

ANALYTICAL RESULTS

Prepared for:

Chevron
5000 State Route 128
HOOVEN OH 45033

Prepared by:

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

December 16, 2009

Project: Hooven Cincinnati Final Remedy

Samples arrived at the laboratory on Thursday, December 03, 2009. The PO# for this group is 0015039270 and the release number is 50008931. The group number for this submittal is 1173484.

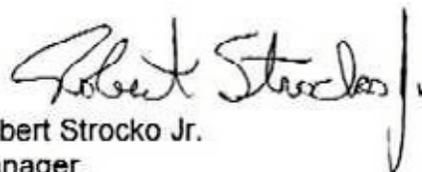
<u>Client Sample Description</u>	<u>Lancaster Labs (LLI) #</u>
MW-51,120209 Grab Water	5853364
MW-51,120209 Filtered Grab Water	5853365
MW-33,120209 Grab Water	5853366
MW-33,120209 Filtered Grab Water	5853367
Trip Blank,120209 Water	5853368

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 Strocko Jr.
Manager



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-51,120209 Grab Water
2nd Semi-Annual 2009-Cincinnati Final Remedy

LLI Sample # WW 5853364
LLI Group # 1173484
OH

Project Name: Hooven Cincinnati Final Remedy

Collected: 12/02/2009 10:20 by DB

Account Number: 11494

Submitted: 12/03/2009 09:00

Chevron

Reported: 12/16/2009 at 05:15

5000 State Route 128

Discard: 02/15/2010

HOOVEN OH 45033

H0051 SDG#: HVQ34-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles SW-846 8260B ug/l					
07582	Benzene	71-43-2	N.D.	0.5	1
07582	Chlorobenzene	108-90-7	N.D.	0.8	1
07582	Ethylbenzene	100-41-4	N.D.	0.8	1
07582	Toluene	108-88-3	1 J	0.7	1
07582	Xylene (Total)	1330-20-7	N.D.	0.8	1
GC Volatiles SW-846 8015B ug/l					
01635	TPH-GRO water C6-C10	n.a.	N.D.	20	1
GC Extractable TPH SW-846 8015B ug/l					
08269	TPH-DRO water C10-C28	n.a.	N.D.	31	1
GC Miscellaneous SW-846 8015B modified ug/l					
07105	Methane	74-82-8	N.D.	5.0	1
Metals SW-846 6010B mg/l					
01750	Calcium	7440-70-2	67.4	0.0702	1
01754	Iron	7439-89-6	N.D.	0.0522	1
07058	Manganese	7439-96-5	0.282	0.00084	1
01762	Potassium	7440-09-7	5.02	0.239	1
01767	Sodium	7440-23-5	43.2	0.433	1
SW-846 6010B modified mg/l					
02268	Ferric Iron	n.a.	N.D.	0.052	1
Wet Chemistry EPA 300.0 mg/l					
00224	Chloride	16887-00-6	66.5	4.0	20
00228	Sulfate	14808-79-8	48.6	6.0	20
EPA 351.2 mg/l					
00217	Kjeldahl Nitrogen	n.a.	N.D.	0.50	1
EPA 353.2 mg/l					
00220	Nitrate Nitrogen	14797-55-8	0.29	0.040	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	1
SM20 5310 C mg/l					
00273	Total Organic Carbon	n.a.	3.3	0.50	1
EPA 410.4 mg/l					
04001	Chemical Oxygen Demand	n.a.	N.D.	12.8	1
SM20 2320 B mg/l as CaCO3					



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-51,120209 Grab Water
2nd Semi-Annual 2009-Cincinnati Final Remedy

LLI Sample # WW 5853364
LLI Group # 1173484
OH

Project Name: Hooven Cincinnati Final Remedy

Collected: 12/02/2009 10:20 by DB Account Number: 11494

Submitted: 12/03/2009 09:00 Chevron
Reported: 12/16/2009 at 05:15 5000 State Route 128
Discard: 02/15/2010 HOOVEN OH 45033

