MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

08 August 2017

Work Order: 1707266

Price: $1,560.00

Dan Hamel
MDEQ-RRD-JACKSON
301 E. Louis Glick Highway
Jackson, MI 49201-1556

RE: GELMAN SCIENCES, INC

I certify that the analyses performed by the MDEQ Environmental Laboratory were conducted by methods approved by the U.S. Environmental Protection Agency and other appropriate regulatory agencies.

Sincerely,

Kirby Shane
Laboratory Director

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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MDEQ-RRD-JACKSON
301 E. Louis Glick Highway
Jackson MI, 49201-1556

Project: GELMAN SCIENCES, INC
Site Code: 81000018
Project Manager: Dan Hamel

Reported:
08/08/2017

Analytical Report for Samples

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Qualifier
HC/HR	1707266-01	Water	07/24/2017	07/25/2017	
MW-112d	1707266-02	Water	07/24/2017	07/25/2017	
MW-112s	1707266-03	Water	07/24/2017	07/25/2017	
MW-112i	1707266-04	Water	07/24/2017	07/25/2017	
MW-98s	1707266-05	Water	07/24/2017	07/25/2017	
MW-103d	1707266-06	Water	07/24/2017	07/25/2017	
DUP-01	1707266-07	Water	07/24/2017	07/25/2017	
MW-103S	1707266-08	Water	07/24/2017	07/25/2017	
MW-82S	1707266-09	Water	07/24/2017	07/25/2017	
Allen Creek Glendale	1707266-10	Water	07/25/2017	07/25/2017	
Sister Lake 2	1707266-11	Water	07/25/2017	07/25/2017	
Sister Lake 1	1707266-12	Water	07/25/2017	07/25/2017	

Notes and Definitions

Y28	1,4-dioxane analysis is performed using selective ion monitoring (SIM). Results reported below 5 ug/L (aqueous) or 1000 ug/Kg (solids) are estimated.
ND	Indicates compound analyzed for but not detected
RL	Reporting Limit
NA	Not Applicable

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P.O. Box 30270
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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: HC/HR

Lab ID: 1707266-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
0rganics-Dioxane									**See note Y28**
123-91-1	1,4-dioxane	ND	1.0	ug/L	1	07/27/17	B7G2830	8260 Modified	

Lab Work Order # 1707266

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P.O. Box 30270
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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: MW-112d

Lab ID: 1707266-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
0rganics-Dioxane									**See note Y28**
123-91-1	1,4-dioxane	ND	1.0	ug/L	1	07/28/17	B7G2901	8260 Modified	

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
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P.O. Box 30270
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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: MW-112s

Lab ID: 1707266-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
0rganics-Dioxane									**See note Y28**
column headers for data	column headers for data	ND	1.0	ug/L	1	07/27/17	B7G2830	8260 Modified	
123-91-1	1,4-dioxane								

DEQ Logo

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: MW-112i

Lab ID: 1707266-04

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
0rganics-Dioxane									
123-91-1	**1,4-dioxane**	**10**	1.0	ug/L	1	07/27/17	B7G2830	8260 Modified	

Lab Work Order # 1707266

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P.O. Box 30270
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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: MW-98s

Lab ID: 1707266-05

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
0rganics-Dioxane									**See note Y28**
123-91-1	**1,4-dioxane**	**1.7**	1.0	ug/L	1	07/27/17	B7G2830	8260 Modified	

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

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P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: MW-103d

Lab ID: 1707266-06

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
0rganics-Dioxane									
123-91-1	**1,4-dioxane**	**9.2**	1.0	ug/L	1	07/27/17	B7G2830	8260 Modified	

Lab Work Order # 1707266

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: DUP-01

Lab ID: 1707266-07

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
0rganics-Dioxane									
123-91-1	**1,4-dioxane**	**58**	5.0	ug/L	5	07/28/17	B7G2901	8260 Modified	

Lab Work Order # 1707266

STATE OF MICHIGAN
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P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: MW-103S

