

## 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 25, 2009

Project: Hooven Cincinnati Final Remedy

Samples arrived at the laboratory on Wednesday, November 11, 2009. The PO# for this group is 0015039270 and the release number is 50008931. The group number for this submittal is 1170459.

<u>Client Sample Description</u>	<u>Lancaster Labs (LLI) #</u>
MW-104S,110909 Grab Water	5833203
MW-104S,110909 Filtered Grab Water	5833204
MW-100S,111009 Grab Water	5833205
MW-100S,111009 Filtered Grab Water	5833206
MW-124,111009 Grab Water	5833207
MW-124,111009 Filtered Grab Water	5833208
Trip Blank,111009 Water	5833209

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,



Max E. Snavelly  
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-104S, 110909 Grab Water  
2nd Semi-Annual 2009-Cincinnati Final Remedy

LLI Sample # WW 5833203  
LLI Group # 1170459  
OH

Project Name: Hooven Cincinnati Final Remedy

Collected: 11/09/2009 14:20 by DB

Account Number: 11494

Submitted: 11/11/2009 09:15

Chevron

Reported: 11/25/2009 at 10:13

5000 State Route 128

Discard: 01/25/2010

HOOVEN OH 45033

W104S SDG#: HVQ31-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>GC/MS</b>	<b>Volatiles</b>	<b>SW-846 8260B</b>	<b>ug/l</b>	<b>ug/l</b>	
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	0.9 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	L093181AA	11/14/2009 15:29	Linda C Pape	1
07582	PPL + Xylene (total) by 8260	SW-846 8260B	1	L093181AA	11/14/2009 15:29	Linda C Pape	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-104S,110909 Filtered Grab Water**  
**2nd Semi-Annual 2009-Cincinnati Final Remedy**

**LLI Sample # WW 5833204**  
**LLI Group # 1170459**  
**OH**

**Project Name: Hooven Cincinnati Final Remedy**

Collected: 11/09/2009 14:20 by DB Account Number: 11494

Submitted: 11/11/2009 09:15 Chevron  
Reported: 11/25/2009 at 10:13 5000 State Route 128  
Discard: 01/25/2010 HOOVEN OH 45033

F104S SDG#: HVQ31-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>Metals Dissolved</b>			<b>mg/l</b>	<b>mg/l</b>	
07035	Arsenic	7440-38-2	N.D.	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	093171848004	11/21/2009 04:30	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	093171848004	11/21/2009 04:30	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	093171848004	11/14/2009 06:12	Denise K Connors	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-100S,111009 Grab Water**  
**2nd Semi-Annual 2009-Cincinnati Final Remedy**

**LLI Sample # WW 5833205**  
**LLI Group # 1170459**  
**OH**

**Project Name: Hooven Cincinnati Final Remedy**

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

Account Number: 11494

Submitted: 11/11/2009 09:15

Chevron

Reported: 11/25/2009 at 10:13

5000 State Route 128

Discard: 01/25/2010

HOOVEN OH 45033

W100S SDG#: HVQ31-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>GC/MS Volatiles SW-846 8260B ug/l</b>					
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	0.7 J	0.7	1
07582	Xylene (Total)	1330-20-7	N.D.	0.8	1
<b>GC Volatiles SW-846 8015B ug/l</b>					
01635	TPH-GRO water C6-C10	n.a.	N.D.	20	1
<b>GC Extractable TPH SW-846 8015B ug/l</b>					
08269	TPH-DRO water C10-C28	n.a.	42 J	31	1
<b>GC Miscellaneous SW-846 8015B modified ug/l</b>					
07105	Methane	74-82-8	N.D.	5.0	1
<b>Metals SW-846 6010B mg/l</b>					
01750	Calcium	7440-70-2	124	0.0702	1
01754	Iron	7439-89-6	0.231	0.0522	1
07058	Manganese	7439-96-5	0.0681	0.00084	1
01762	Potassium	7440-09-7	4.63	0.239	1
01767	Sodium	7440-23-5	53.4	0.433	1
<b>SW-846 6010B modified mg/l</b>					
02268	Ferric Iron	n.a.	0.20	0.052	1
<b>Wet Chemistry EPA 300.0 mg/l</b>					
00224	Chloride	16887-00-6	95.9	10.0	50
00228	Sulfate	14808-79-8	82.9	3.0	10
<b>EPA 351.2 mg/l</b>					
00217	Kjeldahl Nitrogen	n.a.	N.D.	0.50	1
<b>EPA 353.2 mg/l</b>					
00220	Nitrate Nitrogen	14797-55-8	5.0	0.080	2
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	1
<b>SM20 5310 C mg/l</b>					
00273	Total Organic Carbon	n.a.	1.1	0.50	1
<b>EPA 410.4 mg/l</b>					
04001	Chemical Oxygen Demand	n.a.	16.5 J	12.8	1
<b>SM20 2320 B mg/l as CaCO3</b>					