H0051 SDG#: HVQ34-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Wet Chemistry					
		SM20 2320 B	mg/l as CaCO3	mg/l as CaCO3	
00202	Alkalinity to pH 4.5	n.a.	208	0.46	1
00201	Alkalinity to pH 8.3	n.a.	N.D.	0.46	1
		SM20 3500 Fe B modified	mg/l	mg/l	
08344	Ferrous Iron	n.a.	0.016 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	L093412AA	12/08/2009 05:03	Nicholas P Riehl	1
07582	PPL + Xylene (total) by 8260	SW-846 8260B	1	L093412AA	12/08/2009 05:03	Nicholas P Riehl	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	09338A20A	12/04/2009 13:01	Tyler O Griffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	09338A20A	12/04/2009 13:01	Tyler O Griffin	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	093380007A	12/04/2009 16:00	Cody R Hanna	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	093380007A	12/07/2009 15:38	Sarah M Snyder	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	093380001A	12/04/2009 11:27	Dustin A Underkoffler	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	093381848001	12/05/2009 06:52	Denise K Connors	1
01750	Calcium	SW-846 6010B	1	093381848001	12/13/2009 07:34	Damary Valentin	1
01754	Iron	SW-846 6010B	1	093381848001	12/13/2009 07:34	Damary Valentin	1
07058	Manganese	SW-846 6010B	1	093381848001	12/13/2009 07:34	Damary Valentin	1
01762	Potassium	SW-846 6010B	1	093381848001	12/13/2009 07:34	Damary Valentin	1
01767	Sodium	SW-846 6010B	1	093381848001	12/15/2009 19:32	John W Yanzuk II	1
02268	Ferric Iron	SW-846 6010B modified	1	093502268001	12/16/2009 05:00	Deborah A Krady	1
00224	Chloride	EPA 300.0	1	09343196601A	12/09/2009 17:32	Ashley M Adams	20
00228	Sulfate	EPA 300.0	1	09343196601A	12/09/2009 17:32	Ashley M Adams	20
00217	Kjeldahl Nitrogen	EPA 351.2	1	09342108101A	12/09/2009 12:40	Venia B McFadden	1
00220	Nitrate Nitrogen	EPA 353.2	1	09341106102A	12/07/2009 11:15	K. Robert Caulfeild-James	1



Analysis Report

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Sample Description: MW-51,120209 Grab Water
2nd Semi-Annual 2009-Cincinnati Final Remedy

LLI Sample # WW 5853364
LLI Group # 1173484
OH

Project Name: Hooven Cincinnati Final Remedy

Collected: 12/02/2009 10:20 by DB

Account Number: 11494

Submitted: 12/03/2009 09:00

Chevron

Reported: 12/16/2009 at 05:15

5000 State Route 128

Discard: 02/15/2010

HOOVEN OH 45033

H0051 SDG#: HVQ34-01

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00219	Nitrite Nitrogen	EPA 353.2	1	09337105101A	12/03/2009 19:35	Joseph E McKenzie	1
00273	Total Organic Carbon	SM20 5310 C	1	09341049502A	12/07/2009 05:17	James S Mathiot	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	09342108101A	12/08/2009 10:30	Nancy J Shoop	1
00202	Alkalinity to pH 4.5	SM20 2320 B	1	09342020201A	12/08/2009 13:57	Geraldine C Smith	1
00201	Alkalinity to pH 8.3	SM20 2320 B	1	09342020201A	12/08/2009 13:57	Geraldine C Smith	1
08344	Ferrous Iron	SM20 3500 Fe B modified	1	09338834401A	12/04/2009 02:00	Daniel S Smith	1
00230	Sulfide	SM20 4500 S2 D	1	09337023001A	12/03/2009 17:30	Geraldine C Smith	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	09338022101A	12/04/2009 18:00	Luz M Groff	1
04001	Chemical Oxygen Demand	EPA 410.4	1	09338400101B	12/04/2009 08:15	Susan A Engle	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-51,120209 Filtered Grab Water
2nd Semi-Annual 2009-Cincinnati Final Remedy**

