100650-08	1.00	01	19.21	15.64	11.13
L10100650-10	1000	DL01	19.21	15.64	11.13
L10100650-11	50.0	DL01	19.21	15.64	11.13
L10100650-16	1.00	01	19.21	15.64	11.13
WG347260-01	1.00	01	19.22	15.64	11.13
WG347260-02	1.00	01	19.21	15.64	11.13
WG347260-03	1.00	01	19.22	15.64	11.13

IS-1 - 1,4-Dichlorobenzene-d4

IS-2 - Chlorobenzene-d5

IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008

PDF File ID: 1834698

Report generated: 11/11/2010 10:40

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY

(COMPARED TO MIDPOINT OF ICAL)

Login Number: L10100650

Instrument ID: HPMS6

Workgroup (AAB#): WG347279

ICAL CCV Number: WG346949-08

CAL ID: HPMS6-28-OCT-10

Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG346949-08	NA	NA	19.21	15.64	11.13
Upper Limit	NA	NA	19.71	16.14	11.63
Lower Limit	NA	NA	18.71	15.14	10.63
L10100650-10	5000	DL02	19.22	15.64	11.13
L10100650-11	5.00	DL02	19.22	15.64	11.13
WG347279-01	1.00	01	19.21	15.64	11.13
WG347279-02	1.00	01	19.21	15.64	11.13

IS-1 - 1,4-Dichlorobenzene-d4

IS-2 - Chlorobenzene-d5

IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008

PDF File ID: 1834698

Report generated: 11/11/2010 10:40

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY

(COMPARED TO MIDPOINT OF ICAL)

Login Number: L10100650

Instrument ID: HPMS10

Workgroup (AAB#): WG347229

ICAL CCV Number: WG347091-08

CAL ID: HPMS10-29-OCT-10

Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG347091-08	NA	NA	16.62	13.83	10.21
Upper Limit	NA	NA	17.12	14.33	10.71
Lower Limit	NA	NA	16.12	13.33	9.71
L10100650-01	1.00	01	16.62	13.83	10.21
L10100650-02	1.00	01	16.62	13.83	10.21
L10100650-03	1.00	01	16.62	13.83	10.21
L10100650-04	1.00	01	16.61	13.82	10.22
L10100650-05	1.00	01	16.62	13.83	10.21
L10100650-06	1.00	01	16.62	13.83	10.21
L10100650-07	1.00	01	16.62	13.83	10.21
L10100650-09	1.00	01	16.62	13.83	10.21
L10100650-12	1.00	01	16.62	13.83	10.21
L10100650-13	1.00	01	16.62	13.83	10.21
L10100650-14	1.00	01	16.62	13.82	10.22
L10100650-15	1.00	01	16.62	13.83	10.21
WG347229-01	1.00	01	16.62	13.83	10.21
WG347229-02	1.00	01	16.62	13.82	10.22