# 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-100S, 111009 Grab Water**  
**2nd Semi-Annual 2009-Cincinnati Final Remedy**

**LLI Sample # WW 5833205**  
**LLI Group # 1170459**  
**OH**

**Project Name: Hooven Cincinnati Final Remedy**

Collected: 11/10/2009 10:10 by DB Account Number: 11494

Submitted: 11/11/2009 09:15 Chevron  
 Reported: 11/25/2009 at 10:13 5000 State Route 128  
 Discard: 01/25/2010 HOOVEN OH 45033

W100S SDG#: HVQ31-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>Wet Chemistry</b>					
		<b>SM20 2320 B</b>	<b>mg/l as CaCO3</b>	<b>mg/l as CaCO3</b>	
00202	Alkalinity to pH 4.5	n.a.	336	0.46	1
00201	Alkalinity to pH 8.3	n.a.	N.D.	0.46	1
		<b>SM20 3500 Fe B modified</b>	<b>mg/l</b>	<b>mg/l</b>	
08344	Ferrous Iron	n.a.	0.027 J	0.010	1
		<b>SM20 4500 S2 D</b>	<b>mg/l</b>	<b>mg/l</b>	
00230	Sulfide	18496-25-8	N.D.	0.054	1
		<b>SM20 4500NH3 B/C modified</b>	<b>mg/l</b>	<b>mg/l</b>	
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	L093181AA	11/14/2009 15:51	Linda C Pape	1
07582	PPL + Xylene (total) by 8260	SW-846 8260B	1	L093181AA	11/14/2009 15:51	Linda C Pape	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	09316A07A	11/12/2009 14:35	Matthew S Woods	1
01146	GC VOA Water Prep	SW-846 5030B	1	09316A07A	11/12/2009 14:35	Matthew S Woods	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	093150025A	11/12/2009 09:50	Karen R Rettew	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	093150025A	11/13/2009 20:56	Diane V Do	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	093170000A	11/13/2009 08:58	Dustin A Underkoffler	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	093171848004	11/14/2009 06:12	Denise K Connors	1
01750	Calcium	SW-846 6010B	1	093171848004	11/21/2009 04:34	John W Yanzuk II	1
01754	Iron	SW-846 6010B	1	093171848004	11/21/2009 04:34	John W Yanzuk II	1
07058	Manganese	SW-846 6010B	1	093171848004	11/21/2009 04:34	John W Yanzuk II	1
01762	Potassium	SW-846 6010B	1	093171848004	11/21/2009 04:34	John W Yanzuk II	1
01767	Sodium	SW-846 6010B	1	093171848004	11/21/2009 04:34	John W Yanzuk II	1
02268	Ferric Iron	SW-846 6010B modified	1	093272268010	11/23/2009 08:30	Jennifer L Moyer	1
00224	Chloride	EPA 300.0	1	09322196601B	11/18/2009 19:14	Ashley M Adams	50
00228	Sulfate	EPA 300.0	1	09322196601B	11/20/2009 09:43	Ashley M Adams	10
00217	Kjeldahl Nitrogen	EPA 351.2	1	09322108101A	11/20/2009 11:25	K. Robert Caulfeild-James	1
00220	Nitrate Nitrogen	EPA 353.2	1	09319106101A	11/15/2009 07:01	Susan A Engle	2

