

ANALYTICAL RESULTS

Prepared for:

Chevron
5000 State Route 128
HOOVEN OH 45033

Prepared by:

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

November 08, 2009

Project: Hooven Cincinnati Final Remedy

Samples arrived at the laboratory on Wednesday, October 21, 2009. The PO# for this group is 0015039270 and the release number is 50008931. The group number for this submittal is 1167268.

<u>Client Sample Description</u>	<u>Lancaster Labs (LLI) #</u>
Field Blank-1,102009 Grab Water	5811620
MW-37,102009 Grab Water	5811621
MW-37,102009 Filtered Grab Water	5811622
MW-131,102009 Grab Water	5811623
MW-131,102009 Filtered Grab Water	5811624
Trip Blank,102009 Water	5811625

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,



Robin C. Runkle
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: Field Blank-1,102009 Grab Water
2nd Semi-Annual 2009-Cincinnati Final Remedy**

**LLI Sample # WW 5811620
LLI Group # 1167268
OH**

Project Name: Hooven Cincinnati Final Remedy

Collected: 10/20/2009 09:55 by DB

Account Number: 11494

Submitted: 10/21/2009 09:00

Chevron

Reported: 11/08/2009 at 10:58

5000 State Route 128

Discard: 01/08/2010

HOOVEN OH 45033

REMFBS SDG#: HVQ30-01FB

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	
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	N.D.	0.7	1
07582	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	W092991AA	10/26/2009 13:21	Emily R Styer	1
07582	PPL + Xylene (total) by 8260	SW-846 8260B	1	W092991AA	10/26/2009 13:21	Emily R Styer	1

Sample Description: MW-37,102009 Grab Water
2nd Semi-Annual 2009-Cincinnati Final Remedy

LLI Sample # WW 5811621
LLI Group # 1167268
OH

Project Name: Hooven Cincinnati Final Remedy

Collected: 10/20/2009 10:25 by DB

Account Number: 11494

Submitted: 10/21/2009 09:00

Chevron

Reported: 11/08/2009 at 10:58

5000 State Route 128

Discard: 01/08/2010

HOOVEN OH 45033

REM37 SDG#: HVQ30-02

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	
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	N.D.	0.7	1
07582	Xylene (Total)	1330-20-7	N.D.	0.8	1
GC Miscellaneous					
	SW-846 8015B modified		ug/l	ug/l	
07105	Methane	74-82-8	200	5.0	1
Metals					
	SW-846 6010B		mg/l	mg/l	
01750	Calcium	7440-70-2	148	0.0702	1
01754	Iron	7439-89-6	0.0807 J	0.0522	1
07058	Manganese	7439-96-5	0.0080	0.00084	1
01762	Potassium	7440-09-7	3.53	0.239	1
01767	Sodium	7440-23-5	54.9	0.433	1
	SW-846 6010B modified		mg/l	mg/l	
02268	Ferric Iron	n.a.	0.081 J	0.052	1
Wet Chemistry					
	EPA 300.0		mg/l	mg/l	
00224	Chloride	16887-00-6	106	4.0	20
00228	Sulfate	14808-79-8	48.1	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	1.2	0.040	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	1
	SM20 5310 C		mg/l	mg/l	
00273	Total Organic Carbon	n.a.	1.7	0.50	1
	EPA 410.4		mg/l	mg/l	
04001	Chemical Oxygen Demand	n.a.	N.D.	12.8	1
	SM20 2320 B		mg/l as CaCO3	mg/l as CaCO3	
00202	Alkalinity to pH 4.5	n.a.	458	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.	N.D.	0.010	1

Sample Description: MW-37,102009 Grab Water
2nd Semi-Annual 2009-Cincinnati Final Remedy