IS-1 - 1,4-Dichlorobenzene-d4

IS-2 - Chlorobenzene-d5

IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008

PDF File ID: 1834698

Report generated: 11/11/2010 10:40

3.0 Attachments

Microbac Laboratories Inc.
Analyst Listing
November 11, 2010

ADC – ANTHONY D. CANTER	AJF – AMANDA J. FICKIESEN	ALB – ANNIE L. BROWN
ALV – AMY L. VALENTINE	AML – TONY M. LONG	AZH – AFTER HOURS
BLG – BRENDA L. GREENWALT	BRG – BRENDA R. GREGORY	CAA – CASSIE A. AUGENSTEIN
CAF – CHERYL A. FLOWERS	CEB – CHAD E. BARNES	CLC – CHRYS L. CRAWFORD
CLS – CARA L. STRICKLER	CLW – CHARISSA L. WINTERS	CPD – CHAD P. DAVIS
CSH – CHRIS S. HILL	DDE – DEBRA D. ELLIOTT	DEL – DON E. LIGHTFRITZ
DEV – DAVID E. VANDENBERG	DGB – DOUGLAS G. BUTCHER	DIH – DEANNA I. HESSON
DLB – DAVID L. BUMGARNER	DLP – DOROTHY L. PAYNE	DLR – DIANNA L. RAUCH
ECL – ERIC C. LAWSON	EDA – ERIN D. AGEE	ERP – ERIN R. PORTER
FJB – FRANCES J. BOLDEN	HAV – HEMA VILASAGAR	HJR – HOLLY J. REED
JAL – JOHN A. LENT	JBK – JEREMY B. KINNEY	JDH – JUSTIN D. HESSON
JKT – JANE K. THOMPSON	JWR – JOHN W. RICHARDS	JWS – JACK W. SHEAVES
JYH – JI Y. HU	KEB – KATIE E. BARNES	KHR – KIM H. RHODES
KRA – KATHY R. ALBERTSON	LKN – LINDA K. NEDEFF	LSB – LESLIE S. BUCINA
MDA – MIKE D. ALBERTSON	MDC – MIKE D. COCHRAN	MES – MARY E. SCHILLING
MMB – MAREN M. BEERY	MRT – MICHELLE R. TAYLOR	MSW – MATT S. WILSON
PDM – PIERCE D. MORRIS	PWD – PAUL W. DENT	RAH – ROY A. HALSTEAD
RB – BOB BUCHANAN	REK – BOB E. KYER	RLK – ROBIN L. KLINGER
RWC – RODNEY W. CAMPBELL	SLM – STEPHANIE L. MOSSBURG	SLP – SHERI L. PFALZGRAF
TIP – TAE I. PARRISH	TMB – TIFFANY M. BAILEY	TMM – TAMMY M. MORRIS
VC – VICKI COLLIER	WJB – WILL J. BEASLEY	WTD – WADE T. DELONG

Microbac Laboratories Inc.
List of Valid Qualifiers
November 11, 2010

Qualkey: CLP

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Result is greater than the associated numerical value.
A	See the report narrative
B	Analyte present in method blank
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
B4	The BOD unseeded dilution water blank exceeded 0.2 mg/L
C	Confirmed by GC/MS
CG	Confluent growth
DL	Surrogate or spike compound was diluted out
E	Semiquantitative result (out of instrument calibration range)
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
FL	Free Liquid
H1	Sample analysis performed past holding time.
I	Semiquantitative result (out of instrument calibration range)
J	Estimated concentration.
J	The analyte was positively identified, but the quantitation was below the RL.
J,B	Analyte detected in both the method blank and sample above the MDL.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Tentatively identified compound(TIC)
NA	Not applicable
ND	Not detected at or above the reporting limit (RL).
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TIC	Library Search Compound
TNTC	Too numerous to count
U	Not detected at or above the reporting limit (RL).
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
UJ	Undetected; the analyte was analyzed for, but not detected.
UQ	Undetected; the analyte was analyzed for, but not detected.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below

*****Special Notes for Organic Analytes**

1. Acrolein and acrylonitrile by method 624 are semi-quantitative screens only.
2. 1,2-Diphenylhydrazine is unstable and is reported as azobenzene.
3. N-nitrosodiphenylamine cannot be separated from diphenylamine.
4. 3-Methylphenol and 4-Methylphenol are unresolvable compounds.
5. m-Xylene and p-Xylene are unresolvable compounds.
6. The reporting limits for Appendix II/IX compounds by method 8270 are based on EPA estimated PQLs referenced in 40 CFR Part 264, Appendix IX. They are not always achievable for every compound an are matrix dependent.

COC No. A 21203

158 Starlite Drive
Marietta, OH 45750

Microbac

CHAIN-OF-CUSTODY RECORD

Phone: 740-373-4071
Fax: 740-373-4835

Company Name: CH2MHILL

Project Contact: Bernice Kidd | Contact Phone #: 530-229-3203

Turn Around Requirements: ST | Location: Ashland, OH

Project ID: Dow Ashland

Sampler (print): Dawit Tecle | Signature: Dawit

Program: ☐ CWA ☐ RCRA ☐ DOD ☐ AFCEE ☐ Other _____

Sample I.D. No.	Comp	Grab	Date	Time	Matrix*	NUMBER OF CONTAINERS	Hold	VOCs	TOTAL # (LAB USE)	ADDITIONAL REQUIREMENTS
MW21GW2434-102110			10/21/10	1555	GW	3		X		
MW19GW1828-102110				1100		3		X		
MW12GW1424-102110				1425		3		X		
MW22GW2535-102110				1405		3		X		
MW10GW1732-102110				1220		3		X		
MW09GW1424-102110				1140		3		X		
MW23GW3090-102110				1510		3		X		
MW20GW2333-102210				1645		3		X		
MW18GW3035-102210			10/22/10	0900		3		X		
MW16GW1020-102210			"	1010		3		X		
MW11GW0919-102210			"	0930		3		X		
MW18GW3035-102210-MS/MSD			"	0900		3		X		
FD01-102110			10/21/10	—		3		X		
FD02-102110			10/21/10	—		3		X		
TRIPBLANK-102210			10/22/10	—	GW	2		X		