**LLI Sample # WW 5853365
LLI Group # 1173484
OH**

Project Name: Hooven Cincinnati Final Remedy

Collected: 12/02/2009 10:20 by DB

Account Number: 11494

Submitted: 12/03/2009 09:00

Chevron

Reported: 12/16/2009 at 05:15

5000 State Route 128

Discard: 02/15/2010

HOOVEN OH 45033

HOF51 SDG#: HVQ34-02

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	0.283	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	093381848001	12/13/2009 07:55	Damary Valentin	1
07055	Lead	SW-846 6010B	1	093381848001	12/15/2009 19:51	John W Yanzuk II	1
07058	Manganese	SW-846 6010B	1	093381848001	12/13/2009 07:55	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	093381848001	12/05/2009 06:52	Denise K Conners	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-33,120209 Grab Water
2nd Semi-Annual 2009-Cincinnati Final Remedy

LLI Sample # WW 5853366
LLI Group # 1173484
OH

Project Name: Hooven Cincinnati Final Remedy

Collected: 12/02/2009 13:55 by DB

Account Number: 11494

Submitted: 12/03/2009 09:00

Chevron

Reported: 12/16/2009 at 05:15

5000 State Route 128

Discard: 02/15/2010

HOOVEN OH 45033

H0033 SDG#: HVQ34-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles SW-846 8260B ug/l					
07582	Benzene	71-43-2	N.D.	0.5	1
07582	Chlorobenzene	108-90-7	N.D.	0.8	1
07582	Ethylbenzene	100-41-4	N.D.	0.8	1
07582	Toluene	108-88-3	0.8 J	0.7	1
07582	Xylene (Total)	1330-20-7	N.D.	0.8	1
GC Volatiles SW-846 8015B ug/l					
01635	TPH-GRO water C6-C10	n.a.	N.D.	20	1
GC Extractable TPH SW-846 8015B ug/l					
08269	TPH-DRO water C10-C28	n.a.	N.D.	30	1
GC Miscellaneous SW-846 8015B modified ug/l					
07105	Methane	74-82-8	38	5.0	1
Metals SW-846 6010B mg/l					
01750	Calcium	7440-70-2	134	0.0702	1
01754	Iron	7439-89-6	3.95	0.0522	1
07058	Manganese	7439-96-5	0.868	0.00084	1
01762	Potassium	7440-09-7	2.41	0.239	1
01767	Sodium	7440-23-5	20.8	0.433	1
SW-846 6010B modified mg/l					
02268	Ferric Iron	n.a.	N.D.	0.10	1
Wet Chemistry EPA 300.0 mg/l					
00224	Chloride	16887-00-6	36.0	4.0	20
00228	Sulfate	14808-79-8	34.3	6.0	20
EPA 351.2 mg/l					
00217	Kjeldahl Nitrogen	n.a.	N.D.	0.50	1
EPA 353.2 mg/l					
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	1
SM20 5310 C mg/l					
00273	Total Organic Carbon	n.a.	1.6	0.50	1
EPA 410.4 mg/l					
04001	Chemical Oxygen Demand	n.a.	N.D.	12.8	1
SM20 2320 B mg/l as CaCO3					

Sample Description: MW-33,120209 Grab Water
2nd Semi-Annual 2009-Cincinnati Final Remedy

