

ANALYTICAL RESULTS

Prepared for:

Chevron
5000 State Route 128
HOOVEN OH 45033

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

January 04, 2010

Project: Hooven Barrier Monitoring Network

Samples arrived at the laboratory on Wednesday, December 16, 2009. The PO# for this group is 0015039270 and the release number is 50008931. The group number for this submittal is 1175433.

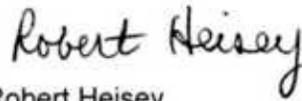
<u>Client Sample Description</u>	<u>Lancaster Labs (LLI) #</u>
MW-136I,121509 Grab Water	5865719
MW-136I,121509 Filtered Grab Water	5865720
BMW-2D,121509 Grab Water	5865721
BMW-2D,121509 Filtered Grab Water	5865722
MW-136S,121509 Grab Water	5865723
MW-136S,121509 Filtered Grab Water	5865724
BD-1,121509 Grab Water	5865725
BD-1,121509 Filtered Grab Water	5865726
Trip Blank,121509 Water	5865727

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	Trihydro Corporation	Attn: Trihydro Database
ELECTRONIC COPY TO	Trihydro Corporation	Attn: Tim Gunn
ELECTRONIC COPY TO	Trihydro Corporation	Attn: Matthew Mitchell

Questions? Contact your Client Services Representative
Katherine A Klinefelter at (717) 656-2300

Respectfully Submitted,



Robert Heisey
Senior Specialist



Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

**Sample Description: MW-136I,121509 Grab Water
Barrier Monitoring Network**

**LLI Sample # WW 5865719
LLI Group # 1175433
OH**

Project Name: Hooven Barrier Monitoring Network

Collected: 12/15/2009 11:30 by JH

Account Number: 11494

Submitted: 12/16/2009 09:35

Chevron

Reported: 01/04/2010 at 07:48

5000 State Route 128

Discard: 03/06/2010

HOOVEN OH 45033

BA136

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles					
	SW-846 8260B		ug/l	ug/l	
06291	Benzene	71-43-2	N.D.	0.5	1
06291	Chlorobenzene	108-90-7	N.D.	0.8	1
06291	Ethylbenzene	100-41-4	N.D.	0.8	1
06291	Toluene	108-88-3	N.D.	0.7	1
06291	Xylene (Total)	1330-20-7	N.D.	0.8	1
GC Miscellaneous					
	SW-846 8000B		ug/l	ug/l	
08097	CO2 by Headspace	124-38-9	7,900 J	4,000	1
GC Miscellaneous					
	SW-846 8015B modified		ug/l	ug/l	
07105	Methane	74-82-8	N.D.	5.0	1
Metals					
	SW-846 6010B		mg/l	mg/l	
01750	Calcium	7440-70-2	75.6	0.0702	1
01754	Iron	7439-89-6	N.D.	0.0522	1
01757	Magnesium	7439-95-4	31.2	0.0172	1
07058	Manganese	7439-96-5	0.442	0.00084	1
01762	Potassium	7440-09-7	4.04	0.239	1
01767	Sodium	7440-23-5	50.3	0.433	1
	SW-846 6010B modified		mg/l	mg/l	
02268	Ferric Iron	n.a.	N.D.	0.052	1
Wet Chemistry					
	EPA 300.0		mg/l	mg/l	
00224	Chloride	16887-00-6	82.8	4.0	20
00228	Sulfate	14808-79-8	60.4	6.0	20
	EPA 351.2		mg/l	mg/l	
00217	Kjeldahl Nitrogen	n.a.	N.D.	0.50	1
	EPA 353.2		mg/l	mg/l	
00220	Nitrate Nitrogen	14797-55-8	2.1	0.040	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	1
	EPA 415.1		mg/l	mg/l	
01550	Total Carbon	n.a.	64.9	2.5	5
06090	Total Inorganic Carbon	n.a.	61.1	2.5	1
00273	Total Organic Carbon	n.a.	3.9	0.50	1
	SM20 2320 B		mg/l as CaCO3	mg/l as CaCO3	
00202	Alkalinity to pH 4.5	n.a.	239	0.46	1
00201	Alkalinity to pH 8.3	n.a.	N.D.	0.46	1