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Dawit Tecle	10/22/10	1200pm			
Relinquished by: (Signature)	Date	Time			

Microbac OVD
Received: 10/23/2010 08:55
By: ROBIN KLINGER
Robin L. Klinger

221000009813

Remarks:

*Water (W), Soil (S), Solid Waste (SD), Unknown (X)

Page _____ of _____

1000009813

COOLER INSPECTION

Received: 10/23/2010 08:55
Delivery Method: FedEx
Opened By: Robin Klinger
Comments:

Login(s): L10100650|

Cooler(s)

Cooler #	Temp Gun	Temp	Tracking #	COC #	Comments
0013631	H	4.0	345750981100004186436334705720006	COC21203	

1	Yes	Were shipping coolers sealed?
2	Yes	Were custody seals intact?
3	Yes	Were cooler temperatures in range of 0-6?
4	Yes	Was ice present?
5	Yes	Were COC's received/information complete/signed and dated?
6	Yes	Were sample containers and labels intact and match COC?
7	Yes	Were the correct containers and volumes received?
8	Yes	Were samples received within EPA hold times?
9	Yes	Were correct perservatives used? (water only)
10	NA	Were pH ranges acceptable? (voa's excluded)
11	Yes	Were VOA samples free of headspace (less than 6mm)?

Discrepancies:

Microbac - Ohio Valley Division
158 Starlite Drive
Marietta, OH 45750
Tel: (740)373-4071 Fax: (740)373-4835

Internal Chain of Custody Report

Login: L10100650
Account: 2736
Project: 2736.059
Samples: 16
Due Date: 08-NOV-2010

Samplenum	Container ID	Products
L10100650-01	755754	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:24	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:24	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:24	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Samplenum	Container ID	Products
L10100650-02	755755	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	ORG4	25-OCT-2010 14:24	JKT	
2	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:24	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:24	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Internal Chain of Custody Report

Login: L10100650
Account: 2736
Project: 2736.059
Samples: 16
Due Date: 08-NOV-2010

Samplenum	Container ID	Products
L10100650-03	755756	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:24	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:24	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:24	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Samplenum	Container ID	Products
L10100650-04	755757	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:24	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:24	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:24	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Internal Chain of Custody Report

Login: L10100650
Account: 2736
Project: 2736.059
Samples: 16
Due Date: 08-NOV-2010

Samplenum	Container ID	Products
L10100650-05	755758	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:24	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:25	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	ORG4	25-OCT-2010 14:24	JKT	
2	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Samplenum	Container ID	Products
L10100650-06	755759	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	ORG4	25-OCT-2010 14:24	JKT	
2	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:25	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:25	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Internal Chain of Custody Report

Login: L10100650
Account: 2736
Project: 2736.059
Samples: 16
Due Date: 08-NOV-2010

Samplenum	Container ID	Products
L10100650-07	755760	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:25	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:25	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:25	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Samplenum	Container ID	Products
L10100650-08	755761	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:25	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:25	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:25	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Internal Chain of Custody Report

Login: L10100650
Account: 2736
Project: 2736.059
Samples: 16
Due Date: 08-NOV-2010

Samplenum	Container ID	Products
L10100650-09	755762	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:25	FJB	JKT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:25	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:25	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Samplenum	Container ID	Products
L10100650-10	755763	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:25	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:25	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:25	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Internal Chain of Custody Report

Login: L10100650
Account: 2736
Project: 2736.059
Samples: 16
Due Date: 08-NOV-2010

Samplenum	Container ID	Products
L10100650-11	755764	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:25	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:25	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:25	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Samplenum	Container ID	Products
L10100650-12	755765	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	ORG4	25-OCT-2010 14:24	JKT	
2	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:25	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Samplenum	Container ID	Products
L10100650-13	755766	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:25	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Internal Chain of Custody Report