LLI Sample # WW 5853366
LLI Group # 1173484
OH

Project Name: Hooven Cincinnati Final Remedy

Collected: 12/02/2009 13:55 by DB

Account Number: 11494

Submitted: 12/03/2009 09:00

Chevron

Reported: 12/16/2009 at 05:15

5000 State Route 128

Discard: 02/15/2010

HOOVEN OH 45033

H0033 SDG#: HVQ34-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Wet Chemistry					
		SM20 2320 B	mg/l as CaCO3	mg/l as CaCO3	
00202	Alkalinity to pH 4.5	n.a.	380	0.46	1
00201	Alkalinity to pH 8.3	n.a.	N.D.	0.46	1
		SM20 3500 Fe B modified	mg/l	mg/l	
08344	Ferrous Iron	n.a.	4.0	0.10	10
		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	L093412AA	12/08/2009 05:25	Nicholas P Riehl	1
07582	PPL + Xylene (total) by 8260	SW-846 8260B	1	L093412AA	12/08/2009 05:25	Nicholas P Riehl	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	09338A20A	12/04/2009 13:22	Tyler O Griffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	09338A20A	12/04/2009 13:22	Tyler O Griffin	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	093380007A	12/04/2009 16:00	Cody R Hanna	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	093380007A	12/07/2009 15:59	Sarah M Snyder	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	093380001A	12/04/2009 11:40	Dustin A Underkoffler	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	093381848001	12/05/2009 06:52	Denise K Connors	1
01750	Calcium	SW-846 6010B	1	093381848001	12/13/2009 07:59	Damary Valentin	1
01754	Iron	SW-846 6010B	1	093381848001	12/13/2009 07:59	Damary Valentin	1
07058	Manganese	SW-846 6010B	1	093381848001	12/13/2009 07:59	Damary Valentin	1
01762	Potassium	SW-846 6010B	1	093381848001	12/13/2009 07:59	Damary Valentin	1
01767	Sodium	SW-846 6010B	1	093381848001	12/15/2009 20:00	John W Yanzuk II	1
02268	Ferric Iron	SW-846 6010B modified	1	093502268001	12/16/2009 05:02	Deborah A Krady	1
00224	Chloride	EPA 300.0	1	09343196601A	12/09/2009 17:47	Ashley M Adams	20
00228	Sulfate	EPA 300.0	1	09343196601A	12/09/2009 17:47	Ashley M Adams	20
00217	Kjeldahl Nitrogen	EPA 351.2	1	09342108101A	12/09/2009 13:02	Venia B McFadden	1
00220	Nitrate Nitrogen	EPA 353.2	1	09341106102A	12/07/2009 11:24	K. Robert Caulfeild-James	1

Sample Description: MW-33,120209 Grab Water
2nd Semi-Annual 2009-Cincinnati Final Remedy

LLI Sample # WW 5853366
LLI Group # 1173484
OH

Project Name: Hooven Cincinnati Final Remedy

Collected: 12/02/2009 13:55 by DB

Account Number: 11494

Submitted: 12/03/2009 09:00

Chevron

Reported: 12/16/2009 at 05:15

5000 State Route 128

Discard: 02/15/2010

HOOVEN OH 45033

H0033 SDG#: HVQ34-03

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00219	Nitrite Nitrogen	EPA 353.2	1	09337105101A	12/03/2009 19:36	Joseph E McKenzie	1
00273	Total Organic Carbon	SM20 5310 C	1	09341049502A	12/07/2009 05:24	James S Mathiot	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	09342108101A	12/08/2009 10:30	Nancy J Shoop	1
00202	Alkalinity to pH 4.5	SM20 2320 B	1	09342020201A	12/08/2009 13:57	Geraldine C Smith	1
00201	Alkalinity to pH 8.3	SM20 2320 B	1	09342020201A	12/08/2009 13:57	Geraldine C Smith	1
08344	Ferrous Iron	SM20 3500 Fe B modified	1	09338834401A	12/04/2009 02:00	Daniel S Smith	10
00230	Sulfide	SM20 4500 S2 D	1	09337023001A	12/03/2009 17:30	Geraldine C Smith	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	09338022101A	12/04/2009 18:00	Luz M Groff	1
04001	Chemical Oxygen Demand	EPA 410.4	1	09338400101B	12/04/2009 08:15	Susan A Engle	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-33,120209 Filtered Grab Water
2nd Semi-Annual 2009-Cincinnati Final Remedy**