**Sample Description: MW-136I,121509 Grab Water
Barrier Monitoring Network**

**LLI Sample # WW 5865719
LLI Group # 1175433
OH**

Project Name: Hooven Barrier Monitoring Network

Collected: 12/15/2009 11:30 by JH

Account Number: 11494

Submitted: 12/16/2009 09:35

Chevron

Reported: 01/04/2010 at 07:48

5000 State Route 128

Discard: 03/06/2010

HOOVEN OH 45033

BA136

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Wet Chemistry					
		SM20 3500 Fe B modified	mg/l	mg/l	
08344	Ferrous Iron	n.a.	0.024 J	0.010	1
		SM20 4500 S2 D	mg/l	mg/l	
00230	Sulfide	18496-25-8	N.D.	0.054	1
		SM20 4500NH3 B/C modified	mg/l	mg/l	
00221	Ammonia Nitrogen	7664-41-7	N.D.	0.20	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N093552AA	12/21/2009 23:13	Nicholas P Riehl	1
06291	TCL by 8260 (water)	SW-846 8260B	1	N093552AA	12/21/2009 23:13	Nicholas P Riehl	1
08097	CO2 by Headspace	SW-846 8000B	1	093550001A	12/22/2009 07:47	Dustin A Underkoffler	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	093520007A	12/18/2009 14:41	Dustin A Underkoffler	1
01750	Calcium	SW-846 6010B	1	093551848002	12/27/2009 13:24	Damary Valentin	1
01754	Iron	SW-846 6010B	1	093551848002	12/27/2009 13:24	Damary Valentin	1
01757	Magnesium	SW-846 6010B	1	093551848002	12/27/2009 13:24	Damary Valentin	1
07058	Manganese	SW-846 6010B	1	093551848002	12/27/2009 13:24	Damary Valentin	1
01762	Potassium	SW-846 6010B	1	093551848002	12/27/2009 13:24	Damary Valentin	1
01767	Sodium	SW-846 6010B	1	093551848002	12/27/2009 13:24	Damary Valentin	1
02268	Ferric Iron	SW-846 6010B modified	1	093632268001	12/29/2009 12:11	Deborah A Krady	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	093551848002	12/21/2009 23:30	Mirit S Shenouda	1
00224	Chloride	EPA 300.0	1	09358196604A	12/26/2009 00:51	Ashley M Adams	20
00228	Sulfate	EPA 300.0	1	09358196604A	12/26/2009 00:51	Ashley M Adams	20
00217	Kjeldahl Nitrogen	EPA 351.2	1	09351108101A	12/18/2009 10:04	K. Robert Caulfeild-James	1
00220	Nitrate Nitrogen	EPA 353.2	1	09356106101A	12/22/2009 18:05	Venia B McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	09350105101A	12/16/2009 19:29	Venia B McFadden	1
01550	Total Carbon	EPA 415.1	1	09351049501A	12/17/2009 02:13	James S Mathiot	5
06090	Total Inorganic Carbon	EPA 415.1	1	09364621101A	12/30/2009 09:52	William L Hamaker Jr	1
00273	Total Organic Carbon	EPA 415.1	1	09352049502A	12/18/2009 22:18	James S Mathiot	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	09351108101A	12/17/2009 10:55	Nancy J Shoop	1



Analysis Report

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**Sample Description: MW-136I,121509 Grab Water
Barrier Monitoring Network**

**LLI Sample # WW 5865719
LLI Group # 1175433
OH**

Project Name: Hooven Barrier Monitoring Network

Collected: 12/15/2009 11:30 by JH

Account Number: 11494

Submitted: 12/16/2009 09:35

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Discard: 03/06/2010

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BA136

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00202	Alkalinity to pH 4.5	SM20 2320 B	1	09355020201A	12/21/2009 11:26	Geraldine C Smith	1
00201	Alkalinity to pH 8.3	SM20 2320 B	1	09355020201A	12/21/2009 11:26	Geraldine C Smith	1
08344	Ferrous Iron	SM20 3500 Fe B modified	1	09351834401A	12/17/2009 02:30	Daniel S Smith	1
00230	Sulfide	SM20 4500 S2 D	1	09352023001A	12/18/2009 16:25	Geraldine C Smith	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	09352022101A	12/18/2009 16:00	Luz M Groff	1



Analysis Report

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**Sample Description: MW-136I,121509 Filtered Grab Water
Barrier Monitoring Network**

**LLI Sample # WW 5865720
LLI Group # 1175433
OH**

Project Name: Hooven Barrier Monitoring Network

Collected: 12/15/2009 11:30 by JH

Account Number: 11494

Submitted: 12/16/2009 09:35

Chevron

Reported: 01/04/2010 at 07:48

5000 State Route 128

Discard: 03/06/2010

HOOVEN OH 45033

F-136

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals Dissolved			mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0072	1
07055	Lead	7439-92-1	N.D.	0.0069	1
07058	Manganese	7439-96-5	0.427	0.00084	1

General Sample Comments

This sample was field filtered for metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	093551848002	12/27/2009 13:28	Damary Valentin	1
07055	Lead	SW-846 6010B	1	093551848002	12/30/2009 11:31	Joanne M Gates	1
07058	Manganese	SW-846 6010B	1	093551848002	12/27/2009 13:28	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	093551848002	12/21/2009 23:30	Mirit S Shenouda	1



Analysis Report

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**Sample Description: BMW-2D,121509 Grab Water
Barrier Monitoring Network**