**Sample Description: MW-100S,111009 Grab Water**  
**2nd Semi-Annual 2009-Cincinnati Final Remedy**

**LLI Sample # WW 5833205**  
**LLI Group # 1170459**  
**OH**

**Project Name: Hooven Cincinnati Final Remedy**

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

Account Number: 11494

Submitted: 11/11/2009 09:15

Chevron

Reported: 11/25/2009 at 10:13

5000 State Route 128

Discard: 01/25/2010

HOOVEN OH 45033

W100S SDG#: HVQ31-03

### 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	09315105101A	11/11/2009 19:07	Joseph E McKenzie	1
00273	Total Organic Carbon	SM20 5310 C	1	09322049502A	11/18/2009 03:17	James S Mathiot	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	2	09322108101A	11/18/2009 16:10	Carolyn M Mastropietro	1
00202	Alkalinity to pH 4.5	SM20 2320 B	1	09321020201A	11/17/2009 15:16	Geraldine C Smith	1
00201	Alkalinity to pH 8.3	SM20 2320 B	1	09321020201A	11/17/2009 15:16	Geraldine C Smith	1
08344	Ferrous Iron	SM20 3500 Fe B modified	1	09315834401A	11/11/2009 21:40	Daniel S Smith	1
00230	Sulfide	SM20 4500 S2 D	1	09315023001A	11/11/2009 15:19	Geraldine C Smith	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	2	09324022102A	11/20/2009 17:30	Luz M Groff	1
04001	Chemical Oxygen Demand	EPA 410.4	1	09316400101B	11/12/2009 07:45	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-100S,111009 Filtered Grab Water**  
**2nd Semi-Annual 2009-Cincinnati Final Remedy**

**LLI Sample # WW 5833206**  
**LLI Group # 1170459**  
**OH**

**Project Name: Hooven Cincinnati Final Remedy**

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

Account Number: 11494

Submitted: 11/11/2009 09:15

Chevron

Reported: 11/25/2009 at 10:13

5000 State Route 128

Discard: 01/25/2010

HOOVEN OH 45033

F100S SDG#: HVQ31-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>Metals Dissolved</b>			<b>mg/l</b>	<b>mg/l</b>	
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	0.0468	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	093171848004	11/21/2009 04:37	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	093171848004	11/21/2009 04:37	John W Yanzuk II	1
07058	Manganese	SW-846 6010B	1	093171848004	11/21/2009 04:37	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	093171848004	11/14/2009 06:12	Denise K Connors	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-124,111009 Grab Water**  
**2nd Semi-Annual 2009-Cincinnati Final Remedy**

**LLI Sample # WW 5833207**  
**LLI Group # 1170459**  
**OH**

**Project Name: Hooven Cincinnati Final Remedy**

Collected: 11/10/2009 12:45 by DB Account Number: 11494  
Submitted: 11/11/2009 09:15 Chevron  
Reported: 11/25/2009 at 10:13 5000 State Route 128  
Discard: 01/25/2010 HOOVEN OH 45033

W124- SDG#: HVQ31-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>GC/MS</b>	<b>Volatiles</b>	<b>SW-846 8260B</b>	<b>ug/l</b>	<b>ug/l</b>	
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	L093181AA	11/14/2009 16:13	Linda C Pape	1
07582	PPL + Xylene (total) by 8260	SW-846 8260B	1	L093181AA	11/14/2009 16:13	Linda C Pape	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-124,111009 Filtered Grab Water  
2nd Semi-Annual 2009-Cincinnati Final Remedy**

**LLI Sample # WW 5833208  
LLI Group # 1170459  
OH**

**Project Name: Hooven Cincinnati Final Remedy**

Collected: 11/10/2009 12:45 by DB

Account Number: 11494

Submitted: 11/11/2009 09:15

Chevron

Reported: 11/25/2009 at 10:13

5000 State Route 128

Discard: 01/25/2010

HOOVEN OH 45033

W124F SDG#: HVQ31-06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>Metals Dissolved</b>			<b>mg/l</b>	<b>mg/l</b>	
07035	Arsenic	7440-38-2	N.D.	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	093171848004	11/21/2009 04:40	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	093171848004	11/21/2009 04:40	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	093171848004	11/14/2009 06:12	Denise K Connors	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, 111009 Water**  
**2nd Semi-Annual 2009-Cincinnati Final Remedy**