**LLI Sample # WW 5853367
LLI Group # 1173484
OH**

Project Name: Hooven Cincinnati Final Remedy

Collected: 12/02/2009 13:55 by DB

Account Number: 11494

Submitted: 12/03/2009 09:00

Chevron

Reported: 12/16/2009 at 05:15

5000 State Route 128

Discard: 02/15/2010

HOOVEN OH 45033

HOF33 SDG#: HVQ34-04

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	0.864	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	093381848001	12/13/2009 08:10	Damary Valentin	1
07055	Lead	SW-846 6010B	1	093381848001	12/15/2009 20:03	John W Yanzuk II	1
07058	Manganese	SW-846 6010B	1	093381848001	12/13/2009 08:10	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	093381848001	12/05/2009 06:52	Denise K Conners	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, 120209 Water
2nd Semi-Annual 2009-Cincinnati Final Remedy

LLI Sample # WW 5853368
LLI Group # 1173484
OH

Project Name: Hooven Cincinnati Final Remedy

Collected: 12/02/2009 15:30

Account Number: 11494

Submitted: 12/03/2009 09:00

Chevron

Reported: 12/16/2009 at 05:15

5000 State Route 128

Discard: 02/15/2010

HOOVEN OH 45033

HOO-T SDG#: HVQ34-05TB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles SW-846 8260B					
07582	Benzene	71-43-2	N.D.	ug/l 0.5	1
07582	Chlorobenzene	108-90-7	N.D.	0.8	1
07582	Ethylbenzene	100-41-4	N.D.	0.8	1
07582	Toluene	108-88-3	N.D.	0.7	1
07582	Xylene (Total)	1330-20-7	N.D.	0.8	1
GC Volatiles SW-846 8015B					
01635	TPH-GRO water C6-C10	n.a.	N.D.	ug/l 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	L093412AA	12/07/2009 21:48	Nicholas P Riehl	1
07582	PPL + Xylene (total) by 8260	SW-846 8260B	1	L093412AA	12/07/2009 21:48	Nicholas P Riehl	1
01146	GC VOA Water Prep	SW-846 5030B	1	09338A20A	12/04/2009 13:44	Tyler O Griffin	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	09338A20A	12/04/2009 13:44	Tyler O Griffin	1