Lab ID: 1707266-08

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
0rganics-Dioxane									
123-91-1	**1,4-dioxane**	**61**	5.0	ug/L	5	07/27/17	B7G2830	8260 Modified	

Lab Work Order # 1707266

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P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: MW-82S

Lab ID: 1707266-09

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
0rganics-Dioxane									
123-91-1	**1,4-dioxane**	**350**	20	ug/L	20	07/28/17	B7G2901	8260 Modified	

Lab Work Order # 1707266

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P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: Allen Creek Glendale

Lab ID: 1707266-10

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
0rganics-Dioxane									**See note Y28**
123-91-1	1,4-dioxane	ND	1.0	ug/L	1	07/27/17	B7G2830	8260 Modified	

STATE OF MICHIGAN
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ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: Sister Lake 2

Lab ID: 1707266-11

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
0rganics-Dioxane									**See note Y28**
123-91-1	1,4-dioxane	ND	1.0	ug/L	1	07/27/17	B7G2830	8260 Modified	

Lab Work Order # 1707266

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: Sister Lake 1

Lab ID: 1707266-12

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
0rganics-Dioxane									**See note Y28**
123-91-1	1,4-dioxane	ND	1.0	ug/L	1	07/27/17	B7G2830	8260 Modified	

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P.O. Box 30270
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TEL: (517) 335-9800
FAX: (517) 335-9600

0rganics-Dioxane - Quality Control

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Analyzed	Qualifier
Batch B7G2830 - Method: 5030				**Prepared: 07/27/2017**							
Blank (B7G2830-BLK1)											
1,4-dioxane	ND	1.0	ug/L							07/27/2017	
LCS (B7G2830-BS1)											
1,4-dioxane	10.8	1.0	ug/L	10.00		108	70-130			07/27/2017	
Matrix Spike (B7G2830-MS1)	**Source: 1707266-03**										
1,4-dioxane	9.78	1.0	ug/L	10.00	ND	97.8	70-130			07/27/2017	
Matrix Spike Dup (B7G2830-MSD1)	**Source: 1707266-03**										
1,4-dioxane	9.94	1.0	ug/L	10.00	ND	99.4	70-130	1.62	30	07/27/2017	
Batch B7G2901 - Method: 5030				**Prepared: 07/28/2017**							
Blank (B7G2901-BLK1)											
1,4-dioxane	ND	1.0	ug/L							07/28/2017	
LCS (B7G2901-BS1)											
1,4-dioxane	9.74	1.0	ug/L	10.00		97.4	70-130			07/28/2017	
Matrix Spike (B7G2901-MS1)	**Source: 1707266-02**										
1,4-dioxane	9.97	1.0	ug/L	10.00	ND	99.7	70-130			07/28/2017	
Matrix Spike Dup (B7G2901-MSD1)	**Source: 1707266-02**										
1,4-dioxane	9.72	1.0	ug/L	10.00	ND	97.2	70-130	2.54	30	07/28/2017	

Michigan Department of Environmental Quality
Laboratory Services Section

Analysis Request Sheet

Lab Work Order Number	Project Name	Matrix
709266	Gelman Sciences	WATER

Site Code/Project Number	AY	CC Email 1	Project TAT Days	Sample Collector
81000018	17	adelman@michigan.gov	14 days	~~Dan Hamel~~ Ray Govus
Dept-Division-District	**Index**	**CC Email 2**	**Project Due Date**	**Sample Collector Phone**
DEQ-RRD-Jackson	44410	lundk@michigan.gov		~~517-745-6595~~ 517.290.9074
State Project Manager	**PCA**	**CC Email 3**		**Contract Firm**
Dan Hamel	30740	govusr@gmi.chigan.gov		
State Project Manager Email	**Project**	**Overflow Lab Choice 1**	**Accept Analysis hold time codes**	**Contract Firm Primary Contact**
hameld@michigan.gov	451586			
State Project Manager Phone	**Phase**	**Overflow Lab Choice 2**		**Primary Contact Phone**
517-745-6595	00			

	Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	01	HC/HR	7-24-17	8:33	3	HCL PF-1628 exp 8-4-17
2	02	MW-112d	7-24-17	9:37	3	"
3	03	MW-112s	7-24-17	10:23	3	"
4	04	MW-112i	7-24-17	11:13	3	"
5	05	MW-98S	7-24-17	12:27	3	"
6	06	MW-103d	7-24-17	13:21	3	"
7	07	DUP-01	7-24-17		3	"
8	08	MW-103S	7-24-17	14:02	3	"
9	09	MW-82S	7-24-17	15:05	3	"
10	10	Allen Creek Glendale	7-25-17	8:35	3	"

ORGANIC CHEMISTRY

VOA - Volatile Organic Acidic	
Volatiles - Full List	1 2 3 4 5 6 7 8 9 10
BTEX/MTBE/TMB only	1 2 3 4 5 6 7 8 9 10
Chlorinated only	1 2 3 4 5 6 7 8 9 10
GRO	1 2 3 4 5 6 7 8 9 10
1,4 Dioxane	1 2 3 4 5 6 7 8 9 10
METH - Methane, Ethane, Ethene	
Methane, Ethane, Ethene	1 2 3 4 5 6 7 8 9 10
ON - Pesticides, PCBs	
Pesticides & PCBs	1 2 3 4 5 6 7 8 9 10
Pesticides only	1 2 3 4 5 6 7 8 9 10
PCBs only	1 2 3 4 5 6 7 8 9 10
Toxaphene	1 2 3 4 5 6 7 8 9 10
Chlordane	1 2 3 4 5 6 7 8 9 10
BNA - Base Neutral Acids	
BNAs	1 2 3 4 5 6 7 8 9 10
Benzidines	1 2 3 4 5 6 7 8 9 10
PNAs only	1 2 3 4 5 6 7 8 9 10
BNs only	1 2 3 4 5 6 7 8 9 10
Acids only	1 2 3 4 5 6 7 8 9 10
Organic Specialty Requests	
Library search - Volatiles	1 2 3 4 5 6 7 8 9 10
Library search - SemiVols	1 2 3 4 5 6 7 8 9 10
Finger Print	1 2 3 4 5 6 7 8 9 10
DRO / ORO	1 2 3 4 5 6 7 8 9 10

METALS CHEMISTRY PACKAGES

OpMemo2 - Total	1 2 3 4 5 6 7 8 9 10
OpMemo2 - Dissolved	1 2 3 4 5 6 7 8 9 10
(Sb,As,Ba,Be,Cd,Cr,Cu,Co,Fe,Pb,Mn,Hg,Mo,Ni,Se,Ag,Tl,V,Zn)	
Michigan10 - Total	1 2 3 4 5 6 7 8 9 10
Michigan10 - Dissolved	1 2 3 4 5 6 7 8 9 10
(As,Ba,Cd,Cr,Cu,Pb,Hg,Se,Ag,Zn)	

