

ANALYTICAL RESULTS

Prepared for:

Chevron
5000 State Route 128
HOOVEN OH 45033

Prepared by:

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

October 22, 2009

Project: Hooven Cincinnati Final Remedy

Samples arrived at the laboratory on Tuesday, October 13, 2009. The PO# for this group is 0015039270 and the release number is 50008931. The group number for this submittal is 1166070.

<u>Client Sample Description</u>	<u>Lancaster Labs (LLI) #</u>
EB-2,101209 Grab Water	5804205
EB-2,101209 Filtered Grab Water	5804206
MW-35,101209 Grab Water	5804207
MW-35,101209 Filtered Grab Water	5804208
BD-1,101209 Grab Water	5804209
BD-1,101209 Filtered Grab Water	5804210
MW-115S,101209 Grab Water	5804211
MW-115S,101209 Filtered Grab Water	5804212
MW-115S,101209MS Grab Water	5804213
MW-115S,101209MS Filtered Grab Water	5804214
MW-115S,101209MSD Grab Water	5804215
MW-115S,101209MSD Filt Grab Water	5804216
MW-115S,101209DUP Filt Grab Water	5804217
Trip Blank,101209 Water	5804218

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

ELECTRONIC Trihydro Corporation
COPY TO

Attn: Trihydro Database

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Attn: Tim Gunn

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: EB-2,101209 Grab Water
2nd Semi-Annual 2009-Cincinnati Final Remedy

LLI Sample # WW 5804205
LLI Group # 1166070
OH

Project Name: Hooven Cincinnati Final Remedy

Collected: 10/12/2009 08:25 by JH

Account Number: 11494

Submitted: 10/13/2009 08:50

Chevron

Reported: 10/22/2009 at 09:02

5000 State Route 128

Discard: 12/22/2009

HOOVEN OH 45033

REME2 SDG#: HVQ28-01EB

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 Volatiles	SW-846 8015B		ug/l	ug/l	
01635	TPH-GRO water C6-C10	n.a.	N.D.	20	1
GC Extractable TPH	SW-846 8015B		ug/l	ug/l	
08269	TPH-DRO water C10-C28	n.a.	72 J	31	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	W092881AA	10/15/2009 14:15	Emily R Styer	1
07582	PPL + Xylene (total) by 8260	SW-846 8260B	1	W092881AA	10/15/2009 14:15	Emily R Styer	1
01146	GC VOA Water Prep	SW-846 5030B	1	09287A20A	10/14/2009 14:20	Tyler O Griffin	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	09287A20A	10/14/2009 14:20	Tyler O Griffin	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	092870012A	10/15/2009 03:10	David V Hershey Jr	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	092870012A	10/15/2009 11:21	Diane V Do	1



Analysis Report

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**Sample Description: EB-2,101209 Filtered Grab Water
2nd Semi-Annual 2009-Cincinnati Final Remedy**

**LLI Sample # WW 5804206
LLI Group # 1166070
OH**

Project Name: Hooven Cincinnati Final Remedy

Collected: 10/12/2009 08:25 by JH

Account Number: 11494

Submitted: 10/13/2009 08:50

Chevron

Reported: 10/22/2009 at 09:02

5000 State Route 128

Discard: 12/22/2009

HOOVEN OH 45033

REMEF SDG#: HVQ28-02EB

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

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	092881848002	10/16/2009 20:24	John P Hook	1
07055	Lead	SW-846 6010B	1	092881848002	10/16/2009 20:24	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	092881848002	10/16/2009 13:44	James L Mertz	1

Sample Description: MW-35,101209 Grab Water
2nd Semi-Annual 2009-Cincinnati Final Remedy