**LLI Sample # WW 5865721
LLI Group # 1175433
OH**

Project Name: Hooven Barrier Monitoring Network

Collected: 12/15/2009 15:45 by JH

Account Number: 11494

Submitted: 12/16/2009 09:35

Chevron

Reported: 01/04/2010 at 07:48

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Discard: 03/06/2010

HOOVEN OH 45033

BABMW

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles					
	SW-846 8260B		ug/l	ug/l	
06291	Benzene	71-43-2	N.D.	0.5	1
06291	Chlorobenzene	108-90-7	N.D.	0.8	1
06291	Ethylbenzene	100-41-4	N.D.	0.8	1
06291	Toluene	108-88-3	N.D.	0.7	1
06291	Xylene (Total)	1330-20-7	N.D.	0.8	1
GC Miscellaneous					
	SW-846 8000B		ug/l	ug/l	
08097	CO2 by Headspace	124-38-9	8,900 J	4,000	1
GC Miscellaneous					
	SW-846 8015B modified		ug/l	ug/l	
07105	Methane	74-82-8	N.D.	5.0	1
Metals					
	SW-846 6010B		mg/l	mg/l	
01750	Calcium	7440-70-2	73.6	0.0702	1
01754	Iron	7439-89-6	0.242	0.0522	1
01757	Magnesium	7439-95-4	30.2	0.0172	1
07058	Manganese	7439-96-5	0.0418	0.00084	1
01762	Potassium	7440-09-7	3.81	0.239	1
01767	Sodium	7440-23-5	46.6	0.433	1
	SW-846 6010B modified		mg/l	mg/l	
02268	Ferric Iron	n.a.	0.22	0.052	1
Wet Chemistry					
	EPA 300.0		mg/l	mg/l	
00224	Chloride	16887-00-6	79.7	4.0	20
00228	Sulfate	14808-79-8	59.6	6.0	20
	EPA 351.2		mg/l	mg/l	
00217	Kjeldahl Nitrogen	n.a.	N.D.	0.50	1
	EPA 353.2		mg/l	mg/l	
00220	Nitrate Nitrogen	14797-55-8	1.9	0.040	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	1
	EPA 415.1		mg/l	mg/l	
01550	Total Carbon	n.a.	67.3	1.0	2
06090	Total Inorganic Carbon	n.a.	65.2	1.0	1
00273	Total Organic Carbon	n.a.	2.2	0.50	1
	SM20 2320 B		mg/l as CaCO3	mg/l as CaCO3	
00202	Alkalinity to pH 4.5	n.a.	234	0.46	1
00201	Alkalinity to pH 8.3	n.a.	N.D.	0.46	1

**Sample Description: BMW-2D,121509 Grab Water
Barrier Monitoring Network**

**LLI Sample # WW 5865721
LLI Group # 1175433
OH**

Project Name: Hooven Barrier Monitoring Network

Collected: 12/15/2009 15:45 by JH

Account Number: 11494

Submitted: 12/16/2009 09:35

Chevron

Reported: 01/04/2010 at 07:48

5000 State Route 128

Discard: 03/06/2010

HOOVEN OH 45033

BABMW

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Wet Chemistry					
		SM20 3500 Fe B modified	mg/l	mg/l	
08344	Ferrous Iron	n.a.	0.019 J	0.010	1
		SM20 4500 S2 D	mg/l	mg/l	
00230	Sulfide	18496-25-8	N.D.	0.054	1
		SM20 4500NH3 B/C modified	mg/l	mg/l	
00221	Ammonia Nitrogen	7664-41-7	N.D.	0.20	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N093552AA	12/21/2009 22:26	Nicholas P Riehl	1
06291	TCL by 8260 (water)	SW-846 8260B	1	N093552AA	12/21/2009 22:26	Nicholas P Riehl	1
08097	CO2 by Headspace	SW-846 8000B	1	093550001A	12/22/2009 08:15	Dustin A Underkoffler	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	093520007A	12/18/2009 14:55	Dustin A Underkoffler	1
01750	Calcium	SW-846 6010B	1	093551848002	12/27/2009 13:42	Damary Valentin	1
01754	Iron	SW-846 6010B	1	093551848002	12/27/2009 13:42	Damary Valentin	1
01757	Magnesium	SW-846 6010B	1	093551848002	12/27/2009 13:42	Damary Valentin	1
07058	Manganese	SW-846 6010B	1	093551848002	12/27/2009 13:42	Damary Valentin	1
01762	Potassium	SW-846 6010B	1	093551848002	12/27/2009 13:42	Damary Valentin	1
01767	Sodium	SW-846 6010B	1	093551848002	12/27/2009 13:42	Damary Valentin	1
02268	Ferric Iron	SW-846 6010B modified	1	093632268001	12/29/2009 12:13	Deborah A Krady	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	093551848002	12/21/2009 23:30	Mirit S Shenouda	1
00224	Chloride	EPA 300.0	1	09358196604A	12/26/2009 01:06	Ashley M Adams	20
00228	Sulfate	EPA 300.0	1	09358196604A	12/26/2009 01:06	Ashley M Adams	20
00217	Kjeldahl Nitrogen	EPA 351.2	1	09351108101A	12/18/2009 09:46	K. Robert Caulfeild-James	1
00220	Nitrate Nitrogen	EPA 353.2	1	09356106101A	12/22/2009 18:07	Venia B McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	09350105101A	12/16/2009 19:30	Venia B McFadden	1
01550	Total Carbon	EPA 415.1	1	09351049501A	12/17/2009 02:28	James S Mathiot	2
06090	Total Inorganic Carbon	EPA 415.1	1	09364621101A	12/30/2009 09:52	William L Hamaker Jr	1
00273	Total Organic Carbon	EPA 415.1	1	09352049502A	12/18/2009 22:25	James S Mathiot	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	09351108101A	12/17/2009 10:55	Nancy J Shoop	1



Analysis Report

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**Sample Description: BMW-2D,121509 Grab Water
Barrier Monitoring Network**

**LLI Sample # WW 5865721
LLI Group # 1175433
OH**

Project Name: Hooven Barrier Monitoring Network

Collected: 12/15/2009 15:45 by JH

Account Number: 11494

Submitted: 12/16/2009 09:35

Chevron

Reported: 01/04/2010 at 07:48

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Discard: 03/06/2010

HOOVEN OH 45033

BABMW

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00202	Alkalinity to pH 4.5	SM20 2320 B	1	09355020201A	12/21/2009 11:26	Geraldine C Smith	1
00201	Alkalinity to pH 8.3	SM20 2320 B	1	09355020201A	12/21/2009 11:26	Geraldine C Smith	1
08344	Ferrous Iron	SM20 3500 Fe B modified	1	09351834401A	12/17/2009 02:30	Daniel S Smith	1
00230	Sulfide	SM20 4500 S2 D	1	09352023001A	12/18/2009 16:25	Geraldine C Smith	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	09352022101A	12/18/2009 16:00	Luz M Groff	1