LLI Sample # WW 5811621
LLI Group # 1167268
OH

Project Name: Hooven Cincinnati Final Remedy

Collected: 10/20/2009 10:25 by DB

Account Number: 11494

Submitted: 10/21/2009 09:00

Chevron

Reported: 11/08/2009 at 10:58

5000 State Route 128

Discard: 01/08/2010

HOOVEN OH 45033

REM37 SDG#: HVQ30-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Wet Chemistry					
00230	Sulfide	SM20 4500 S2 D 18496-25-8	mg/l N.D.	mg/l 0.054	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified 7664-41-7	mg/l N.D.	mg/l 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
07582	PPL + Xylene (total) by 8260	SW-846 8260B	1	W092991AA	10/26/2009 15:40	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W092991AA	10/26/2009 15:40	Emily R Styer	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	092950002A	10/23/2009 09:43	Dustin A Underkoffler	1
01750	Calcium	SW-846 6010B	1	092951848005	10/29/2009 17:10	John P Hook	1
01754	Iron	SW-846 6010B	1	092951848005	10/29/2009 17:10	John P Hook	1
07058	Manganese	SW-846 6010B	1	092951848005	10/29/2009 17:10	John P Hook	1
01762	Potassium	SW-846 6010B	1	092951848005	10/29/2009 17:10	John P Hook	1
01767	Sodium	SW-846 6010B	1	092951848005	10/29/2009 17:10	John P Hook	1
02268	Ferric Iron	SW-846 6010B modified	1	093032268001	10/30/2009 04:31	Deborah A Krady	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	092951848005	10/23/2009 09:25	Denise K Connors	1
00224	Chloride	EPA 300.0	1	09308196602A	11/05/2009 07:56	Ashley M Adams	20
00228	Sulfate	EPA 300.0	1	09308196602A	11/05/2009 07:56	Ashley M Adams	20
00217	Kjeldahl Nitrogen	EPA 351.2	1	09307108101A	11/05/2009 20:28	Courtney A Shoff	1
00220	Nitrate Nitrogen	EPA 353.2	1	09298106101B	10/25/2009 11:24	Susan A Engle	1
00219	Nitrite Nitrogen	EPA 353.2	1	09294105101B	10/21/2009 21:27	Joseph E McKenzie	1
00273	Total Organic Carbon	SM20 5310 C	1	09296049502B	10/23/2009 06:25	James S Mathiot	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	09307108101A	11/03/2009 09:13	Susan A Engle	1
04001	Chemical Oxygen Demand	EPA 410.4	1	09295400101B	10/22/2009 09:00	Susan A Engle	1
00202	Alkalinity to pH 4.5	SM20 2320 B	1	09300020201A	10/27/2009 13:19	Geraldine C Smith	1
00201	Alkalinity to pH 8.3	SM20 2320 B	1	09300020201A	10/27/2009 13:19	Geraldine C Smith	1
00230	Sulfide	SM20 4500 S2 D	1	09294023001A	10/21/2009 19:18	Geraldine C Smith	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	09295022101A	10/22/2009 18:00	Luz M Groff	1
08344	Ferrous Iron	SM20 3500 Fe B modified	1	09294834401A	10/21/2009 20:40	Daniel S Smith	1



Analysis Report

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**Sample Description: MW-37,102009 Filtered Grab Water
2nd Semi-Annual 2009-Cincinnati Final Remedy**

**LLI Sample # WW 5811622
LLI Group # 1167268
OH**

Project Name: Hooven Cincinnati Final Remedy

Collected: 10/20/2009 10:25 by DB

Account Number: 11494

Submitted: 10/21/2009 09:00

Chevron

Reported: 11/08/2009 at 10:58

5000 State Route 128

Discard: 01/08/2010

HOOVEN OH 45033

RE37F SDG#: HVQ30-03

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	0.0030 J	0.0019	1
07055	Lead	7439-92-1	N.D.	0.0069	1
07058	Manganese	7439-96-5	0.0033 J	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	092951848005	10/29/2009 17:13	John P Hook	1
07055	Lead	SW-846 6010B	1	092951848005	10/29/2009 17:13	John P Hook	1
07058	Manganese	SW-846 6010B	1	092951848005	10/29/2009 17:13	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	092951848005	10/23/2009 09:25	Denise K Connors	1



Analysis Report

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Sample Description: MW-131,102009 Grab Water
2nd Semi-Annual 2009-Cincinnati Final Remedy