Quality Control Summary

 Client Name: Chevron
 Reported: 12/16/09 at 05:15 AM

Group Number: 1173484

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: L093412AA	Sample number(s): 5853364, 5853366, 5853368							
Benzene	N.D.	0.5	ug/l	107		79-120		
Chlorobenzene	N.D.	0.8	ug/l	111		80-120		
Ethylbenzene	N.D.	0.8	ug/l	113		79-120		
Toluene	N.D.	0.7	ug/l	110		79-120		
Xylene (Total)	N.D.	0.8	ug/l	116		80-120		
Batch number: 09338A20A	Sample number(s): 5853364, 5853366, 5853368							
TPH-GRO water C6-C10	N.D.	20.	ug/l	109	118	75-135	8	30
Batch number: 093380007A	Sample number(s): 5853364, 5853366							
TPH-DRO water C10-C28	N.D.	32.	ug/l	90	90	56-122	0	20
Batch number: 093380001A	Sample number(s): 5853364, 5853366							
Methane	N.D.	5.0	ug/l	102		80-120		
Batch number: 093381848001	Sample number(s): 5853364-5853367							
Arsenic	N.D.	0.0072	mg/l	105		89-115		
Calcium	N.D.	0.0702	mg/l	103		90-112		
Iron	N.D.	0.0522	mg/l	99		90-112		
Lead	N.D.	0.0069	mg/l	102		80-120		
Manganese	N.D.	0.00084	mg/l	103		90-110		
Potassium	N.D.	0.239	mg/l	102		85-115		
Sodium	N.D.	0.433	mg/l	104		87-114		
Batch number: 09337105101A	Sample number(s): 5853364, 5853366							
Nitrite Nitrogen	N.D.	0.015	mg/l	108		90-110		
Batch number: 09341049502A	Sample number(s): 5853364, 5853366							
Total Organic Carbon	N.D.	0.50	mg/l	104		91-113		
Batch number: 09341106102A	Sample number(s): 5853364, 5853366							
Nitrate Nitrogen	N.D.	0.040	mg/l	106		90-110		
Batch number: 09342108101A	Sample number(s): 5853364, 5853366							
Kjeldahl Nitrogen	N.D.	0.50	mg/l	108		90-110		
Batch number: 09343196601A	Sample number(s): 5853364, 5853366							
Chloride	N.D.	0.20	mg/l	100		90-110		
Sulfate	N.D.	0.30	mg/l	97		89-110		
Batch number: 09337023001A	Sample number(s): 5853364, 5853366							
Sulfide	N.D.	0.054	mg/l	101		90-110		
Batch number: 09338022101A	Sample number(s): 5853364, 5853366							
Ammonia Nitrogen	N.D.	0.20	mg/l	95	95	85-105	1	5

*- 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: 1173484
 Reported: 12/16/09 at 05:15 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>
Batch number: 09338400101B Chemical Oxygen Demand			Sample number(s): 5853364, 5853366	100		94-110		
Batch number: 09338834401A Ferrous Iron	N.D.	0.010	Sample number(s): 5853364, 5853366 mg/l	101		92-105		
Batch number: 09342020201A Alkalinity to pH 4.5	N.D.	0.46	Sample number(s): 5853364, 5853366 mg/l as CaCO3	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: L093412AA	Sample number(s): 5853364, 5853366, 5853368 UNSPK: P854124								
Benzene	122	121	80-126	1	30				
Chlorobenzene	125*	122	87-124	2	30				
Ethylbenzene	128	127	71-134	1	30				
Toluene	126*	128*	80-125	1	30				
Xylene (Total)	129*	127*	79-125	1	30				
Batch number: 09338A20A TPH-GRO water C6-C10	Sample number(s): 5853364, 5853366, 5853368 UNSPK: 5853364								
	127		63-154						
Batch number: 093380001A Methane	Sample number(s): 5853364, 5853366 UNSPK: P851904								
	82	82	35-157	0	20				
Batch number: 093381848001	Sample number(s): 5853364-5853367 UNSPK: 5853364 BKG: 5853364								
Arsenic	108	109	75-125	1	20	N.D.	N.D.	0 (1)	20
Calcium	68 (2)	85 (2)	75-125	1	20	67.4	66.2	2	20
Iron	98	98	75-125	0	20	N.D.	N.D.	0 (1)	20
Lead	99	98	75-125	2	20	N.D.	N.D.	0 (1)	20
Manganese	101	103	75-125	1	20	0.282	0.277	2	20
Potassium	101	102	75-125	0	20	5.02	4.90	2	20
Sodium	121 (2)	128 (2)	75-125	1	20	43.2	44.7	3	20
Batch number: 09337105101A Nitrite Nitrogen	Sample number(s): 5853364, 5853366 UNSPK: P853378 BKG: P853378								
	101		90-110			N.D.	N.D.	0 (1)	20
Batch number: 09341049502A Total Organic Carbon	Sample number(s): 5853364, 5853366 UNSPK: P853378 BKG: P853378								
	129		64-141			N.D.	N.D.	0 (1)	4
Batch number: 09341106102A Nitrate Nitrogen	Sample number(s): 5853364, 5853366 UNSPK: 5853364 BKG: 5853364								
	100		90-110			0.29	0.29	1 (1)	2
Batch number: 09342108101A Kjeldahl Nitrogen	Sample number(s): 5853364, 5853366 UNSPK: 5853364 BKG: 5853364								
	112*		90-110			N.D.	N.D.	0 (1)	20
Batch number: 09343196601A	Sample number(s): 5853364, 5853366 UNSPK: P854726 BKG: P854726								