Analysis Report

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**Sample Description: BMW-2D,121509 Filtered Grab Water
Barrier Monitoring Network**

**LLI Sample # WW 5865722
LLI Group # 1175433
OH**

Project Name: Hooven Barrier Monitoring Network

Collected: 12/15/2009 15:45 by JH

Account Number: 11494

Submitted: 12/16/2009 09:35

Chevron

Reported: 01/04/2010 at 07:48

5000 State Route 128

Discard: 03/06/2010

HOOVEN OH 45033

F-BMW

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals Dissolved			mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0072	1
07055	Lead	7439-92-1	N.D.	0.0069	1
07058	Manganese	7439-96-5	0.0350	0.00084	1

General Sample Comments

This sample was field filtered for metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	093551848002	12/27/2009 13:47	Damary Valentin	1
07055	Lead	SW-846 6010B	1	093551848002	12/30/2009 11:35	Joanne M Gates	1
07058	Manganese	SW-846 6010B	1	093551848002	12/27/2009 13:47	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	093551848002	12/21/2009 23:30	Mirit S Shenouda	1



Analysis Report

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**Sample Description: MW-136S,121509 Grab Water
Barrier Monitoring Network**

**LLI Sample # WW 5865723
LLI Group # 1175433
OH**

Project Name: Hooven Barrier Monitoring Network

Collected: 12/15/2009 14:05 by JH

Account Number: 11494

Submitted: 12/16/2009 09:35

Chevron

Reported: 01/04/2010 at 07:48

5000 State Route 128

Discard: 03/06/2010

HOOVEN OH 45033

B136S

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles					
	SW-846 8260B		ug/l	ug/l	
06291	Benzene	71-43-2	N.D.	0.5	1
06291	Chlorobenzene	108-90-7	N.D.	0.8	1
06291	Ethylbenzene	100-41-4	N.D.	0.8	1
06291	Toluene	108-88-3	N.D.	0.7	1
06291	Xylene (Total)	1330-20-7	N.D.	0.8	1
GC Miscellaneous					
	SW-846 8000B		ug/l	ug/l	
08097	CO2 by Headspace	124-38-9	120,000	4,000	1
GC Miscellaneous					
	SW-846 8015B modified		ug/l	ug/l	
07105	Methane	74-82-8	9,900	250	50
Metals					
	SW-846 6010B		mg/l	mg/l	
01750	Calcium	7440-70-2	130	0.0702	1
01754	Iron	7439-89-6	24.6	0.0522	1
01757	Magnesium	7439-95-4	55.8	0.0172	1
07058	Manganese	7439-96-5	3.86	0.00084	1
01762	Potassium	7440-09-7	7.18	0.239	1
01767	Sodium	7440-23-5	29.2	0.433	1
	SW-846 6010B modified		mg/l	mg/l	
02268	Ferric Iron	n.a.	N.D.	0.50	1
Wet Chemistry					
	EPA 300.0		mg/l	mg/l	
00224	Chloride	16887-00-6	49.8	4.0	20
00228	Sulfate	14808-79-8	36.7	6.0	20
	EPA 351.2		mg/l	mg/l	
00217	Kjeldahl Nitrogen	n.a.	7.0	0.50	1
	EPA 353.2		mg/l	mg/l	
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	1
	EPA 415.1		mg/l	mg/l	
01550	Total Carbon	n.a.	177	5.0	10
06090	Total Inorganic Carbon	n.a.	171	5.0	1
00273	Total Organic Carbon	n.a.	5.9	0.50	1
	SM20 2320 B		mg/l as CaCO3	mg/l as CaCO3	
00202	Alkalinity to pH 4.5	n.a.	537	0.46	1
00201	Alkalinity to pH 8.3	n.a.	N.D.	0.46	1