LLI Sample # WW 5804207
LLI Group # 1166070
OH

Project Name: Hooven Cincinnati Final Remedy

Collected: 10/12/2009 09:45 by JH

Account Number: 11494

Submitted: 10/13/2009 08:50

Chevron

Reported: 10/22/2009 at 09:02

5000 State Route 128

Discard: 12/22/2009

HOOVEN OH 45033

REM35 SDG#: HVQ28-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles					
	SW-846 8260B		ug/l	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	52	5.0	1
Metals					
	SW-846 6010B		mg/l	mg/l	
01750	Calcium	7440-70-2	113	0.0702	1
01754	Iron	7439-89-6	N.D.	0.0522	1
07058	Manganese	7439-96-5	0.981	0.00084	1
01762	Potassium	7440-09-7	5.56	0.239	1
01767	Sodium	7440-23-5	38.4	0.433	1
	SW-846 6010B modified		mg/l	mg/l	
02268	Ferric Iron	n.a.	N.D.	0.052	1
Wet Chemistry					
	EPA 300.0		mg/l	mg/l	
00224	Chloride	16887-00-6	71.8	4.0	20
00228	Sulfate	14808-79-8	28.7	3.0	10
	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	N.D.	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.	1.9	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.	415	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.	0.020 J	0.010	1

Sample Description: MW-35,101209 Grab Water
2nd Semi-Annual 2009-Cincinnati Final Remedy

LLI Sample # WW 5804207
LLI Group # 1166070
OH

Project Name: Hooven Cincinnati Final Remedy

Collected: 10/12/2009 09:45 by JH Account Number: 11494

Submitted: 10/13/2009 08:50 Chevron
 Reported: 10/22/2009 at 09:02 5000 State Route 128
 Discard: 12/22/2009 HOOVEN OH 45033

REM35 SDG#: HVQ28-03

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	W092881AA	10/15/2009 16:12	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W092881AA	10/15/2009 16:12	Emily R Styer	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	092870001A	10/15/2009 10:40	Dustin A Underkoffler	1
01750	Calcium	SW-846 6010B	1	092881848002	10/16/2009 20:26	John P Hook	1
01754	Iron	SW-846 6010B	1	092881848002	10/19/2009 07:36	Joanne M Gates	1
07058	Manganese	SW-846 6010B	1	092881848002	10/16/2009 20:26	John P Hook	1
01762	Potassium	SW-846 6010B	1	092881848002	10/16/2009 20:26	John P Hook	1
01767	Sodium	SW-846 6010B	1	092881848002	10/16/2009 20:26	John P Hook	1
02268	Ferric Iron	SW-846 6010B modified	1	092922268010	10/19/2009 09:00	Jennifer L Moyer	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	092881848002	10/16/2009 13:44	James L Mertz	1
00224	Chloride	EPA 300.0	1	09290196102A	10/20/2009 21:53	Ashley M Adams	20
00228	Sulfate	EPA 300.0	1	09290196102A	10/18/2009 01:54	Ashley M Adams	10
00217	Kjeldahl Nitrogen	EPA 351.2	1	09292108101A	10/21/2009 19:25	Joseph E McKenzie	1
00220	Nitrate Nitrogen	EPA 353.2	1	09288106101A	10/15/2009 10:43	K. Robert Caulfeild-James	1
00219	Nitrite Nitrogen	EPA 353.2	1	09286105101B	10/13/2009 21:59	Joseph E McKenzie	1
00273	Total Organic Carbon	SM20 5310 C	1	09289049501A	10/16/2009 00:11	James S Mathiot	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	09292108101A	10/19/2009 11:10	Nancy J Shoop	1
04001	Chemical Oxygen Demand	EPA 410.4	1	09287400102A	10/14/2009 07:40	Susan A Engle	1
00202	Alkalinity to pH 4.5	SM20 2320 B	1	09287020201A	10/14/2009 15:16	Geraldine C Smith	1
00201	Alkalinity to pH 8.3	SM20 2320 B	1	09287020201A	10/14/2009 15:16	Geraldine C Smith	1
00230	Sulfide	SM20 4500 S2 D	1	09286023001A	10/13/2009 19:25	Geraldine C Smith	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	09286022101A	10/13/2009 18:00	Luz M Groff	1
08344	Ferrous Iron	SM20 3500 Fe B modified	1	09286834401A	10/13/2009 21:50	Daniel S Smith	1



Analysis Report

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**Sample Description: MW-35,101209 Filtered Grab Water
2nd Semi-Annual 2009-Cincinnati Final Remedy**