*- 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: 12/16/09 at 05:15 AM

Group Number: 1173484

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</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
Chloride	135*		90-110			84.7	83.6	1	20
Sulfate	105		90-110			N.D.	N.D.	0 (1)	20
Batch number: 09337023001A									
Sulfide	96	97	69-133	1	18	N.D.	N.D.	0 (1)	7
Batch number: 09338022101A									
Ammonia Nitrogen						7.2	7.3	2	2
Batch number: 09338400101B									
Chemical Oxygen Demand	91		90-110			34.7	J 45.8	J 28* (1)	5
Batch number: 09338834401A									
Ferrous Iron	99	103	66-130	3	6	N.D.	0.013	J 200* (1)	10
Batch number: 09342020201A									
Alkalinity to pH 4.5	99	99	64-130	0	2	29.2	29.5	1	4
Alkalinity to pH 8.3						N.D.	N.D.	0 (1)	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: PPL + Xylene (total) by 8260
 Batch number: L093412AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
5853364	104	104	106	98
5853366	104	103	104	98
5853368	107	107	107	103
Blank	105	103	106	102
LCS	106	101	107	105
MS	105	103	106	102
MSD	106	101	109	104
Limits:	80-116	77-113	80-113	78-113

 Analysis Name: TPH-GRO water C6-C10
 Batch number: 09338A20A
 Trifluorotoluene-F

5853364	86
5853366	85
5853368	93
Blank	92
LCS	131
LCSD	126
MS	132

*- 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: 12/16/09 at 05:15 AM

Group Number: 1173484

Surrogate Quality Control

Limits: 63-135

Analysis Name: Volatile Headspace Hydrocarbon
Batch number: 093380001A
Propene

5853364	70
5853366	58
Blank	91
LCS	84
MS	64
MSD	66

Limits: 42-131

Analysis Name: TPH-DRO water C10-C28
Batch number: 093380007A
Orthoterphenyl

5853364	82
5853366	80
Blank	89
LCS	97
LCSD	98

Limits: 54-127

*- 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# 1173484 Sample # 58 53364-68 **COC # 211765**