**Sample Description: MW-136S,121509 Grab Water
Barrier Monitoring Network**

**LLI Sample # WW 5865723
LLI Group # 1175433
OH**

Project Name: Hooven Barrier Monitoring Network

Collected: 12/15/2009 14:05 by JH

Account Number: 11494

Submitted: 12/16/2009 09:35

Chevron

Reported: 01/04/2010 at 07:48

5000 State Route 128

Discard: 03/06/2010

HOOVEN OH 45033

B136S

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Wet Chemistry					
		SM20 3500 Fe B modified	mg/l	mg/l	
08344	Ferrous Iron	n.a.	24.7	0.50	50
		SM20 4500 S2 D	mg/l	mg/l	
00230	Sulfide	18496-25-8	N.D.	0.054	1
		SM20 4500NH3 B/C modified	mg/l	mg/l	
00221	Ammonia Nitrogen	7664-41-7	7.0	0.20	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N093552AA	12/21/2009 22:50	Nicholas P Riehl	1
06291	TCL by 8260 (water)	SW-846 8260B	1	N093552AA	12/21/2009 22:50	Nicholas P Riehl	1
08097	CO2 by Headspace	SW-846 8000B	1	093550001A	12/22/2009 08:24	Dustin A Underkoffler	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	093520007A	12/21/2009 10:53	Dustin A Underkoffler	50
01750	Calcium	SW-846 6010B	1	093551848002	12/27/2009 13:52	Damary Valentin	1
01754	Iron	SW-846 6010B	1	093551848002	12/27/2009 13:52	Damary Valentin	1
01757	Magnesium	SW-846 6010B	1	093551848002	12/27/2009 13:52	Damary Valentin	1
07058	Manganese	SW-846 6010B	1	093551848002	12/27/2009 13:52	Damary Valentin	1
01762	Potassium	SW-846 6010B	1	093551848002	12/27/2009 13:52	Damary Valentin	1
01767	Sodium	SW-846 6010B	1	093551848002	12/27/2009 13:52	Damary Valentin	1
02268	Ferric Iron	SW-846 6010B modified	1	093632268001	12/29/2009 12:14	Deborah A Krady	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	093551848002	12/21/2009 23:30	Mirit S Shenouda	1
00224	Chloride	EPA 300.0	1	09358196604A	12/26/2009 01:22	Ashley M Adams	20
00228	Sulfate	EPA 300.0	1	09358196604A	12/26/2009 01:22	Ashley M Adams	20
00217	Kjeldahl Nitrogen	EPA 351.2	1	09351108101A	12/18/2009 09:47	K. Robert Caulfeild-James	1
00220	Nitrate Nitrogen	EPA 353.2	1	09356106101A	12/22/2009 18:08	Venia B McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	09350105101A	12/16/2009 19:31	Venia B McFadden	1
01550	Total Carbon	EPA 415.1	1	09351049501A	12/17/2009 02:33	James S Mathiot	10
06090	Total Inorganic Carbon	EPA 415.1	1	09364621101A	12/30/2009 09:52	William L Hamaker Jr	1
00273	Total Organic Carbon	EPA 415.1	1	09352049502A	12/28/2009 22:23	James S Mathiot	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	09351108101A	12/17/2009 10:55	Nancy J Shoop	1



Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

**Sample Description: MW-136S,121509 Grab Water
Barrier Monitoring Network**

**LLI Sample # WW 5865723
LLI Group # 1175433
OH**

Project Name: Hooven Barrier Monitoring Network

Collected: 12/15/2009 14:05 by JH

Account Number: 11494

Submitted: 12/16/2009 09:35

Chevron

Reported: 01/04/2010 at 07:48

5000 State Route 128

Discard: 03/06/2010

HOOVEN OH 45033

B136S

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00202	Alkalinity to pH 4.5	SM20 2320 B	1	09355020201A	12/21/2009 11:26	Geraldine C Smith	1
00201	Alkalinity to pH 8.3	SM20 2320 B	1	09355020201A	12/21/2009 11:26	Geraldine C Smith	1
08344	Ferrous Iron	SM20 3500 Fe B modified	1	09351834401A	12/17/2009 02:30	Daniel S Smith	50
00230	Sulfide	SM20 4500 S2 D	1	09352023001A	12/18/2009 16:25	Geraldine C Smith	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	09352022101A	12/18/2009 16:00	Luz M Groff	1



Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

**Sample Description: MW-136S,121509 Filtered Grab Water
Barrier Monitoring Network**

**LLI Sample # WW 5865724
LLI Group # 1175433
OH**

Project Name: Hooven Barrier Monitoring Network

Collected: 12/15/2009 14:05 by JH

Account Number: 11494

Submitted: 12/16/2009 09:35

Chevron

Reported: 01/04/2010 at 07:48

5000 State Route 128

Discard: 03/06/2010

HOOVEN OH 45033

F136S

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals Dissolved			mg/l	mg/l	
07035	Arsenic	7440-38-2	0.0215	0.0072	1
07055	Lead	7439-92-1	N.D.	0.0069	1
07058	Manganese	7439-96-5	3.63	0.00084	1

General Sample Comments

This sample was field filtered for metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	093551848002	12/27/2009 13:56	Damary Valentin	1
07055	Lead	SW-846 6010B	1	093551848002	12/30/2009 11:38	Joanne M Gates	1
07058	Manganese	SW-846 6010B	1	093551848002	12/27/2009 13:56	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	093551848002	12/21/2009 23:30	Mirit S Shenouda	1



Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

**Sample Description: BD-1,121509 Grab Water
Barrier Monitoring Network**

**LLI Sample # WW 5865725
LLI Group # 1175433
OH**

Project Name: Hooven Barrier Monitoring Network

Collected: 12/15/2009 by JH

Account Number: 11494

Submitted: 12/16/2009 09:35

Chevron

Reported: 01/04/2010 at 07:48

5000 State Route 128

Discard: 03/06/2010

HOOVEN OH 45033

BABD1

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	
06291	Benzene	71-43-2	N.D.	0.5	1
06291	Chlorobenzene	108-90-7	N.D.	0.8	1
06291	Ethylbenzene	100-41-4	N.D.	0.8	1
06291	Toluene	108-88-3	N.D.	0.7	1
06291	Xylene (Total)	1330-20-7	N.D.	0.8	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	L093552AA	12/22/2009 02:19	Nicholas P Riehl	1
06291	TCL by 8260 (water)	SW-846 8260B	1	L093552AA	12/22/2009 02:19	Nicholas P Riehl	1



Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

**Sample Description: BD-1,121509 Filtered Grab Water
Barrier Monitoring Network**

**LLI Sample # WW 5865726
LLI Group # 1175433
OH**

Project Name: Hooven Barrier Monitoring Network

Collected: 12/15/2009 by JH

Account Number: 11494

Submitted: 12/16/2009 09:35

Chevron

Reported: 01/04/2010 at 07:48

5000 State Route 128

Discard: 03/06/2010

HOOVEN OH 45033

F-BD1

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals Dissolved			mg/l	mg/l	
07035	Arsenic	7440-38-2	0.0238	0.0072	1
07055	Lead	7439-92-1	N.D.	0.0069	1

General Sample Comments

This sample was field filtered for metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	093551848002	12/27/2009 14:01	Damary Valentin	1
07055	Lead	SW-846 6010B	1	093551848002	12/30/2009 11:42	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	093551848002	12/21/2009 23:30	Mirit S Shenouda	1



Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

**Sample Description: Trip Blank, 121509 Water
Barrier Monitoring Network**

**LLI Sample # WW 5865727
LLI Group # 1175433
OH**

Project Name: Hooven Barrier Monitoring Network

Collected: 12/15/2009 16:40

Account Number: 11494

Submitted: 12/16/2009 09:35

Chevron

Reported: 01/04/2010 at 07:48

5000 State Route 128

Discard: 03/06/2010

HOOVEN OH 45033

TBBAR

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	
06291	Benzene	71-43-2	N.D.	0.5	1
06291	Chlorobenzene	108-90-7	N.D.	0.8	1
06291	Ethylbenzene	100-41-4	N.D.	0.8	1
06291	Toluene	108-88-3	N.D.	0.7	1
06291	Xylene (Total)	1330-20-7	N.D.	0.8	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	L093552AA	12/21/2009 20:28	Nicholas P Riehl	1
06291	TCL by 8260 (water)	SW-846 8260B	1	L093552AA	12/21/2009 20:28	Nicholas P Riehl	1

Quality Control Summary

 Client Name: Chevron
 Reported: 01/04/10 at 07:48 AM

Group Number: 1175433

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: L093552AA	Sample number(s): 5865725,5865727							
Benzene	N.D.	0.5	ug/l	103		79-120		
Chlorobenzene	N.D.	0.8	ug/l	104		80-120		
Ethylbenzene	N.D.	0.8	ug/l	103		79-120		
Toluene	N.D.	0.7	ug/l	105		79-120		
Xylene (Total)	N.D.	0.8	ug/l	104		80-120		
Batch number: N093552AA	Sample number(s): 5865719,5865721,5865723							
Benzene	N.D.	0.5	ug/l	105	104	79-120	1	30
Chlorobenzene	N.D.	0.8	ug/l	103	102	80-120	1	30
Ethylbenzene	N.D.	0.8	ug/l	101	99	79-120	1	30
Toluene	N.D.	0.7	ug/l	102	102	79-120	1	30
Xylene (Total)	N.D.	0.8	ug/l	100	99	80-120	2	30
Batch number: 093520007A	Sample number(s): 5865719,5865721,5865723							
Methane	N.D.	5.0	ug/l	88		80-120		
Batch number: 093550001A	Sample number(s): 5865719,5865721,5865723							
CO2 by Headspace	N.D.	4,000.	ug/l	83		67-124		
Batch number: 093551848002	Sample number(s): 5865719-5865724,5865726							
Arsenic	N.D.	0.0072	mg/l	100		89-115		
Calcium	N.D.	0.0702	mg/l	98		90-112		
Iron	N.D.	0.0522	mg/l	95		90-112		
Lead	N.D.	0.0069	mg/l	102		80-120		
Magnesium	N.D.	0.0172	mg/l	93		89-110		
Manganese	N.D.	0.00084	mg/l	102		90-110		
Potassium	N.D.	0.239	mg/l	90		85-115		
Sodium	N.D.	0.433	mg/l	96		87-114		
Batch number: 09350105101A	Sample number(s): 5865719,5865721,5865723							
Nitrite Nitrogen	N.D.	0.015	mg/l	100		90-110		
Batch number: 09351049501A	Sample number(s): 5865719,5865721,5865723							
Total Carbon	N.D.	0.50	mg/l	103		80-120		
Batch number: 09351108101A	Sample number(s): 5865719,5865721,5865723							
Kjeldahl Nitrogen	N.D.	0.50	mg/l	97		90-110		
Batch number: 09352049502A	Sample number(s): 5865719,5865721,5865723							
Total Organic Carbon	N.D.	0.50	mg/l	100		91-113		
Batch number: 09356106101A	Sample number(s): 5865719,5865721,5865723							
Nitrate Nitrogen	N.D.	0.040	mg/l	96		90-110		
Batch number: 09358196604A	Sample number(s): 5865719,5865721,5865723							
Chloride	N.D.	0.20	mg/l	102		90-110		

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

 Client Name: Chevron Group Number: 1175433
 Reported: 01/04/10 at 07:48 AM

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Sulfate	N.D.	0.30	mg/l	104		89-110		
Batch number: 09351834401A	Sample number(s): 5865719,5865721,5865723							
Ferrous Iron	N.D.	0.010	mg/l	99		92-105		
Batch number: 09352022101A	Sample number(s): 5865719,5865721,5865723							
Ammonia Nitrogen	N.D.	0.20	mg/l	92	93	85-105	1	5
Batch number: 09352023001A	Sample number(s): 5865719,5865721,5865723							
Sulfide	N.D.	0.054	mg/l	99		90-110		
Batch number: 09355020201A	Sample number(s): 5865719,5865721,5865723							
Alkalinity to pH 4.5	N.D.	0.46	mg/l as CaCO ₃	100		98-103		