**LLI Sample # WW 5804208
LLI Group # 1166070
OH**

Project Name: Hooven Cincinnati Final Remedy

Collected: 10/12/2009 09:45 by JH

Account Number: 11494

Submitted: 10/13/2009 08:50

Chevron

Reported: 10/22/2009 at 09:02

5000 State Route 128

Discard: 12/22/2009

HOOVEN OH 45033

RE35F SDG#: HVQ28-04

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	0.991	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	092881848002	10/16/2009 20:30	John P Hook	1
07055	Lead	SW-846 6010B	1	092881848002	10/16/2009 20:30	John P Hook	1
07058	Manganese	SW-846 6010B	1	092881848002	10/16/2009 20:30	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	092881848002	10/16/2009 13:44	James L Mertz	1



Analysis Report

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

Sample Description: **BD-1,101209 Grab Water**
2nd Semi-Annual 2009-Cincinnati Final Remedy

LLI Sample # **WW 5804209**
LLI Group # **1166070**
OH

Project Name: **Hooven Cincinnati Final Remedy**

Collected: 10/12/2009 by JH

Account Number: 11494

Submitted: 10/13/2009 08:50

Chevron

Reported: 10/22/2009 at 09:02

5000 State Route 128

Discard: 12/22/2009

HOOVEN OH 45033

REMBD SDG#: HVQ28-05FD

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	W092881AA	10/15/2009 16:35	Emily R Styer	1
07582	PPL + Xylene (total) by 8260	SW-846 8260B	1	W092881AA	10/15/2009 16:35	Emily R Styer	1



Analysis Report

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Sample Description: BD-1,101209 Filtered Grab Water
2nd Semi-Annual 2009-Cincinnati Final Remedy

LLI Sample # WW 5804210
LLI Group # 1166070
OH

Project Name: Hooven Cincinnati Final Remedy

Collected: 10/12/2009 by JH

Account Number: 11494

Submitted: 10/13/2009 08:50

Chevron

Reported: 10/22/2009 at 09:02

5000 State Route 128

Discard: 12/22/2009

HOOVEN OH 45033

REBDF SDG#: HVQ28-06FD

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

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	092881848002	10/16/2009 20:33	John P Hook	1
07055	Lead	SW-846 6010B	1	092881848002	10/16/2009 20:33	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	092881848002	10/16/2009 13:44	James L Mertz	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-115S,101209 Grab Water
2nd Semi-Annual 2009-Cincinnati Final Remedy

LLI Sample # WW 5804211
LLI Group # 1166070
OH

Project Name: Hooven Cincinnati Final Remedy

Collected: 10/12/2009 11:05 by JH

Account Number: 11494

Submitted: 10/13/2009 08:50

Chevron

Reported: 10/22/2009 at 09:02

5000 State Route 128

Discard: 12/22/2009

HOOVEN OH 45033

RE115 SDG#: HVQ28-07BKG

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	0.8 J	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 ug/l					
01635	TPH-GRO water C6-C10	n.a.	300	20	1
GC Extractable TPH SW-846 8015B ug/l					
08269	TPH-DRO water C10-C28	n.a.	220	31	1
GC Miscellaneous SW-846 8015B modified ug/l					
07105	Methane	74-82-8	5,600	500	100
Metals SW-846 6010B mg/l					
01750	Calcium	7440-70-2	121	0.0702	1
01754	Iron	7439-89-6	5.14	0.0522	1
07058	Manganese	7439-96-5	1.78	0.00084	1
01762	Potassium	7440-09-7	2.32	0.239	1
01767	Sodium	7440-23-5	48.0	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	55.9	4.0	20
00228	Sulfate	14808-79-8	4.0 J	1.5	5
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.	2.2	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-115S,101209 Grab Water
2nd Semi-Annual 2009-Cincinnati Final Remedy

LLI Sample # WW 5804211
LLI Group # 1166070
OH

Project Name: Hooven Cincinnati Final Remedy

Collected: 10/12/2009 11:05 by JH

Account Number: 11494

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Discard: 12/22/2009

HOOVEN OH 45033

RE115 SDG#: HVQ28-07BKG

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.	487	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.	5.1	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