LLI Sample # WW 5811623
LLI Group # 1167268
OH

Project Name: Hooven Cincinnati Final Remedy

Collected: 10/20/2009 11:50 by DB

Account Number: 11494

Submitted: 10/21/2009 09:00

Chevron

Reported: 11/08/2009 at 10:58

5000 State Route 128

Discard: 01/08/2010

HOOVEN OH 45033

RE131 SDG#: HVQ30-04

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.	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 Miscellaneous					
SW-846 8015B modified					
07105	Methane	74-82-8	550	10	2
Metals					
SW-846 6010B					
01750	Calcium	7440-70-2	103	0.0702	1
01754	Iron	7439-89-6	4.31	0.0522	1
07058	Manganese	7439-96-5	1.32	0.00084	1
01762	Potassium	7440-09-7	2.06	0.239	1
01767	Sodium	7440-23-5	26.1	0.433	1
SW-846 6010B modified					
02268	Ferric Iron	n.a.	N.D.	0.20	1
Wet Chemistry					
EPA 300.0					
00224	Chloride	16887-00-6	37.1	4.0	20
00228	Sulfate	14808-79-8	8.1	1.5	5
EPA 351.2					
00217	Kjeldahl Nitrogen	n.a.	N.D.	0.50	1
EPA 353.2					
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					
00273	Total Organic Carbon	n.a.	2.2	0.50	1
EPA 410.4					
04001	Chemical Oxygen Demand	n.a.	N.D.	12.8	1
SM20 2320 B					
00202	Alkalinity to pH 4.5	n.a.	405	0.46	1
00201	Alkalinity to pH 8.3	n.a.	N.D.	0.46	1
SM20 3500 Fe B modified					
08344	Ferrous Iron	n.a.	4.3	0.20	20

Sample Description: MW-131,102009 Grab Water
2nd Semi-Annual 2009-Cincinnati Final Remedy

LLI Sample # WW 5811623
LLI Group # 1167268
OH

Project Name: Hooven Cincinnati Final Remedy

Collected: 10/20/2009 11:50 by DB

Account Number: 11494

Submitted: 10/21/2009 09:00

Chevron

Reported: 11/08/2009 at 10:58

5000 State Route 128

Discard: 01/08/2010

HOOVEN OH 45033

RE131 SDG#: HVQ30-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Wet Chemistry					
00230	Sulfide	SM20 4500 S2 D 18496-25-8	mg/l N.D.	mg/l 0.054	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified 7664-41-7	mg/l N.D.	mg/l 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
07582	PPL + Xylene (total) by 8260	SW-846 8260B	1	W092991AA	10/26/2009 16:03	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W092991AA	10/26/2009 16:03	Emily R Styer	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	092950002A	10/26/2009 07:52	Dustin A Underkoffler	2
01750	Calcium	SW-846 6010B	1	092951848005	10/29/2009 17:22	John P Hook	1
01754	Iron	SW-846 6010B	1	092951848005	10/29/2009 17:22	John P Hook	1
07058	Manganese	SW-846 6010B	1	092951848005	10/29/2009 17:22	John P Hook	1
01762	Potassium	SW-846 6010B	1	092951848005	10/29/2009 17:22	John P Hook	1
01767	Sodium	SW-846 6010B	1	092951848005	10/29/2009 17:22	John P Hook	1
02268	Ferric Iron	SW-846 6010B modified	1	093032268001	10/30/2009 04:32	Deborah A Krady	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	092951848005	10/23/2009 09:25	Denise K Connors	1
00224	Chloride	EPA 300.0	1	09308196602A	11/05/2009 08:13	Ashley M Adams	20
00228	Sulfate	EPA 300.0	1	09308196602A	11/07/2009 05:56	Ashley M Adams	5
00217	Kjeldahl Nitrogen	EPA 351.2	1	09307108101A	11/05/2009 20:28	Courtney A Shoff	1
00220	Nitrate Nitrogen	EPA 353.2	1	09298106101B	10/25/2009 11:28	Susan A Engle	1
00219	Nitrite Nitrogen	EPA 353.2	1	09294105101B	10/21/2009 21:31	Joseph E McKenzie	1
00273	Total Organic Carbon	SM20 5310 C	1	09296049502B	10/23/2009 06:47	James S Mathiot	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	09307108101A	11/03/2009 09:13	Susan A Engle	1
04001	Chemical Oxygen Demand	EPA 410.4	1	09295400101B	10/22/2009 09:00	Susan A Engle	1
00202	Alkalinity to pH 4.5	SM20 2320 B	1	09300020201A	10/27/2009 13:19	Geraldine C Smith	1
00201	Alkalinity to pH 8.3	SM20 2320 B	1	09300020201A	10/27/2009 13:19	Geraldine C Smith	1
00230	Sulfide	SM20 4500 S2 D	1	09294023001A	10/21/2009 19:18	Geraldine C Smith	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	09295022101A	10/22/2009 18:00	Luz M Groff	1
08344	Ferrous Iron	SM20 3500 Fe B modified	1	09294834401A	10/21/2009 20:40	Daniel S Smith	20