**LLI Sample # WW 5833209**  
**LLI Group # 1170459**  
**OH**

**Project Name: Hooven Cincinnati Final Remedy**

Collected: 11/10/2009 14:15

Account Number: 11494

Submitted: 11/11/2009 09:15

Chevron

Reported: 11/25/2009 at 10:13

5000 State Route 128

Discard: 01/25/2010

HOOVEN OH 45033

-124T SDG#: HVQ31-07TB\*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>GC/MS Volatiles SW-846 8260B</b>					
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	2 J	0.7	1
07582	Xylene (Total)	1330-20-7	N.D.	0.8	1
<b>GC Volatiles SW-846 8015B</b>					
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	L093181AA	11/14/2009 16:35	Linda C Pape	1
07582	PPL + Xylene (total) by 8260	SW-846 8260B	1	L093181AA	11/14/2009 16:35	Linda C Pape	1
01146	GC VOA Water Prep	SW-846 5030B	1	09316A07A	11/12/2009 14:09	Matthew S Woods	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	09316A07A	11/12/2009 14:09	Matthew S Woods	1

## Quality Control Summary

 Client Name: Chevron  
 Reported: 11/25/09 at 10:13 AM

Group Number: 1170459

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: L093181AA	Sample number(s): 5833203, 5833205, 5833207, 5833209							
Benzene	N.D.	0.5	ug/l	108		79-120		
Chlorobenzene	N.D.	0.8	ug/l	101		80-120		
Ethylbenzene	N.D.	0.8	ug/l	105		79-120		
Toluene	N.D.	0.7	ug/l	107		79-120		
Xylene (Total)	N.D.	0.8	ug/l	103		80-120		
Batch number: 09316A07A	Sample number(s): 5833205, 5833209							
TPH-GRO water C6-C10	N.D.	20.	ug/l	100	100	75-135	0	30
Batch number: 093150025A	Sample number(s): 5833205							
TPH-DRO water C10-C28	N.D.	32.	ug/l	95	94	56-122	1	20
Batch number: 093170000A	Sample number(s): 5833205							
Methane	N.D.	5.0	ug/l	97		80-120		
Batch number: 093171848004	Sample number(s): 5833204-5833206, 5833208							
Arsenic	N.D.	0.0072	mg/l	100		89-115		
Calcium	N.D.	0.0702	mg/l	106		90-112		
Iron	N.D.	0.0522	mg/l	105		90-112		
Lead	N.D.	0.0069	mg/l	103		80-120		
Manganese	N.D.	0.00084	mg/l	103		90-110		
Potassium	N.D.	0.239	mg/l	103		85-115		
Sodium	N.D.	0.433	mg/l	105		87-114		
Batch number: 09315105101A	Sample number(s): 5833205							
Nitrite Nitrogen	N.D.	0.015	mg/l	90		90-110		
Batch number: 09319106101A	Sample number(s): 5833205							
Nitrate Nitrogen	N.D.	0.040	mg/l	102		90-110		
Batch number: 09322049502A	Sample number(s): 5833205							
Total Organic Carbon	N.D.	0.50	mg/l	101		91-113		
Batch number: 09322108101A	Sample number(s): 5833205							
Kjeldahl Nitrogen	N.D.	0.50	mg/l	98		90-110		
Batch number: 09322196601B	Sample number(s): 5833205							
Chloride	N.D.	0.20	mg/l	106		90-110		
Sulfate	N.D.	0.30	mg/l	101		89-110		
Batch number: 09315023001A	Sample number(s): 5833205							
Sulfide	N.D.	0.054	mg/l	100		90-110		
Batch number: 09315834401A	Sample number(s): 5833205							
Ferrous Iron	N.D.	0.010	mg/l	100		92-105		

\*- 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: 1170459  
 Reported: 11/25/09 at 10:13 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: 09316400101B Chemical Oxygen Demand	Sample number(s): 5833205			101		94-110		
Batch number: 09321020201A Alkalinity to pH 4.5	N.D.	0.46	mg/l as CaCO3	100		98-103		
Batch number: 09324022102A Ammonia Nitrogen	N.D.	0.20	mg/l	95		85-105		