MAD - DISSOLVED METALS

Diss - Silver - Ag	1 2 3 4 5 6 7 8 9 10
Diss - Aluminum - Al	1 2 3 4 5 6 7 8 9 10
Diss - Arsenic - As	1 2 3 4 5 6 7 8 9 10
Diss - Boron - B	1 2 3 4 5 6 7 8 9 10
Diss - Barium - Ba	1 2 3 4 5 6 7 8 9 10
Diss - Beryllium - Be	1 2 3 4 5 6 7 8 9 10
Diss - Cadmium - Cd	1 2 3 4 5 6 7 8 9 10
Diss - Cobalt - Co	1 2 3 4 5 6 7 8 9 10
Diss - Chromium - Cr	1 2 3 4 5 6 7 8 9 10
Diss - Copper - Cu	1 2 3 4 5 6 7 8 9 10
Diss - Iron - Fe	1 2 3 4 5 6 7 8 9 10
Diss - Mercury - Hg	1 2 3 4 5 6 7 8 9 10
Diss - Lithium - Li	1 2 3 4 5 6 7 8 9 10
Diss - Manganese - Mn	1 2 3 4 5 6 7 8 9 10
Diss - Molybdenum - Mo	1 2 3 4 5 6 7 8 9 10
Diss - Nickel - Ni	1 2 3 4 5 6 7 8 9 10
Diss - Lead - Pb	1 2 3 4 5 6 7 8 9 10
Diss - Antimony - Sb	1 2 3 4 5 6 7 8 9 10
Diss - Selenium - Se	1 2 3 4 5 6 7 8 9 10
Diss - Strontium - Sr	1 2 3 4 5 6 7 8 9 10
Diss - Titanium - Ti	1 2 3 4 5 6 7 8 9 10
Diss - Thallium - Tl	1 2 3 4 5 6 7 8 9 10
Diss - Uranium - U	1 2 3 4 5 6 7 8 9 10
Diss - Vanadium - V	1 2 3 4 5 6 7 8 9 10
Diss - Zinc - Zn	1 2 3 4 5 6 7 8 9 10
Diss - Calcium - Ca	1 2 3 4 5 6 7 8 9 10
Diss - Potassium - K	1 2 3 4 5 6 7 8 9 10
Diss - Magnesium - Mg	1 2 3 4 5 6 7 8 9 10
Diss - Sodium - Na	1 2 3 4 5 6 7 8 9 10
Diss - Hardness - Ca, Mg	1 2 3 4 5 6 7 8 9 10
MD - Metals Dissolved	
Lab Filtration	1 2 3 4 5 6 7 8 9 10

MA - TOTAL METALS

Silver - Ag	1 2 3 4 5 6 7 8 9 10
Aluminum - Al	1 2 3 4 5 6 7 8 9 10
Arsenic - As	1 2 3 4 5 6 7 8 9 10
Boron - B	1 2 3 4 5 6 7 8 9 10
Barium - Ba	1 2 3 4 5 6 7 8 9 10
Beryllium - Be	1 2 3 4 5 6 7 8 9 10
Cadmium - Cd	1 2 3 4 5 6 7 8 9 10
Cobalt - Co	1 2 3 4 5 6 7 8 9 10
Chromium - Cr	1 2 3 4 5 6 7 8 9 10
Copper - Cu	1 2 3 4 5 6 7 8 9 10
Iron - Fe	1 2 3 4 5 6 7 8 9 10
Mercury - Hg	1 2 3 4 5 6 7 8 9 10
Lithium - Li	1 2 3 4 5 6 7 8 9 10
Manganese - Mn	1 2 3 4 5 6 7 8 9 10
Molybdenum - Mo	1 2 3 4 5 6 7 8 9 10
Nickel - Ni	1 2 3 4 5 6 7 8 9 10
Lead - Pb	1 2 3 4 5 6 7 8 9 10
Antimony - Sb	1 2 3 4 5 6 7 8 9 10
Selenium - Se	1 2 3 4 5 6 7 8 9 10
Strontium - Sr	1 2 3 4 5 6 7 8 9 10
Titanium - Ti	1 2 3 4 5 6 7 8 9 10
Thallium - Tl	1 2 3 4 5 6 7 8 9 10
Uranium - U	1 2 3 4 5 6 7 8 9 10
Vanadium - V	1 2 3 4 5 6 7 8 9 10
Zinc - Zn	1 2 3 4 5 6 7 8 9 10
Calcium - Ca	1 2 3 4 5 6 7 8 9 10
Potassium - K	1 2 3 4 5 6 7 8 9 10
Magnesium - Mg	1 2 3 4 5 6 7 8 9 10
Sodium - Na	1 2 3 4 5 6 7 8 9 10
Hardness - Ca, Mg	1 2 3 4 5 6 7 8 9 10
LHG - Low Level Mercury	
Mercury Low Level - Hg	1 2 3 4 5 6 7 8 9 10