Sample Matrix Quality Control

 Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
 Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: L093552AA	Sample number(s): 5865725,5865727 UNSPK: P866276								
Benzene	111	116	80-126	4	30				
Chlorobenzene	111	116	87-124	4	30				
Ethylbenzene	112	117	71-134	5	30				
Toluene	112	118	80-125	5	30				
Xylene (Total)	111	117	79-125	5	30				
Batch number: N093552AA	Sample number(s): 5865719,5865721,5865723 UNSPK: P860175								
Benzene	110		80-126						
Chlorobenzene	108		87-124						
Ethylbenzene	106		71-134						
Toluene	108		80-125						
Xylene (Total)	105		79-125						
Batch number: 093520007A	Sample number(s): 5865719,5865721,5865723 UNSPK: P863437								
Methane	17 (2)	50 (2)	35-157	6	20				
Batch number: 093550001A	Sample number(s): 5865719,5865721,5865723 UNSPK: 5865719								
CO ₂ by Headspace	86	78	15-145	8	20				
Batch number: 093551848002	Sample number(s): 5865719-5865724,5865726 UNSPK: P865674 BKG: P865674								
Arsenic	99	101	75-125	3	20	N.D.	N.D.	0 (1)	20
Calcium	73*	112	75-125	10	20	11.6	11.7	1	20
Iron	98	107	75-125	8	20	N.D.	N.D.	0 (1)	20
Lead	110	102	75-125	8	20	N.D.	N.D.	0 (1)	20
Magnesium	50 (2)	112 (2)	75-125	10	20	10.3	10.4	0	20
Manganese	100	108	75-125	8	20	0.0033 J	0.0027 J	20 (1)	20
Potassium	90	98	75-125	7	20	0.751	0.749	0 (1)	20
Sodium	85	107	75-125	9	20	15.0	15.1	1	20

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

 Client Name: Chevron
 Reported: 01/04/10 at 07:48 AM

Group Number: 1175433

Sample Matrix Quality Control

 Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
 Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 09350105101A Nitrite Nitrogen	53*		90-110			N.D.	N.D.	0 (1)	20
Batch number: 09351049501A Total Carbon	99		72-132			64.9	67.5	4	20
Batch number: 09351108101A Kjeldahl Nitrogen	118*		90-110			0.73 J	0.67 J	8 (1)	20
Batch number: 09352049502A Total Organic Carbon	110		64-141			5.9	5.8	2	4
Batch number: 09356106101A Nitrate Nitrogen	87*		90-110			11.2	10.8	4*	2
Batch number: 09358196604A Chloride Sulfate	98 101		90-110 90-110			1.9 J 23.4	1.9 J 23.5	2 (1) 0 (1)	20 20
Batch number: 09351834401A Ferrous Iron	94	97	66-130	1	6	24.7	24.4	1 (1)	10
Batch number: 09352022101A Ammonia Nitrogen						7.0	6.9	1	2
Batch number: 09352023001A Sulfide	99	101	69-133	1	18	0.16 J	0.15 J	7 (1)	7
Batch number: 09355020201A Alkalinity to pH 4.5 Alkalinity to pH 8.3	98 99	99	64-130	0	2	77.9 N.D.	77.2 N.D.	1 0 (1)	4 4

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

 Analysis Name: TCL by 8260 (water)
 Batch number: L093552AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
5865725	93	92	92	90
5865727	92	93	93	92
Blank	91	90	92	92
LCS	92	93	93	92
MS	92	90	93	93
MSD	92	93	92	92
Limits:	80-116	77-113	80-113	78-113

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Chevron
Reported: 01/04/10 at 07:48 AM

Group Number: 1175433

Surrogate Quality Control

Analysis Name: TCL by 8260 (water)

Batch number: N093552AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
5865719	99	106	99	89
5865721	98	103	99	90
5865723	99	103	99	90
Blank	98	103	99	89
LCS	99	102	102	98
LCSD	98	107	101	98
MS	98	102	101	98
Limits:	80-116	77-113	80-113	78-113

Analysis Name: Volatile Headspace Hydrocarbon

Batch number: 093520007A

Propene

5865719	57
5865721	59
5865723	98
Blank	99
LCS	97
MS	57
MSD	56
Limits:	42-131

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Analysis Request/ Environmental Services Chain of Custody



For Lancaster Laboratories use only

Acct. # 11494 Group# 1175433 Sample # 5865719-27 **COC #** 225011

Please print. Instructions on reverse side correspond with circled numbers.

Temps = 0.6 - 0.8 °C

1 Client: Chevron Acct. #: 11494
 Project Name/#: Barrier Well Monitoring Network PWSID # PA/CA17000000
 Project Manager: Doug Lam P.O.#: _____
 Sampler: John Hall/Dale Barrett Quote #: _____
 Name of state where samples were collected: OHIO

5 Analyses Requested

Preservation Codes				
UV's P&G X	Dissolved As/Pb X	MNA X	Manganese Dissolved	Other