### 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: L093181AA	Sample number(s): 5833203, 5833205, 5833207, 5833209 UNSPK: P831749								
Benzene	109	110	80-126	0	30				
Chlorobenzene	108	110	87-124	1	30				
Ethylbenzene	109	111	71-134	1	30				
Toluene	110	111	80-125	1	30				
Xylene (Total)	111	112	79-125	1	30				
Batch number: 09316A07A TPH-GRO water C6-C10	Sample number(s): 5833205, 5833209 UNSPK: P833762								
	2182	1909	63-154	5	30				
	(2)	(2)							
Batch number: 093170000A Methane	Sample number(s): 5833205 UNSPK: P834351								
	-7167	-7333	35-157	7	20				
	(2)	(2)							
Batch number: 093171848004	Sample number(s): 5833204-5833206, 5833208 UNSPK: P834371 BKG: P834371								
Arsenic	116	107	75-125	8	20	N.D.	N.D.	0 (1)	20
Calcium	117	102	75-125	5	20	7.90	8.02	2	20
Iron	106	105	75-125	1	20	0.155 J	0.159 J	3 (1)	20
Lead	104	104	75-125	0	20	N.D.	N.D.	0 (1)	20
Manganese	102	102	75-125	0	20	0.0211	0.0213	1 (1)	20
Potassium	104	104	75-125	0	20	1.67	1.70	2 (1)	20
Sodium	107	105	75-125	1	20	5.28	5.43	3	20
Batch number: 09315105101A Nitrite Nitrogen	Sample number(s): 5833205 UNSPK: P833194 BKG: P833194								
	103		90-110			N.D.	N.D.	0 (1)	20
Batch number: 09319106101A Nitrate Nitrogen	Sample number(s): 5833205 UNSPK: P825316 BKG: P825316								
	98		90-110			N.D.	N.D.	0 (1)	2
Batch number: 09322049502A Total Organic Carbon	Sample number(s): 5833205 UNSPK: P833286 BKG: P833286								
	104		64-141			3.6	3.5	3 (1)	4
Batch number: 09322108101A Kjeldahl Nitrogen	Sample number(s): 5833205 UNSPK: P834183 BKG: P834183								
	124*		90-110			N.D.	N.D.	0 (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: 11/25/09 at 10:13 AM

Group Number: 1170459

### 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: 09322196601B Chloride	110		90-110			95.9	95.5	0 (1)	20
Sulfate	86*		90-110			82.9	80.8	3	20
Batch number: 09315023001A Sulfide	101	102	69-133	1	18	N.D.	N.D.	0 (1)	7
Batch number: 09315834401A Ferrous Iron	99	101	66-130	1	6	30.4	31.0	2 (1)	10
Batch number: 09316400101B Chemical Oxygen Demand	91		90-110			10,300	10,300	0	5
Batch number: 09321020201A Alkalinity to pH 4.5	96	97	64-130	0	2	70.2	70.6	1	4
Alkalinity to pH 8.3						N.D.	N.D.	0 (1)	4
Batch number: 09324022102A Ammonia Nitrogen	111	114	64-128	1	8	36.6	36.0	2	2

### 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: L093181AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
5833203	89	89	92	90
5833205	89	91	93	90
5833207	90	89	95	87
5833209	89	91	92	90
Blank	87	89	92	90
LCS	89	93	95	89
MS	89	91	93	92
MSD	89	90	93	91
Limits:	80-116	77-113	80-113	78-113

 Analysis Name: TPH-GRO water C6-C10  
 Batch number: 09316A07A  
 Trifluorotoluene-F

5833205	101
5833209	102
Blank	99
LCS	111
LCSD	112

\*- 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: 11/25/09 at 10:13 AM

Group Number: 1170459

### Surrogate Quality Control

MS 128  
MSD 128

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Limits: 63-135

Analysis Name: TPH-DRO water C10-C28  
Batch number: 093150025A  
Orthoterphenyl

---

5833205 95  
Blank 90  
LCS 102  
LCSD 100

---

Limits: 54-127

Analysis Name: Volatile Headspace Hydrocarbon  
Batch number: 093170000A  
Propene

---

5833205 54  
Blank 82  
LCS 75  
MS 43  
MSD 61

---

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# 1170459 Sample # 5833203-09 **COC # 211761**