Login: L10100650
Account: 2736
Project: 2736.059
Samples: 16
Due Date: 08-NOV-2010

Samplenum	Container ID	Products
L10100650-14	755767	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:25	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:25	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:25	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Samplenum	Container ID	Products
L10100650-15	755768	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:25	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:20	JKT	MRT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:25	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:25	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Internal Chain of Custody Report

Login: L10100650
Account: 2736
Project: 2736.059
Samples: 16
Due Date: 08-NOV-2010

Samplenum	Container ID	Products
L10100650-16	755769	826-SPE1

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:25	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	25-OCT-2010 14:24	JKT	
2	ANALYZ	V1	ORG4	25-OCT-2010 18:25	FJB	JKT
3	STORE	ORG4	A2	08-NOV-2010 09:21	JKT	MRT

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER		25-OCT-2010 14:24	JKT	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Appendix C
Data Quality Evaluation Reports

Dow Former General Latex and Chemical Corporation Site, Ashland, Ohio
Groundwater Investigation
Data Quality Evaluation

Introduction

The objective of this Data Quality Evaluation (DQE) report is to assess the data quality of analytical results for groundwater samples collected from the Dow Former General Latex and Chemical Corporation Site located in Ashland, Ohio. CH2M HILL collected samples March 30-31, 2010. Guidance for this DQE report came from the *Quality Assurance Project Plan (QAPP), Former General Latex and Chemical Corporation Site, Ashland, Ohio, RCRA Facility Investigation (August 2008);* the *U.S. Environmental Protection Agency (USEPA) Contract Laboratory National Functional Guidelines (NFG) for Organic Review, October 1999;* and, individual method requirements.

The analytical results were evaluated using the criteria of precision, accuracy, representativeness, comparability and completeness (PARCC) as presented in the QAPP. This report is intended as a general data quality assessment designed to summarize data issues.

Analytical Data

This DQE report covers 12 groundwater samples, 2 field duplicates (FD) and 2 trip blanks (TB). A list of samples included in this DQE is included as Attachment A. The samples were reported in two sample delivery groups identified as L10030759 and L10040012. The analyses were performed by Microbac Laboratories, Inc. (MCBM) in Marietta, Ohio. Samples were collected and shipped by overnight carrier to the laboratory for analysis. The samples were analyzed by the method listed in Table 1.

TABLE 1
Analytical Parameters
Groundwater Investigation, Former General Latex and Chemical Corporation Site, Ashland, Ohio

Parameter	Method	Laboratory
Volatile Organic Compounds (VOC)	SW8260B	MCBM

The sample delivery groups were assessed by reviewing the following: (1) the chain of custody documentation; (2) holding-time compliance; (3) initial and continuing calibration criteria; (4) method blanks/field blanks; (5) laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries; (6) matrix spike/matrix spike duplicate (MS/MSD) recoveries; (7) surrogate spike recoveries; (8) FD precision; (9) internal standard recoveries; and, (10) the required quality control (QC) samples at the specified frequencies.

Data flags were assigned according to the QAPP. Multiple flags are routinely applied to specific sample method/matrix/analyte combinations, but there will only be one final flag. A final flag is applied to the data and is the most conservative of the applied validation flags. The final flag also includes matrix and blank sample impacts.

The data flags are those listed in the QAPP and are defined below:

- J = The identification of the analyte was acceptable, but the quality assurance criteria indicate that the quantitative values may be outside the normal expected range of precision (i.e. the quantitative value is considered estimated).
- R = The result was rejected. This flag denotes the failure of quality control criteria such that it cannot be determined if the analyte is present or absent in the sample.
- U = The analyte was analyzed for but not detected.
- UJ = The analyte was not detected. However, the reported detection limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

Findings

The overall summaries of the data validation are contained in the following sections and Table 2 below.

Holding Time/Preservation

All acceptance criteria were met.

Calibration

Initial and continuing calibration analyses were performed as required and all acceptance criteria were met with the following exception:

The percent difference for bromomethane was less than method criteria in one continuing calibration verification standard, indicating associated results are possibly biased low. Two associated non-detected results were qualified as estimated and flagged "UJ".

Method Blanks

Method blanks were analyzed at the required frequency and were free of contamination.