For Lab Use Only
 FSC: _____
 SCR#: _____

Preservation Codes
 H=HCl T=Thiosulfate
 N=HNO₃ B=NaOH
 S=H₂SO₄ O=Other

2

Sample Identification	Date Collected	Time Collected	3	4	5	6	7	8	9	Remarks
MW-136I, 121509	12-15-09	11:30	X	X	19	X	X	X	X	See Attached Analyte List *
BMW-10, 121509	12-15-09	1545	X	X	19	X	X	X	X	
MW-136S, 121509	12-15-09	1405	X	X	19	X	X	X	X	Dissolved Metals Are Field Filtered
BD-1, 121509	12-15-09	-	X	X	4	X				
Typ Blank, 121509	12-15-09	1640	X	X	2	X				QC Summary Data Package

7 Turnaround Time Requested (TAT) (please circle): Normal Rush
 (Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
 Date results are needed: _____
 Rush results requested by (please circle): Phone Fax E-mail
 Phone #: 513-353-1323 Fax #: 513-353-4664
 E-mail address: MMitchell@Tolyda.com

Relinquished by: <u>[Signature]</u>	Date: <u>12/15/09</u>	Time: <u>18:30</u>	Received by: _____	Date: _____	Time: _____
Relinquished by: _____	Date: _____	Time: _____	Received by: _____	Date: _____	Time: _____
Relinquished by: _____	Date: _____	Time: _____	Received by: _____	Date: _____	Time: _____
Relinquished by: _____	Date: _____	Time: _____	Received by: <u>[Signature]</u>	Date: <u>12/15/09</u>	Time: <u>09:30</u>

8 Data Package Options (please circle if required)

Type I (validation/NJ Reg)	TX TRRP-13	SDG Complete? Yes No
Type II (Tier II)	MA MCP CT RCP	
Type III (Reduced NJ)	Site-specific QC (MS/MSD/Dup)? Yes No	
Type IV (CLP SOW)	(if yes, indicate QC sample and submit replicate volume.)	
Type VI (Raw Data Only)	Internal COC Required? Yes / No	

Barrier Monitoring Network Sampling ⁴ Q 2009
Analytical Requests for Groundwater
Chevron Cincinnati Facility, Hooven, Ohio

VOLATILE ORGANICS

Benzene
Chlorobenzene
Ethylbenzene
Toluene
Xylenes (total)

DISSOLVED METALS – FIELD FILTERED

Arsenic
Lead
Manganese

MNA PARAMETERS

Alkalinity to pH 4.5
Alkalinity to pH 8.3
Ammonia Nitrogen
Calcium
Carbon Dioxide
Chloride
Iron (II) and Iron (III)
Magnesium
Total Manganese
Methane
Nitrate Nitrogen
Nitrite Nitrogen
Potassium
Sodium
Sulfate
Sulfide
Total Kjeldahl Nitrogen
Total Organic Carbon
Total Inorganic Carbon

Kathy Klinefelter

From: Matthew Mitchell [mmitchell@trihydro.com]
Sent: Friday, December 18, 2009 2:35 PM
To: Kathy Klinefelter
Subject: RE: 1175433 - BMN sample discrepancy

Kathy,

I just confirmed with John, the bottle was correct and the COC was wrong. The sample should be BMW-2D, 121509.

Thanks for catching that.

Matt

From: Kathy Klinefelter [mailto:KKlinefelter@lancasterlabs.com]
Sent: Friday, December 18, 2009 1:59 PM
To: Matthew Mitchell; Timothy Gunn
Subject: 1175433 - BMN sample discrepancy

<<1175433c.pdf>>

Hello,

Please see the attached COC, which lists sample BMW-1D,121509. The sample bottles are labeled as BMW-2D,121509. We have entered the sample as BMW-1D,121509 per the COC. Please confirm asap that BMW-1D is correct.

Thanks,
Kathy

Holiday Business Hours:

For Christmas, the laboratory will be closed on December 24 and 25, 2009.
For New Year's, the laboratory will be closed on January 1, 2010.

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Thank you. If you wish to view information about Lancaster Laboratories, Inc., please visit our website at www.lancasterlabs.com

12/18/2009



Environmental Sample Administration Receipt Documentation Log

Client/Project: Chevron
 Date of Receipt: 12/16/09
 Time of Receipt: 0935
 Source Code: 50-1
 Unpacker Emp. No.: 1454

Shipping Container Sealed: YES NO
 Custody Seal Present * : YES NO
* Custody seal was intact unless otherwise noted in the discrepancy section
 Package: Chilled Not Chilled

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	0929951	0.6°C	TB	WI	Y	L	
2	↓	0.8°C	↓	↓	↓	↓	
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody 0

Paperwork Discrepancy/Unpacking Problems:

Samples for BMW-1D had BMW-2D on label.
 MBR 12/16/09

Sample Administration Internal Chain of Custody			
Name	Date	Time	Reason for Transfer
<i>[Signature]</i>	12/16/09	1055	Unpacking / <u>Storage</u>
Mary Beth Reed	12/16/09	1101	Place in Storage or <u>Entry</u>
			Entry
			Entry

Lancaster Laboratories Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

N.D.	none detected	BMQL	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	MPN	Most Probable Number
IU	International Units	CP Units	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	NTU	nephelometric turbidity units
C	degrees Celsius	F	degrees Fahrenheit
Cal	(diet) calories	lb.	pound(s)
meq	milliequivalents	kg	kilogram(s)
g	gram(s)	mg	milligram(s)
ug	microgram(s)	l	liter(s)
ml	milliliter(s)	ul	microliter(s)
m3	cubic meter(s)	fib >5 um/ml	fibers greater than 5 microns in length per ml
<	less than – The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
ppm	parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.		

U.S. EPA data qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
J	Estimated value
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike amount not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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