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

temp = 3.3 + 4.0 °C

<p>1 Client: <u>CHEVRON</u> Acct. #: <u>11494</u></p> <p>Project Name/#: <u>2ND SEMI ANNUAL 2009</u> PWSID # <u>NW16170001420</u></p> <p>Project Manager: <u>DOUG LAM</u> P.O.#: _____</p> <p>Sampler: <u>DALE BARRETT</u> Quote #: _____</p> <p>Name of state where samples were collected: <u>OHIO</u></p>				<p>4 Matrix</p> <p>Soil <input type="checkbox"/> Potable <input type="checkbox"/> Check if <input type="checkbox"/></p> <p>Water <input type="checkbox"/> Other <input type="checkbox"/></p>		<p>5 Analyses Requested</p> <p>Preservation Codes</p> <p><u>VOC's PL 8260</u></p> <p><u>DISSOLVED METALS</u></p> <p><u>TPH 6/10</u></p> <p><u>TPH DRO</u></p> <p><u>MNA</u></p>					<p>For Lab Use Only</p> <p>FSC: _____</p> <p>SCR#: _____</p> <p>Preservation Codes</p> <p>H=HCl T=Thiosulfate</p> <p>N=HNO₃ B=NaOH</p> <p>S=H₂SO₄ O=Other</p>																																																																
<p>2 Sample Identification</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Sample</th> <th>Date Collected</th> <th>Time Collected</th> <th>Grab</th> <th>Composite</th> <th>Soil</th> <th>Water</th> <th>Other</th> <th>Total # of Containers</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>MW-51, 120209</td> <td>12-2-09</td> <td>1020</td> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td>21</td> <td>SEE ATTACHED ANALYTE LIST</td> </tr> <tr> <td>MW-33, 120209</td> <td>12-2-09</td> <td>1355</td> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td>21</td> <td></td> </tr> <tr> <td>TRP BLANK 120209</td> <td>12-2-09</td> <td>1530</td> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td>2</td> <td></td> </tr> <tr> <td>TRP BLANK 120209</td> <td>12-2-09</td> <td>1530</td> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td>2</td> <td>DISSOLVED METALS ARE FIELD FILTERED</td> </tr> <tr> <td colspan="10" style="text-align: center;">COB</td> </tr> <tr> <td colspan="10" style="text-align: center;">QC SUMMARY DATA PACKAGE</td> </tr> </tbody> </table>				Sample	Date Collected	Time Collected	Grab	Composite	Soil	Water	Other	Total # of Containers	Remarks	MW-51, 120209	12-2-09	1020	X		X			21	SEE ATTACHED ANALYTE LIST	MW-33, 120209	12-2-09	1355	X		X			21		TRP BLANK 120209	12-2-09	1530	X		X			2		TRP BLANK 120209	12-2-09	1530	X		X			2	DISSOLVED METALS ARE FIELD FILTERED	COB										QC SUMMARY DATA PACKAGE										<p>6 Temperature of samples upon receipt (if requested)</p>	
Sample	Date Collected	Time Collected	Grab	Composite	Soil	Water	Other	Total # of Containers	Remarks																																																																		
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<p>7 Turnaround Time Requested (TAT) (please circle) <u>Normal</u> Rush</p> <p>(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)</p> <p>Date results are needed: _____</p> <p>Rush results requested by (please circle): Phone Fax <u>E-mail</u></p> <p>Phone #: <u>513353 1723</u> Fax #: <u>513 353 41664</u></p> <p>E-mail address: <u>M.MITCHELL@TMHYDRO.COM</u></p>				<p>Relinquished by: <u>Dale Barrett</u> Date: <u>12-2-09</u> Time: <u>1600</u></p> <p>Received by: _____ Date: _____ Time: _____</p>		<p>9</p>																																																																					
<p>8 Data Package Options (please circle if required)</p> <p>Type I (validation/NJ Reg) TX TRRP-13 Yes No</p> <p>Type II (Tier II) MA MCP CT RCP</p> <p>Type III (Reduced NJ) Site-specific QC (MS/MSD/Dup)? Yes No</p> <p>Type IV (CLP SOW) (if yes, indicate QC sample and submit triplicate volume.)</p> <p>Type VI (Raw Data Only) Internal COC Required? Yes / No _____</p>				<p>Relinquished by: _____ Date: _____ Time: _____</p> <p>Received by: _____ Date: _____ Time: _____</p>		<p>Relinquished by: _____ Date: _____ Time: _____</p> <p>Received by: _____ Date: <u>12/3/09</u> Time: <u>900</u></p>																																																																					

Analytical Requests for Groundwater
Chevron Cincinnati Facility, Hooven, Ohio

Volatile Organics

Benzene
Chlorobenzene
Ethylbenzene
Toluene
Xylenes (total)

Dissolved Metals- field filtered

Arsenic
Lead

TPH

GRO
DRO

Monitored Natural Attenuation

Alkalinity
Calcium
Chemical Oxygen Demand
Chloride
Iron (II) and Iron (III)
Dissolved and Total Manganese
Methane
Nitrate Nitrogen
Nitrite Nitrogen
Ammonia Nitrogen
Total Kjeldahl Nitrogen
Potassium
Sodium
Sulfate
Sulfide
Total Organic Carbon

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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