Field Blanks

TBs were collected, analyzed and were free of contamination with the following exception:

Methylene chloride was detected at a concentration less than the reporting limit (RL) in one TB. The analytical results were qualified as not detected, raised to the RL, and flagged "U" when the associated sample concentrations were less than ten times the concentration detected in the blank.

Laboratory Control Samples

LCS/LCSDs were analyzed as required and all accuracy and precision criteria were met with the following exception:

Chloromethane was recovered greater than the upper control limit in one LCS, indicating a possible high bias. The data were not qualified because the associated sample did not contain reportable levels of chloromethane.

Matrix Spike

MS/MSD samples were analyzed as required and all accuracy and precision criteria were met.

Internal Standards

All internal standard acceptance criteria were met.

Surrogates

All surrogate acceptance criteria were met.

Field Duplicates

FDs were collected at the required frequency, analyzed and all precision criteria were met.

Chain of Custody

Required procedures were followed and were free of errors.

Overall Assessment

The goal of this assessment is to demonstrate that a sufficient number of representative samples were collected and the resulting analytical data can be used to support the decision making process. The following summary highlights the PARCC findings for the above-defined events:

Precision of the data was verified through the review of the field and laboratory data quality indicators that include: FD, LCS/LCSD and MS/MSD RPDs. Precision was acceptable.

Accuracy of the data was verified through the review of the calibration data, LCS/LCSD, MS/MSD, internal standards and surrogate standard recoveries. Accuracy was generally acceptable with the exception of bromomethane which was qualified as estimated in two samples due to calibration issues. Data users should consider the impact to any result that is qualified as estimated as it may contain a bias which could affect the decision-making process.

Representativeness of the data was verified through the samples' collection, storage and preservation procedures, verification of holding-time compliance and the evaluation of method/field blank data. The laboratory did not note any issues related to sample preservation or storage of the samples. All samples were analyzed within the EPA-

recommended holding time. Methylene chloride was qualified as not detected in two samples due to trip blank contamination.

Comparability of the data was verified through the use of standard EPA analytical procedures and standard units for reporting. Results obtained are comparable to industry standards in that the collection and analytical techniques followed approved, documented procedures.

Completeness is a measure of the number of valid measurements obtained in relation to the total number of measurements planned. Completeness is expressed as the percentage of valid or usable measurements compared to planned measurements. Valid data are defined as all data that are not rejected for project use. All data were considered valid. The completeness goal was met for all compounds.

Table 2 - Validation Flags

NativeID	Method	Analyte	Units	Final Result	Final Flag	Validation Reason
FD01-033010	SW8260B	Methylene chloride	ug/L	5	U	TB<RL
MW06GW1020-033110	SW8260B	Bromomethane	ug/L	10	UJ	CCV<LCL
MW16GW1020-033110	SW8260B	Bromomethane	ug/L	10000	UJ	CCV<LCL
MW21GW2434-033010	SW8260B	Methylene chloride	ug/L	5	U	TB<RL

Notes:

CCV<LCL= Continuing calibration verification recovery was less than method criteria
TB<RL = Trip blank concentration less than the reporting limit

Attachment A

Samples Associated with DQE		
Field ID	**Sample Date**	**QAQC Type**
FD01-033010	30-Mar-10	FD
FD02-033110	31-Mar-10	FD
MW06GW1020-033110	31-Mar-10	N
MW09GW1424-033110	31-Mar-10	N
MW10GW1732-033110	31-Mar-10	N
MW11GW0919-033110	31-Mar-10	N
MW12GW1424-033110	31-Mar-10	N
MW16GW1020-033110	31-Mar-10	N
MW18GW3035-033010	30-Mar-10	N
MW19GW1828-033110	31-Mar-10	N
MW20GW2333-033010	30-Mar-10	N
MW21GW2434-033010	30-Mar-10	N
MW22GW2535-033110	31-Mar-10	N
MW23GW3040-033110	31-Mar-10	N
TRIP BLANK-033010	30-Mar-10	TB
TRIP BLANK-033110	31-Mar-10	TB

Notes:
FD = field duplicate
N = normal sample
TB = trip blank

Dow Former General Latex and Chemical Corporation Site, Ashland, Ohio
Groundwater Investigation
Data Quality Evaluation

Introduction

The objective of this Data Quality Evaluation (DQE) report is to assess the data quality of analytical results for groundwater samples collected from the Dow Former General Latex and Chemical Corporation Site located in Ashland, Ohio. CH2M HILL collected samples October 21-22, 2010. Guidance for this DQE report came from the *Quality Assurance Project Plan (QAPP), Former General Latex and Chemical Corporation Site, Ashland, Ohio, RCRA Facility Investigation (August 2008);* the *U.S. Environmental Protection Agency (USEPA) Contract Laboratory National Functional Guidelines for Organic Review, October 1999;* and, individual method requirements.