GENERAL CHEMISTRY

GB Total Cyanide - CN	1 2 3 4 5 6 7 8 9 10
GB Amenable Cyanide - CN	1 2 3 4 5 6 7 8 9 10
GCN Available Cyanide - CN	1 2 3 4 5 6 7 8 9 10
CA Chlorophyll	1 2 3 4 5 6 7 8 9 10
GN Ortho Phosphate - OP	1 2 3 4 5 6 7 8 9 10
GN Nitrite - NO_2	1 2 3 4 5 6 7 8 9 10
GN Nitrate - NO_3 (Calc.)	1 2 3 4 5 6 7 8 9 10
GN Suspended Solids - SS	1 2 3 4 5 6 7 8 9 10
GN Dissolved Solids - TDS	1 2 3 4 5 6 7 8 9 10
MN Diss Solids - TDS (Calc.)	1 2 3 4 5 6 7 8 9 10
GN Turbidity	1 2 3 4 5 6 7 8 9 10
MN Total Alkalinity	1 2 3 4 5 6 7 8 9 10
MN Bicarb/Carb Alkalinity (Includes Total Alkalinity)	1 2 3 4 5 6 7 8 9 10
MN Chloride - Cl	1 2 3 4 5 6 7 8 9 10
MN Fluoride - F	1 2 3 4 5 6 7 8 9 10
MN Sulfate - SO4	1 2 3 4 5 6 7 8 9 10
MN Chromium 6 - Cr+6	1 2 3 4 5 6 7 8 9 10
MN Conductivity	1 2 3 4 5 6 7 8 9 10
MN pH	1 2 3 4 5 6 7 8 9 10
GA Chem Oxyg Dem - COD	1 2 3 4 5 6 7 8 9 10
GA Diss Org Carbon - DOC (FF) (Field - Filtered & Preserved)	1 2 3 4 5 6 7 8 9 10
GN Diss Org Carbon - DOC (LF) (Lab - Filtered & Preserved)	1 2 3 4 5 6 7 8 9 10
GA Total Org Carbon - TOC	1 2 3 4 5 6 7 8 9 10
GA Ammonia - NH3	1 2 3 4 5 6 7 8 9 10
GA Nitrate+Nitrite - NO3+NO2	1 2 3 4 5 6 7 8 9 10
GA Kjeldahl Nitrogen - KN	1 2 3 4 5 6 7 8 9 10
GA Total Phosphorus - TP	1 2 3 4 5 6 7 8 9 10

Chain of Custody

	Relinquished by	Received By	Date / Time
Print Name & Org.	Ray Govus	Michelle Smith LEESC	
Signature:			7/25/17 1244
Print Name & Org.			
Signature:			
Print Name & Org.			
Signature:			

Michigan Department of Environmental Quality
Laboratory Services Section

Analysis Request Sheet

Lab Work Order Number	Project Name	Matrix
707264	Gelman Sciences	WATER

Site Code/Project Number	AY	CC Email 1	Project TAT Days	Sample Collector
81000018	17	adelman@michigan.gov		~~Dan Hamel~~ Ray Govus
Dept-Division-District	**Index**	**CC Email 2**	**Project Due Date**	**Sample Collector Phone**
DEQ-RRD-Jackson	44410	lundk@michigan.gov		~~517-745-6595~~ 517.290.9074
State Project Manager	**PCA**	**CC Email 3**		**Contract Firm**
Dan Hamel	30740	govusr@michigan.gov		
State Project Manager Email	**Project**	**Overflow Lab Choice 1**	**Accept Analysis hold time codes**	**Contract Firm Primary Contact**
hameld@michigan.gov	451586			
State Project Manager Phone	**Phase**	**Overflow Lab Choice 2**		**Primary Contact Phone**
517-745-6595	00			

	Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	11	Sister Lake 2	7-25-17	9:10		HCL PF-1628 exp 8-4-17
2	12	Sister Lake 1	7-25-17	9:25		" "
3						
4						
5						
6						
7						
8						
9						
10						