Analysis Report

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Sample Description: MW-131,102009 Filtered Grab Water
2nd Semi-Annual 2009-Cincinnati Final Remedy

LLI Sample # WW 5811624
LLI Group # 1167268
OH

Project Name: Hooven Cincinnati Final Remedy

Collected: 10/20/2009 11:50 by DB

Account Number: 11494

Submitted: 10/21/2009 09:00

Chevron

Reported: 11/08/2009 at 10:58

5000 State Route 128

Discard: 01/08/2010

HOOVEN OH 45033

R131F SDG#: HVQ30-05

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	0.0266	0.0019	1
07055	Lead	7439-92-1	N.D.	0.0069	1
07058	Manganese	7439-96-5	1.35	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	092951848005	10/29/2009 17:25	John P Hook	1
07055	Lead	SW-846 6010B	1	092951848005	10/29/2009 17:25	John P Hook	1
07058	Manganese	SW-846 6010B	1	092951848005	10/29/2009 17:25	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	092951848005	10/23/2009 09:25	Denise K Connors	1



Analysis Report

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Sample Description: Trip Blank, 102009 Water
2nd Semi-Annual 2009-Cincinnati Final Remedy

LLI Sample # WW 5811625
LLI Group # 1167268
OH

Project Name: Hooven Cincinnati Final Remedy

Collected: 10/20/2009 14:00

Account Number: 11494

Submitted: 10/21/2009 09:00

Chevron

Reported: 11/08/2009 at 10:58

5000 State Route 128

Discard: 01/08/2010

HOOVEN OH 45033

REM-T SDG#: HVQ30-06TB*

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	
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

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	W092991AA	10/26/2009 13:44	Emily R Styer	1
07582	PPL + Xylene (total) by 8260	SW-846 8260B	1	W092991AA	10/26/2009 13:44	Emily R Styer	1

Quality Control Summary

 Client Name: Chevron
 Reported: 11/08/09 at 10:58 AM

Group Number: 1167268

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: W092991AA	Sample number(s): 5811620-5811621,5811623,5811625							
Benzene	N.D.	0.5	ug/l	97	97	79-120	0	30
Chlorobenzene	N.D.	0.8	ug/l	98	98	80-120	0	30
Ethylbenzene	N.D.	0.8	ug/l	95	96	79-120	1	30
Toluene	N.D.	0.7	ug/l	96	95	79-120	0	30
Xylene (Total)	N.D.	0.8	ug/l	96	97	80-120	0	30
Batch number: 092950002A	Sample number(s): 5811621,5811623							
Methane	N.D.	5.0	ug/l	113		80-120		
Batch number: 092951848005	Sample number(s): 5811621-5811624							
Arsenic	0.0022 J	0.0019	mg/l	99		89-115		
Calcium	N.D.	0.0702	mg/l	105		90-112		
Iron	N.D.	0.0522	mg/l	105		90-112		
Lead	N.D.	0.0069	mg/l	100		80-120		
Manganese	N.D.	0.00084	mg/l	101		90-110		
Potassium	N.D.	0.239	mg/l	101		85-115		
Sodium	N.D.	0.433	mg/l	101		87-114		
Batch number: 09294105101B	Sample number(s): 5811621,5811623							
Nitrite Nitrogen	N.D.	0.015	mg/l	106		90-110		
Batch number: 09296049502B	Sample number(s): 5811621,5811623							
Total Organic Carbon	N.D.	0.50	mg/l	99		91-113		
Batch number: 09298106101B	Sample number(s): 5811621,5811623							
Nitrate Nitrogen	N.D.	0.040	mg/l	103		90-110		
Batch number: 09307108101A	Sample number(s): 5811621,5811623							
Kjeldahl Nitrogen	N.D.	0.50	mg/l	106		90-110		
Batch number: 09308196602A	Sample number(s): 5811621,5811623							
Chloride	N.D.	0.20	mg/l	98		90-110		
Sulfate	N.D.	0.30	mg/l	102		89-110		
Batch number: 09294023001A	Sample number(s): 5811621,5811623							
Sulfide	N.D.	0.054	mg/l	99		90-110		
Batch number: 09294834401A	Sample number(s): 5811621,5811623							
Ferrous Iron	N.D.	0.010	mg/l	100		92-105		
Batch number: 09295022101A	Sample number(s): 5811621,5811623							
Ammonia Nitrogen	N.D.	0.20	mg/l	90		85-105		
Batch number: 09295400101B	Sample number(s): 5811621,5811623							
Chemical Oxygen Demand				102		94-110		