The analytical results were evaluated using the criteria of precision, accuracy, representativeness, comparability and completeness (PARCC) as presented in the QAPP. This report is intended as a general data quality assessment designed to summarize data issues.

Analytical Data

This DQE report covers 11 groundwater samples, two field duplicates (FD) and one trip blank (TB). A list of samples included in this DQE is included as Attachment A. The samples were reported in one sample delivery group identified as L10100650. The analyses were performed by Microbac Laboratories, Inc. (MCBM) in Marietta, Ohio. Samples were collected and shipped by overnight carrier to the laboratory for analysis. The samples were analyzed by the method listed in Table 1.

TABLE 1
Analytical Parameters
Groundwater Investigation, Former General Latex and Chemical Corporation Site, Ashland, Ohio

Parameter	Method	Laboratory
Volatile Organic Compounds	SW8260B	MCBM

The sample delivery group was assessed by reviewing the following: (1) the chain of custody documentation; (2) holding-time compliance; (3) initial and continuing calibration criteria; (4) method blanks/field blanks; (5) laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries; (6) matrix spike/matrix spike duplicate (MS/MSD) recoveries; (7) surrogate spike recoveries; (8) FD precision; (9) internal standard recoveries; and, (10) the required quality control samples at the specified frequencies.

Data flags were assigned according to the QAPP. Multiple flags are routinely applied to specific sample method/matrix/analyte combinations, but there will only be one final flag. A final flag is applied to the data and is the most conservative of the applied validation flags. The final flag also includes matrix and blank sample impacts.

The data flags are those listed in the QAPP and are defined below:

- J = The identification of the analyte was acceptable, but the quality assurance criteria indicate that the quantitative values may be outside the normal expected range of precision (i.e. the quantitative value is considered estimated).
- R = The result was rejected. This flag denotes the failure of quality control criteria such that it cannot be determined if the analyte is present or absent in the sample.
- U = The analyte was analyzed for but not detected.
- UJ = The analyte was not detected. However, the reported detection limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

Findings

The overall summaries of the data validation are contained in the following sections and Table 2 below.

Holding Time/Preservation

All acceptance criteria were met.

Calibration

Initial and continuing calibration analyses were performed as required and all acceptance criteria were met.

Method Blanks

Method blanks were analyzed at the required frequency and were free of contamination with the following exceptions:

Methylene chloride was detected below the reporting limit (RL) in several method blanks. Twelve associated samples were detected less than 10 times the blank concentration after correction for dilution factor. The analytical results were qualified as not detected, raised to the RL, and flagged "U".

Field Blanks

A TB was collected, analyzed and was free of contamination with the following exception:

Methylene chloride was detected below the RL in the TB. Twelve associated samples were detected less than 10 times the blank concentration after correction for dilution factor. The analytical results were qualified as not detected, raised to the RL, and flagged "U".

Laboratory Control Samples

LCS/LCSDs were analyzed as required and all accuracy and precision criteria were met.

Matrix Spike

MS/MSD samples were analyzed as required and all accuracy and precision criteria were met.

Internal Standards

All internal standard acceptance criteria were met.

Surrogates

All surrogate acceptance criteria were met.

Field Duplicates

FDs were collected at the required frequency, analyzed and all precision criteria were met.

Chain of Custody

Required procedures were followed and were free of errors.

Overall Assessment

The goal of this assessment is to demonstrate that a sufficient number of representative samples were collected and the resulting analytical data can be used to support the decision making process. The following summary highlights the PARCC findings for the above-defined events:

Precision of the data was verified through the review of the field and laboratory data quality indicators that include: FD, LCS/LCSD and MS/MSD relative percent differences. Precision was acceptable.

Accuracy of the data was verified through the review of the calibration data, LCS/LCSD, MS/MSD, internal standards and surrogate standard recoveries. Accuracy was acceptable.