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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	W092881AA	10/15/2009 15:01	Emily R Styer	1
07582	PPL + Xylene (total) by 8260	SW-846 8260B	1	W092881AA	10/15/2009 15:01	Emily R Styer	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	09287A20A	10/14/2009 17:14	Tyler O Griffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	09287A20A	10/14/2009 17:14	Tyler O Griffin	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	092870012A	10/15/2009 03:10	David V Hershey Jr	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	092870012A	10/15/2009 08:36	Diane V Do	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	092870001A	10/15/2009 13:27	Dustin A Underkoffler	100
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	092881848002	10/16/2009 13:44	James L Mertz	1
01750	Calcium	SW-846 6010B	1	092881848002	10/16/2009 20:36	John P Hook	1
01754	Iron	SW-846 6010B	1	092881848002	10/16/2009 20:36	John P Hook	1
07058	Manganese	SW-846 6010B	1	092881848002	10/16/2009 20:36	John P Hook	1
01762	Potassium	SW-846 6010B	1	092881848002	10/16/2009 20:36	John P Hook	1
01767	Sodium	SW-846 6010B	1	092881848002	10/16/2009 20:36	John P Hook	1
02268	Ferric Iron	SW-846 6010B modified	1	092922268010	10/19/2009 09:00	Jennifer L Moyer	1
00224	Chloride	EPA 300.0	1	09290196102A	10/20/2009 22:10	Ashley M Adams	20
00228	Sulfate	EPA 300.0	1	09290196102A	10/18/2009 02:39	Ashley M Adams	5
00217	Kjeldahl Nitrogen	EPA 351.2	1	09292108101A	10/21/2009 18:45	Joseph E McKenzie	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-115S,101209 Grab Water
2nd Semi-Annual 2009-Cincinnati Final Remedy

LLI Sample # WW 5804211
LLI Group # 1166070
OH

Project Name: Hooven Cincinnati Final Remedy

Collected: 10/12/2009 11:05 by JH

Account Number: 11494

Submitted: 10/13/2009 08:50

Chevron

Reported: 10/22/2009 at 09:02

5000 State Route 128

Discard: 12/22/2009

HOOVEN OH 45033

RE115 SDG#: HVQ28-07BKG

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00220	Nitrate Nitrogen	EPA 353.2	1	09288106101A	10/15/2009 10:44	K. Robert Caulfeild-James	1
00219	Nitrite Nitrogen	EPA 353.2	1	09286105101B	10/13/2009 21:55	Joseph E McKenzie	1
00273	Total Organic Carbon	SM20 5310 C	1	09289049501A	10/16/2009 00:18	James S Mathiot	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	09292108101A	10/19/2009 11:10	Nancy J Shoop	1
00202	Alkalinity to pH 4.5	SM20 2320 B	1	09287020201A	10/14/2009 15:16	Geraldine C Smith	1
00201	Alkalinity to pH 8.3	SM20 2320 B	1	09287020201A	10/14/2009 15:16	Geraldine C Smith	1
08344	Ferrous Iron	SM20 3500 Fe B modified	1	09286834401A	10/13/2009 21:50	Daniel S Smith	10
00230	Sulfide	SM20 4500 S2 D	1	09286023001A	10/13/2009 19:25	Geraldine C Smith	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	09286022101A	10/13/2009 18:00	Luz M Groff	1
04001	Chemical Oxygen Demand	EPA 410.4	1	09287400102A	10/14/2009 07:40	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-115S,101209 Filtered Grab Water
2nd Semi-Annual 2009-Cincinnati Final Remedy**

**LLI Sample # WW 5804212
LLI Group # 1166070
OH**

Project Name: Hooven Cincinnati Final Remedy

Collected: 10/12/2009 11:05 by JH

Account Number: 11494

Submitted: 10/13/2009 08:50

Chevron

Reported: 10/22/2009 at 09:02

5000 State Route 128

Discard: 12/22/2009

HOOVEN OH 45033

R115F SDG#: HVQ28-08BKG

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	0.0109 J	0.0072	1
07055	Lead	7439-92-1	N.D.	0.0069	1
07058	Manganese	7439-96-5	1.78	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	092881848002	10/16/2009 19:37	John P Hook	1
07055	Lead	SW-846 6010B	1	092881848002	10/16/2009 19:37	John P Hook	1
07058	Manganese	SW-846 6010B	1	092881848002	10/16/2009 19:37	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	092881848002	10/16/2009 13:44	James L Mertz	1