ORGANIC CHEMISTRY

VOA - Volatile Organic Acidic	
Volatiles - Full List	1 2 3 4 5 6 7 8 9 10
BTEX/MTBE/TMB only	1 2 3 4 5 6 7 8 9 10
Chlorinated only	1 2 3 4 5 6 7 8 9 10
GRO	1 2 3 4 5 6 7 8 9 10
1,4 Dioxane	1 2 3 4 5 6 7 8 9 10
METH - Methane, Ethane, Ethene	
Methane, Ethane, Ethene	1 2 3 4 5 6 7 8 9 10
ON - Pesticides, PCBs	
Pesticides & PCBs	1 2 3 4 5 6 7 8 9 10
Pesticides only	1 2 3 4 5 6 7 8 9 10
PCBs only	1 2 3 4 5 6 7 8 9 10
Toxaphene	1 2 3 4 5 6 7 8 9 10
Chlordane	1 2 3 4 5 6 7 8 9 10
BNA - Base Neutral Acids	
BNAs	1 2 3 4 5 6 7 8 9 10
Benzidines	1 2 3 4 5 6 7 8 9 10
PNAs only	1 2 3 4 5 6 7 8 9 10
BNs only	1 2 3 4 5 6 7 8 9 10
Acids only	1 2 3 4 5 6 7 8 9 10
Organic Specialty Requests	
Library search - Volatiles	1 2 3 4 5 6 7 8 9 10
Library search - SemiVols	1 2 3 4 5 6 7 8 9 10
Finger Print	1 2 3 4 5 6 7 8 9 10
DRO / ORO	1 2 3 4 5 6 7 8 9 10

METALS CHEMISTRY PACKAGES

OpMemo2 - Total	1 2 3 4 5 6 7 8 9 10
OpMemo2 - Dissolved	1 2 3 4 5 6 7 8 9 10
(Sb,As,Ba,Be,Cd,Cr,Cu,Co,Fe,Pb,Mn,Hg,Mo,Ni,Se,Ag,Tl,V,Zn)	
Michigan10 - Total	1 2 3 4 5 6 7 8 9 10
Michigan10 - Dissolved	1 2 3 4 5 6 7 8 9 10
(As,Ba,Cd,Cr,Cu,Pb,Hg,Se,Ag,Zn)	

MAD - DISSOLVED METALS

Diss - Silver - Ag	1 2 3 4 5 6 7 8 9 10
Diss - Aluminum - Al	1 2 3 4 5 6 7 8 9 10
Diss - Arsenic - As	1 2 3 4 5 6 7 8 9 10
Diss - Boron - B	1 2 3 4 5 6 7 8 9 10
Diss - Barium - Ba	1 2 3 4 5 6 7 8 9 10
Diss - Beryllium - Be	1 2 3 4 5 6 7 8 9 10
Diss - Cadmium - Cd	1 2 3 4 5 6 7 8 9 10
Diss - Cobalt - Co	1 2 3 4 5 6 7 8 9 10
Diss - Chromium - Cr	1 2 3 4 5 6 7 8 9 10
Diss - Copper - Cu	1 2 3 4 5 6 7 8 9 10
Diss - Iron - Fe	1 2 3 4 5 6 7 8 9 10
Diss - Mercury - Hg	1 2 3 4 5 6 7 8 9 10
Diss - Lithium - Li	1 2 3 4 5 6 7 8 9 10
Diss - Manganese - Mn	1 2 3 4 5 6 7 8 9 10
Diss - Molybdenum - Mo	1 2 3 4 5 6 7 8 9 10
Diss - Nickel - Ni	1 2 3 4 5 6 7 8 9 10
Diss - Lead - Pb	1 2 3 4 5 6 7 8 9 10
Diss - Antimony - Sb	1 2 3 4 5 6 7 8 9 10
Diss - Selenium - Se	1 2 3 4 5 6 7 8 9 10
Diss - Strontium - Sr	1 2 3 4 5 6 7 8 9 10
Diss - Titanium - Ti	1 2 3 4 5 6 7 8 9 10
Diss - Thallium - Tl	1 2 3 4 5 6 7 8 9 10
Diss - Uranium - U	1 2 3 4 5 6 7 8 9 10
Diss - Vanadium - V	1 2 3 4 5 6 7 8 9 10
Diss - Zinc - Zn	1 2 3 4 5 6 7 8 9 10
Diss - Calcium - Ca	1 2 3 4 5 6 7 8 9 10
Diss - Potassium - K	1 2 3 4 5 6 7 8 9 10
Diss - Magnesium - Mg	1 2 3 4 5 6 7 8 9 10
Diss - Sodium - Na	1 2 3 4 5 6 7 8 9 10
Diss - Hardness - Ca, Mg	1 2 3 4 5 6 7 8 9 10
MD - Metals Dissolved	
Lab Filtration	1 2 3 4 5 6 7 8 9 10