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

<p>1 Client: <u>CHEVRON</u> Acct. #: <u>11494</u></p> <p>Project Name#: <u>2ND SEMI ANNUAL 2009</u> PWSID #: <u>PAUKN17000420</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><input type="checkbox"/> Potable <input type="checkbox"/> Check if _____</p> <p><input type="checkbox"/> Water _____</p> <p><input type="checkbox"/> Other _____</p>		5 Analyses Requested						<p>For Lab Use Only</p> <p>FSC: _____</p> <p>SCR#: _____</p> <p>Preservation Codes</p> <p>H=HCl T=Thiosulfate</p> <p>N=HNO<sub>3</sub> B=NaOH</p> <p>S=H<sub>2</sub>SO<sub>4</sub> O=Other</p>	
						Preservation Codes							
3						Total # of Containers						Remarks	
Grab Composite						Soil Water Other							
Date Collected				Time Collected		<p>VIX 15 ML 8L60</p> <p>PO/AS DISSOLVED METALS</p> <p>MVA</p> <p>TPH GRs</p> <p>TPH DRo</p>						<p>SEE ATTACHED ANALYTE LIST</p> <p>QC SUMMARY DATA PACKAGE</p>	
MW-1045, 110909				11-9-09 1420		X X 4 X X							
MW-1005, 111009				11-10-09 1010		X X 21 X X X X X							
MW-124, 111009				11-10-09 1245		X X 4 X X							
TRIP BLANK, 111009				11-10-09 1415		X X 2 X							
TRIP BLANK, 111009				11-10-09 1415		X X 2 X							
<del>_____</del>				<del>_____</del>		<del>_____</del>							
<del>_____</del>				<del>_____</del>		<del>_____</del>							

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: M.MITCHELL@TRUHYDRO.COM

Relinquished by:	Date	Time	Received by:	Date	Time
<u>Dale Barrett</u>	<u>11/10/09</u>	<u>1430</u>			
Relinquished by:	Date	Time	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:	Date	Time

8 Data Package Options (please circle if required)

Type I (validation/NJ Reg) TX TRRP-13 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 triplicate volume.)

Type VI (Raw Data Only) Internal COC Required? Yes / No

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

**Environmental Sample Administration  
Receipt Documentation Log**

Client/Project: Chevron-Trihydro  
 Date of Receipt: 11/11/09  
 Time of Receipt: 0915  
 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	0499715	1.0°C	TB	WI	y	L	
2							
3							
4							
5							
6							

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

Paperwork Discrepancy/Unpacking Problems:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Sample Administration Internal Chain of Custody**

Name	Date	Time	Reason for Transfer
<i>[Signature]</i>	11/11/09	1005	Unpacking
<i>[Signature]</i>	11/11/09	1010	Place in Storage or <input checked="" type="radio"/> Entry
			Entry
			Entry

## Lancaster Laboratories Explanation of Symbols and Abbreviations

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

<b>N.D.</b>	none detected	<b>BMQL</b>	Below Minimum Quantitation Level
<b>TNTC</b>	Too Numerous To Count	<b>MPN</b>	Most Probable Number
<b>IU</b>	International Units	<b>CP Units</b>	cobalt-chloroplatinate units
<b>umhos/cm</b>	micromhos/cm	<b>NTU</b>	nephelometric turbidity units
<b>C</b>	degrees Celsius	<b>F</b>	degrees Fahrenheit
<b>Cal</b>	(diet) calories	<b>lb.</b>	pound(s)
<b>meq</b>	milliequivalents	<b>kg</b>	kilogram(s)
<b>g</b>	gram(s)	<b>mg</b>	milligram(s)
<b>ug</b>	microgram(s)	<b>l</b>	liter(s)
<b>ml</b>	milliliter(s)	<b>ul</b>	microliter(s)
<b>m3</b>	cubic meter(s)	<b>fib &gt;5 um/ml</b>	fibers greater than 5 microns in length per ml
<b>&lt;</b>	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.		
<b>&gt;</b>	greater than		
<b>ppm</b>	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.		
<b>ppb</b>	parts per billion		
<b>Dry weight basis</b>	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

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

### Inorganic Qualifiers

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