Analysis Report

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

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Sample Description: MW-115S,101209MS Grab Water
2nd Semi-Annual 2009-Cincinnati Final Remedy

LLI Sample # WW 5804213
LLI Group # 1166070
OH

Project Name: Hooven Cincinnati Final Remedy

Collected: 10/12/2009 11:05 by JH

Account Number: 11494

Submitted: 10/13/2009 08:50

Chevron

Reported: 10/22/2009 at 09:02

5000 State Route 128

Discard: 12/22/2009

HOOVEN OH 45033

RE115 SDG#: HVQ28-07MS

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	21	0.5	1
07582	Chlorobenzene	108-90-7	21	0.8	1
07582	Ethylbenzene	100-41-4	20	0.8	1
07582	Toluene	108-88-3	20	0.7	1
07582	Xylene (Total)	1330-20-7	60	0.8	1
GC Volatiles SW-846 8015B					
01635	TPH-GRO water C6-C10	n.a.	1,700	20	1
GC Extractable TPH SW-846 8015B					
08269	TPH-DRO water C10-C28	n.a.	1,000	31	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	W092881AA	10/15/2009 15:25	Emily R Styer	1
07582	PPL + Xylene (total) by 8260	SW-846 8260B	1	W092881AA	10/15/2009 15:25	Emily R Styer	1
01146	GC VOA Water Prep	SW-846 5030B	1	09287A20A	10/14/2009 17:35	Tyler O Griffin	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	09287A20A	10/14/2009 17:35	Tyler O Griffin	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	092870012A	10/15/2009 03:10	David V Hershey Jr	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	092870012A	10/15/2009 09:58	Diane V Do	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-115S,101209MS Filtered Grab Water
2nd Semi-Annual 2009-Cincinnati Final Remedy**

**LLI Sample # WW 5804214
LLI Group # 1166070
OH**

Project Name: Hooven Cincinnati Final Remedy

Collected: 10/12/2009 11:05 by JH

Account Number: 11494

Submitted: 10/13/2009 08:50

Chevron

Reported: 10/22/2009 at 09:02

5000 State Route 128

Discard: 12/22/2009

HOOVEN OH 45033

R115F SDG#: HVQ28-08MS

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	0.170	0.0072	1
07055	Lead	7439-92-1	0.144	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	092881848002	10/16/2009 19:47	John P Hook	1
07055	Lead	SW-846 6010B	1	092881848002	10/16/2009 19:47	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	092881848002	10/16/2009 13:44	James L Mertz	1



Analysis Report

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Sample Description: MW-115S,101209MSD Grab Water
2nd Semi-Annual 2009-Cincinnati Final Remedy

LLI Sample # WW 5804215
LLI Group # 1166070
OH

Project Name: Hooven Cincinnati Final Remedy

Collected: 10/12/2009 11:05 by JH

Account Number: 11494

Submitted: 10/13/2009 08:50

Chevron

Reported: 10/22/2009 at 09:02

5000 State Route 128

Discard: 12/22/2009

HOOVEN OH 45033

RE115 SDG#: HVQ28-07MSD

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	21	0.5	1
07582	Chlorobenzene	108-90-7	21	0.8	1
07582	Ethylbenzene	100-41-4	20	0.8	1
07582	Toluene	108-88-3	20	0.7	1
07582	Xylene (Total)	1330-20-7	61	0.8	1
GC Volatiles SW-846 8015B					
01635	TPH-GRO water C6-C10	n.a.	1,600	20	1
GC Extractable TPH SW-846 8015B					
08269	TPH-DRO water C10-C28	n.a.	1,100	30	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	W092881AA	10/15/2009 15:48	Emily R Styer	1
07582	PPL + Xylene (total) by 8260	SW-846 8260B	1	W092881AA	10/15/2009 15:48	Emily R Styer	1
01146	GC VOA Water Prep	SW-846 5030B	1	09287A20A	10/14/2009 17:57	Tyler O Griffin	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	09287A20A	10/14/2009 17:57	Tyler O Griffin	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	092870012A	10/15/2009 03:10	David V Hershey Jr	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	092870012A	10/15/2009 10:19	Diane V Do	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-115S,101209MSD Filt Grab Water
2nd Semi-Annual 2009-Cincinnati Final Remedy**