*- 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: 1167268

Reported: 11/08/09 at 10:58 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: 09300020201A	Sample number(s): 5811621, 5811623							
Alkalinity to pH 4.5	N.D.	0.46	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: W092991AA	Sample number(s): 5811620-5811621, 5811623, 5811625 UNSPK: P811354								
Benzene	100		80-126						
Chlorobenzene	99		87-124						
Ethylbenzene	98		71-134						
Toluene	100		80-125						
Xylene (Total)	97		79-125						
Batch number: 092950002A	Sample number(s): 5811621, 5811623 UNSPK: P812048								
Methane	67	83	35-157	6	20				
Batch number: 092951848005	Sample number(s): 5811621-5811624 UNSPK: P812539 BKG: P812539								
Arsenic	101	100	75-125	1	20	N.D.	0.0025 J	200* (1)	20
Calcium	101	103	75-125	0	20	11.5	11.4	1	20
Iron	93 (2)	95 (2)	75-125	0	20	14.9	14.9	1	20
Lead	98	98	75-125	0	20	N.D.	N.D.	0 (1)	20
Manganese	98	97	75-125	0	20	1.61	1.61	0	20
Potassium	101	102	75-125	0	20	5.87	5.85	0	20
Sodium	102	103	75-125	1	20	10.4	10.3	1	20
Batch number: 09294105101B	Sample number(s): 5811621, 5811623 UNSPK: 5811621 BKG: 5811621								
Nitrite Nitrogen	102		90-110			N.D.	N.D.	0 (1)	20
Batch number: 09296049502B	Sample number(s): 5811621, 5811623 UNSPK: 5811621 BKG: 5811621								
Total Organic Carbon	100		64-141			1.7	1.6	4 (1)	4
Batch number: 09298106101B	Sample number(s): 5811621, 5811623 UNSPK: 5811621 BKG: 5811621								
Nitrate Nitrogen	95		90-110			1.2	1.3	5*	2
Batch number: 09307108101A	Sample number(s): 5811621, 5811623 UNSPK: 5811621 BKG: 5811621								
Kjeldahl Nitrogen	119*		90-110			N.D.	N.D.	0 (1)	20
Batch number: 09308196602A	Sample number(s): 5811621, 5811623 UNSPK: P811357 BKG: P811357								
Chloride	125*		90-110			48.2	48.1	0	20
Sulfate	129*		90-110			41.4	41.0	1 (1)	20
Batch number: 09294023001A	Sample number(s): 5811621, 5811623 UNSPK: P810029 BKG: P810029								
Sulfide	96	96	69-133	1	18	N.D.	N.D.	0 (1)	7
Batch number: 09294834401A	Sample number(s): 5811621, 5811623 UNSPK: 5811623 BKG: 5811623								
Ferrous Iron	97	98	66-130	1	6	4.3	4.2	2 (1)	10

*- 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: 1167268
 Reported: 11/08/09 at 10:58 AM

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>
Batch number: 09295022101A Ammonia Nitrogen	102 (2)	99 (2)	64-128	1	8	67.3	67.1	0	2
Batch number: 09295400101B Chemical Oxygen Demand	96		90-110			1,220	1,220	0 (1)	5
Batch number: 09300020201A Alkalinity to pH 4.5	101	101	64-130	0	2	8.3	8.6	4 (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: W092991AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
5811620	96	92	89	88
5811621	95	90	90	89
5811623	96	91	89	87
5811625	95	90	89	89
Blank	96	90	88	89
LCS	95	87	91	95
LCSD	95	89	91	94
MS	95	92	90	93
Limits:	80-116	77-113	80-113	78-113

Analysis Name: Volatile Headspace Hydrocarbon
 Batch number: 092950002A
 Propene

5811621	73
5811623	89
Blank	100
LCS	108
MS	72
MSD	79
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# 1167268 Sample # 5811620-25 **COC # 211760**