Representativeness of the data was verified through the samples' collection, storage and preservation procedures, verification of holding-time compliance and the evaluation of method/field blank data. The laboratory did not note any issues related to sample preservation or storage of the samples. All samples were analyzed within the USEPA-recommended holding time. Methylene chloride was qualified as not detected in 12 samples due to method blank and TB contamination.

Comparability of the data was verified through the use of standard USEPA analytical procedures and standard units for reporting. Results obtained are comparable to industry standards in that the collection and analytical techniques followed approved, documented procedures.

Completeness is a measure of the number of valid measurements obtained in relation to the total number of measurements planned. Completeness is expressed as the percentage of valid or usable measurements compared to planned measurements. Valid data are defined as all data that are not rejected for project use. All data were considered valid. The completeness goal was met for all compounds.

Table 2 - Validation Flags

NativeID	Method	Analyte	Final Result	Units	Final Flag	Validation Reason
FD01-102110	SW8260B	Methylene chloride	5	ug/L	U	LB<RL
FD01-102110	SW8260B	Methylene chloride	5	ug/L	U	TB<RL
FD02-102110	SW8260B	Methylene chloride	5	ug/L	U	TB<RL
FD02-102110	SW8260B	Methylene chloride	5	ug/L	U	LB<RL
MW09GW1424-102110	SW8260B	Methylene chloride	5	ug/L	U	TB<RL
MW09GW1424-102110	SW8260B	Methylene chloride	5	ug/L	U	LB<RL
MW11GW0919-102210	SW8260B	Methylene chloride	25	ug/L	U	LB<RL
MW11GW0919-102210	SW8260B	Methylene chloride	25	ug/L	U	TB<RL
MW12GW1424-102110	SW8260B	Methylene chloride	5	ug/L	U	LB<RL
MW12GW1424-102110	SW8260B	Methylene chloride	5	ug/L	U	TB<RL
MW16GW1020-102210	SW8260B	Methylene chloride	5000	ug/L	U	TB<RL
MW16GW1020-102210	SW8260B	Methylene chloride	5000	ug/L	U	LB<RL
MW18GW3035-102210	SW8260B	Methylene chloride	5	ug/L	U	LB<RL
MW18GW3035-102210	SW8260B	Methylene chloride	5	ug/L	U	TB<RL
MW19GW1828-102110	SW8260B	Methylene chloride	5	ug/L	U	LB<RL
MW19GW1828-102110	SW8260B	Methylene chloride	5	ug/L	U	TB<RL
MW20GW2333-102110	SW8260B	Methylene chloride	5	ug/L	U	LB<RL
MW20GW2333-102110	SW8260B	Methylene chloride	5	ug/L	U	TB<RL
MW21GW2434-102110	SW8260B	Methylene chloride	5	ug/L	U	TB<RL
MW21GW2434-102110	SW8260B	Methylene chloride	5	ug/L	U	LB<RL
MW22GW2535-102110	SW8260B	Methylene chloride	5	ug/L	U	TB<RL
MW22GW2535-102110	SW8260B	Methylene chloride	5	ug/L	U	LB<RL
MW23GW3040-102110	SW8260B	Methylene chloride	5	ug/L	U	LB<RL
MW23GW3040-102110	SW8260B	Methylene chloride	5	ug/L	U	TB<RL

Notes:

LB<RL = Method blank concentration less than the reporting limit
TB<RL = Trip blank concentration less than the reporting limit

Attachment A

Samples Associated with DQE		
Field ID	**Sample Date**	**QAQC Type**
FD01-102110	10/21/2010	FD
FD02-102110	10/21/2010	FD
MW09GW1424-102110	10/21/2010	N
MW10GW1732-102110	10/21/2010	N
MW11GW0919-102210	10/22/2010	N
MW12GW1424-102110	10/21/2010	N
MW16GW1020-102210	10/22/2010	N
MW18GW3035-102210	10/22/2010	N
MW19GW1828-102110	10/21/2010	N
MW20GW2333-102110	10/21/2010	N
MW21GW2434-102110	10/21/2010	N
MW22GW2535-102110	10/21/2010	N
MW23GW3040-102110	10/21/2010	N
TRIP BLANK-102210	10/22/2010	TB

Notes:
FD = field duplicate
N = normal sample
TB = trip blank