**LLI Sample # WW 5804216
LLI Group # 1166070
OH**

Project Name: Hooven Cincinnati Final Remedy

Collected: 10/12/2009 11:05 by JH

Account Number: 11494

Submitted: 10/13/2009 08:50

Chevron

Reported: 10/22/2009 at 09:02

5000 State Route 128

Discard: 12/22/2009

HOOVEN OH 45033

R115F SDG#: HVQ28-08MSD

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	0.170	0.0072	1
07055	Lead	7439-92-1	0.143	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	092881848002	10/16/2009 19:50	John P Hook	1
07055	Lead	SW-846 6010B	1	092881848002	10/16/2009 19:50	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	092881848002	10/16/2009 13:44	James L Mertz	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-115S,101209DUP Filt Grab Water
2nd Semi-Annual 2009-Cincinnati Final Remedy**

**LLI Sample # WW 5804217
LLI Group # 1166070
OH**

Project Name: Hooven Cincinnati Final Remedy

Collected: 10/12/2009 11:05 by JH

Account Number: 11494

Submitted: 10/13/2009 08:50

Chevron

Reported: 10/22/2009 at 09:02

5000 State Route 128

Discard: 12/22/2009

HOOVEN OH 45033

R115F SDG#: HVQ28-08DUP

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	0.0105 J	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	092881848002	10/16/2009 19:44	John P Hook	1
07055	Lead	SW-846 6010B	1	092881848002	10/16/2009 19:44	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	092881848002	10/16/2009 13:44	James L Mertz	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, 101209 Water
2nd Semi-Annual 2009-Cincinnati Final Remedy

LLI Sample # WW 5804218
LLI Group # 1166070
OH

Project Name: Hooven Cincinnati Final Remedy

Collected: 10/12/2009 14:30

Account Number: 11494

Submitted: 10/13/2009 08:50

Chevron

Reported: 10/22/2009 at 09:02

5000 State Route 128

Discard: 12/22/2009

HOOVEN OH 45033

REMTB SDG#: HVQ28-09TB*

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 ug/l	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
GC Volatiles SW-846 8015B					
01635	TPH-GRO water C6-C10	n.a.	N.D.	20 ug/l	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	W092881AA	10/15/2009 14:38	Emily R Styer	1
07582	PPL + Xylene (total) by 8260	SW-846 8260B	1	W092881AA	10/15/2009 14:38	Emily R Styer	1
01146	GC VOA Water Prep	SW-846 5030B	1	09287A20A	10/14/2009 14:42	Tyler O Griffin	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	09287A20A	10/14/2009 14:42	Tyler O Griffin	1