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

<p>1 Client: <u>CHEVON</u> Acct. #: <u>11494</u></p> <p>Project Name/#: <u>2ND SEMI ANNUAL 2009</u> PWSID #: <u>MWLN 17000 M20</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>5 Analyses Requested</p> <p style="text-align: center;">Preservation Codes</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;"></td> </tr> <tr> <td></td> </tr> </table>																								<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 style="width: 25%;">Sample Identification</th> <th style="width: 10%;">Date Collected</th> <th style="width: 10%;">Time Collected</th> <th style="width: 5%;">Grab</th> <th style="width: 5%;">Composite</th> <th style="width: 5%;">Soil</th> <th style="width: 5%;">Water</th> <th style="width: 5%;">Other</th> <th style="width: 5%;">Total # of Containers</th> <th style="width: 10%;">Matrix</th> <th style="width: 15%;">Remarks</th> </tr> </thead> <tbody> <tr> <td>FIELD BLANK-1, 102009</td> <td>10-20-09</td> <td>0955</td> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td>3</td> <td>VOC's PL P260</td> <td>SEE ATTACHED</td> </tr> <tr> <td>MW-37, 102009</td> <td>10-20-09</td> <td>1025</td> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td>16</td> <td>BY/AF DISSOLVED METALS</td> <td>ANALYTE LIST</td> </tr> <tr> <td>MW-13, 102009</td> <td>10-20-09</td> <td>1150</td> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td>16</td> <td>MNA</td> <td></td> </tr> <tr> <td>TRIP BLANK, 102009</td> <td>10-20-09</td> <td>1400</td> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td>2</td> <td></td> <td>QC SUMMARY DATA PACKAGE</td> </tr> <tr> <td colspan="11" style="text-align: center; height: 100px;"> <div style="position: absolute; top: 50%; left: 50%; transform: translate(-50%, -50%); opacity: 0.5; font-size: 2em;">X</div> </td> </tr> </tbody> </table>				Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Other	Total # of Containers	Matrix	Remarks	FIELD BLANK-1, 102009	10-20-09	0955	X		X			3	VOC's PL P260	SEE ATTACHED	MW-37, 102009	10-20-09	1025	X		X			16	BY/AF DISSOLVED METALS	ANALYTE LIST	MW-13, 102009	10-20-09	1150	X		X			16	MNA		TRIP BLANK, 102009	10-20-09	1400	X		X			2		QC SUMMARY DATA PACKAGE	<div style="position: absolute; top: 50%; left: 50%; transform: translate(-50%, -50%); opacity: 0.5; font-size: 2em;">X</div>											<p>3 Grab Composite</p> <p>4 Matrix</p> <p><input type="checkbox"/> Potable Check if</p> <p><input type="checkbox"/> Drinking Water</p> <p><input type="checkbox"/> Other</p>				<p>6 Temperature of samples upon receipt (if requested)</p>			
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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>513 353 1323</u> Fax #: <u>513 353 4664</u></p> <p>E-mail address: <u>M.MITCHELL@TRUHYDRO.COM</u></p>				<p>Relinquished by: <u>Dale Barrett</u> Date: <u>10-20-09</u> Time: <u>1430</u></p> <p>Relinquished by: _____ Date: _____ Time: _____</p>				<p>9</p> <p>Date Time</p> <p>Date Time</p> <p>Date Time</p> <p>Date Time</p> <p>Date Time</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>SDG Complete? Yes No</p>				<p>Relinquished by: _____ Date: _____ Time: _____</p> <p>Relinquished by: _____ Date: _____ Time: _____</p> <p>Relinquished by: _____ Date: _____ Time: _____</p>				<p>Date Time</p> <p>Date Time</p> <p>Date Time</p>																																																																					

Analytical Requests for Groundwater
Chevron Cincinnati Facility, Hoover, 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 → Sulfide.
Total Organic Carbon

KAK/SS pu matt m. itelval, 10/21/09.

**Environmental Sample Administration
Receipt Documentation Log**

Client/Project: Chevron
 Date of Receipt: 10/21/09
 Time of Receipt: 0900
 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	0022975	1.1°C	TB	WI	Y	B	
2							
3							
4							
5							
6							

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

Paperwork Discrepancy/Unpacking Problems: I had it
No attached analysis sheet @ MBR 10/21/09

Sample Administration Internal Chain of Custody			
Name	Date	Time	Reason for Transfer
<i>[Signature]</i>	10/21/09	1010	Unpacking <u>Storage</u>
Mary Beth Reed	10/21/09	1019	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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