Quality Control Summary

 Client Name: Chevron
 Reported: 10/22/09 at 09:02 AM

Group Number: 1166070

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: W092881AA	Sample number(s): 5804205,5804207,5804209,5804211,5804213,5804215,5804218							
Benzene	N.D.	0.5	ug/l	93	93	79-120	1	30
Chlorobenzene	N.D.	0.8	ug/l	97	96	80-120	1	30
Ethylbenzene	N.D.	0.8	ug/l	93	92	79-120	1	30
Toluene	N.D.	0.7	ug/l	92	93	79-120	1	30
Xylene (Total)	N.D.	0.8	ug/l	94	93	80-120	1	30
Batch number: 09287A20A	Sample number(s): 5804205,5804211,5804213,5804215,5804218							
TPH-GRO water C6-C10	N.D.	20.	ug/l	109	109	75-135	0	30
Batch number: 092870012A	Sample number(s): 5804205,5804211,5804213,5804215							
TPH-DRO water C10-C28	N.D.	32.	ug/l	95		56-122		
Batch number: 092870001A	Sample number(s): 5804207,5804211							
Methane	N.D.	5.0	ug/l	100		80-120		
Batch number: 092881848002	Sample number(s): 5804206-5804208,5804210-5804212,5804214,5804216-5804217							
Arsenic	N.D.	0.0072	mg/l	104		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	101		80-120		
Manganese	N.D.	0.00084	mg/l	102		90-110		
Potassium	N.D.	0.239	mg/l	102		85-115		
Sodium	N.D.	0.433	mg/l	103		87-114		
Batch number: 09286105101B	Sample number(s): 5804207,5804211							
Nitrite Nitrogen	N.D.	0.015	mg/l	97		90-110		
Batch number: 09288106101A	Sample number(s): 5804207,5804211							
Nitrate Nitrogen	N.D.	0.040	mg/l	108		90-110		
Batch number: 09289049501A	Sample number(s): 5804207,5804211							
Total Organic Carbon	N.D.	0.50	mg/l	99		91-113		
Batch number: 09290196102A	Sample number(s): 5804207,5804211							
Chloride	N.D.	0.20	mg/l	102		90-110		
Sulfate	N.D.	0.30	mg/l	97		89-110		
Batch number: 09292108101A	Sample number(s): 5804207,5804211							
Kjeldahl Nitrogen	N.D.	0.50	mg/l	90		90-110		
Batch number: 09286022101A	Sample number(s): 5804207,5804211							
Ammonia Nitrogen	N.D.	0.20	mg/l	92	92	85-105	1	5
Batch number: 09286023001A	Sample number(s): 5804207,5804211							
Sulfide	N.D.	0.054	mg/l	99		90-110		

*- Outside of specification

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

Quality Control Summary

Client Name: Chevron Group Number: 1166070
 Reported: 10/22/09 at 09:02 AM

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 09286834401A Ferrous Iron	N.D.	0.010	mg/l	99		92-105		
Batch number: 09287020201A Alkalinity to pH 4.5	N.D.	0.46	mg/l as CaCO3	100		98-103		
Batch number: 09287400102A Chemical Oxygen Demand								

Sample Matrix Quality Control

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

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: W092881AA	Sample number(s): 5804205, 5804207, 5804209, 5804211, 5804213, 5804215, 5804218 UNSPK: 5804211								
Benzene	100	99	80-126	1	30				
Chlorobenzene	103	103	87-124	0	30				
Ethylbenzene	101	101	71-134	0	30				
Toluene	99	98	80-125	1	30				
Xylene (Total)	100	101	79-125	1	30				
Batch number: 09287A20A TPH-GRO water C6-C10	Sample number(s): 5804205, 5804211, 5804213, 5804215, 5804218 UNSPK: 5804211								
	127	118	63-154	6	30				
Batch number: 092870012A TPH-DRO water C10-C28	Sample number(s): 5804205, 5804211, 5804213, 5804215 UNSPK: 5804211								
	101	116	19-173	10	20				
Batch number: 092870001A Methane	Sample number(s): 5804207, 5804211 UNSPK: 5804211								
	-8183 (2)	-8217 (2)	35-157	3	20				
Batch number: 092881848002	Sample number(s): 5804206-5804208, 5804210-5804212, 5804214, 5804216-5804217 UNSPK: 5804212 BKG: 5804212								
Arsenic	106	106	75-125	0	20	0.0109 J	0.0105 J	3 (1)	20
Calcium	46 (2)	35 (2)	75-125	0	20	122	123	1	20
Iron	84 (2)	83 (2)	75-125	0	20	5.41	5.40	0	20
Lead	96	95	75-125	1	20	N.D.	N.D.	0 (1)	20
Manganese	92	89	75-125	1	20	1.78	1.78	0	20
Potassium	103	102	75-125	1	20	2.37	2.34	1 (1)	20
Sodium	92 (2)	94 (2)	75-125	0	20	48.5	48.4	0	20
Batch number: 09286105101B Nitrite Nitrogen	Sample number(s): 5804207, 5804211 UNSPK: 5804211 BKG: 5804211								
	114*		90-110			N.D.	N.D.	0 (1)	20
Batch number: 09288106101A Nitrate Nitrogen	Sample number(s): 5804207, 5804211 UNSPK: P804141 BKG: P804141								
	117*		90-110			1.9	2.4	26* (1)	2
Batch number: 09289049501A	Sample number(s): 5804207, 5804211 UNSPK: 5804211 BKG: 5804211								

*- 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: 10/22/09 at 09:02 AM

Group Number: 1166070

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>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
Total Organic Carbon	103		64-141		2.2	2.3	3 (1)	4
Batch number: 09290196102A	Sample number(s): 5804207,5804211 UNSPK: P803966 BKG: P803966							
Chloride	84*		90-110		20.2	19.4	4	20
Sulfate	90		90-110		17.5	16.7	4 (1)	20
Batch number: 09292108101A	Sample number(s): 5804207,5804211 UNSPK: 5804211 BKG: 5804211							
Kjeldahl Nitrogen	108		90-110		N.D.	N.D.	0 (1)	20
Batch number: 09286022101A	Sample number(s): 5804207,5804211 BKG: P800719							
Ammonia Nitrogen					31.9	30.6	4*	2
Batch number: 09286023001A	Sample number(s): 5804207,5804211 UNSPK: P801483 BKG: P802503							
Sulfide	97	97	69-133	0	18	3.9	3.9	0
Batch number: 09286834401A	Sample number(s): 5804207,5804211 UNSPK: 5804211 BKG: 5804211							
Ferrous Iron	98	100	66-130	2	6	5.1	5.2	2
Batch number: 09287020201A	Sample number(s): 5804207,5804211 UNSPK: P803964 BKG: P803964							
Alkalinity to pH 4.5	100	100	64-130	0	2	39.0	39.1	0
Alkalinity to pH 8.3					N.D.	N.D.	0 (1)	4
Batch number: 09287400102A	Sample number(s): 5804207,5804211 UNSPK: P803894 BKG: P803894							
Chemical Oxygen Demand	100	100	90-110	1	4	N.D.	N.D.	0 (1)

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: W092881AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
5804205	96	89	89	89
5804207	96	89	89	90
5804209	97	91	89	88
5804211	96	92	90	90
5804213	97	90	91	94
5804215	97	89	91	94
5804218	97	93	89	89
Blank	95	91	90	91
LCS	97	89	92	95
LCSD	98	89	90	93
MS	97	90	91	94
MSD	97	89	91	94
Limits:	80-116	77-113	80-113	78-113

Analysis Name: TPH-GRO water C6-C10

*- 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: 10/22/09 at 09:02 AM

Group Number: 1166070

Surrogate Quality Control

Batch number: 09287A20A
Trifluorotoluene-F

5804205	75
5804211	97
5804213	146*
5804215	140*
5804218	71
Blank	73
LCS	100
LCSD	111
MS	146*
MSD	140*

Limits: 63-135

Analysis Name: Volatile Headspace Hydrocarbon
Batch number: 092870001A
Propene

5804207	51
5804211	105
Blank	102
LCS	103
MS	49
MSD	64

Limits: 42-131

Analysis Name: TPH-DRO water C10-C28
Batch number: 092870012A
Orthoterphenyl

5804205	98
5804211	102
5804213	110
5804215	111
Blank	105
LCS	107
MS	110
MSD	111

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.

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
~~Sulfite~~ Sulfide per Matt Mitchell. KAK1885
Total Organic Carbon 10/19/09

**Environmental Sample Administration
Receipt Documentation Log**

Client/Project: Chexlon
 Date of Receipt: 10/13/09
 Time of Receipt: 850
 Source Code: 501
 Unpacker Emp. No.: 9316

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	0429965	1.10C	TB	WI	Y	L	
2	↓	1.60C	↓	↓	↓	↓	
3	↓	4.8C	↓	↓	↓	↓	
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
<u>Key/Bear</u>	<u>10/13/09</u>	<u>1045</u>	Unpacking <u>Storage</u>
<u>Mary Beuhleed</u>	<u>10/13/09</u>	<u>1055</u>	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:

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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