MA - TOTAL METALS

Silver - Ag	1 2 3 4 5 6 7 8 9 10
Aluminum - Al	1 2 3 4 5 6 7 8 9 10
Arsenic - As	1 2 3 4 5 6 7 8 9 10
Boron - B	1 2 3 4 5 6 7 8 9 10
Barium - Ba	1 2 3 4 5 6 7 8 9 10
Beryllium - Be	1 2 3 4 5 6 7 8 9 10
Cadmium - Cd	1 2 3 4 5 6 7 8 9 10
Cobalt - Co	1 2 3 4 5 6 7 8 9 10
Chromium - Cr	1 2 3 4 5 6 7 8 9 10
Copper - Cu	1 2 3 4 5 6 7 8 9 10
Iron - Fe	1 2 3 4 5 6 7 8 9 10
Mercury - Hg	1 2 3 4 5 6 7 8 9 10
Lithium - Li	1 2 3 4 5 6 7 8 9 10
Manganese - Mn	1 2 3 4 5 6 7 8 9 10
Molybdenum - Mo	1 2 3 4 5 6 7 8 9 10
Nickel - Ni	1 2 3 4 5 6 7 8 9 10
Lead - Pb	1 2 3 4 5 6 7 8 9 10
Antimony - Sb	1 2 3 4 5 6 7 8 9 10
Selenium - Se	1 2 3 4 5 6 7 8 9 10
Strontium - Sr	1 2 3 4 5 6 7 8 9 10
Titanium - Ti	1 2 3 4 5 6 7 8 9 10
Thallium - Tl	1 2 3 4 5 6 7 8 9 10
Uranium - U	1 2 3 4 5 6 7 8 9 10
Vanadium - V	1 2 3 4 5 6 7 8 9 10
Zinc - Zn	1 2 3 4 5 6 7 8 9 10
Calcium - Ca	1 2 3 4 5 6 7 8 9 10
Potassium - K	1 2 3 4 5 6 7 8 9 10
Magnesium - Mg	1 2 3 4 5 6 7 8 9 10
Sodium - Na	1 2 3 4 5 6 7 8 9 10
Hardness - Ca, Mg	1 2 3 4 5 6 7 8 9 10
LHG - Low Level Mercury	
Mercury Low Level - Hg	1 2 3 4 5 6 7 8 9 10

GENERAL CHEMISTRY

GB	Total Cyanide - CN	1 2 3 4 5 6 7 8 9 10
GB	Amenable Cyanide - CN	1 2 3 4 5 6 7 8 9 10
GCN	Available Cyanide - CN	1 2 3 4 5 6 7 8 9 10
CA	Chlorophyll	1 2 3 4 5 6 7 8 9 10
GN	Ortho Phosphate - OP	1 2 3 4 5 6 7 8 9 10
GN	Nitrite - NO_2	1 2 3 4 5 6 7 8 9 10
GN	Nitrate - NO_3 (Calc.)	1 2 3 4 5 6 7 8 9 10
GN	Suspended Solids - SS	1 2 3 4 5 6 7 8 9 10
GN	Dissolved Solids - TDS	1 2 3 4 5 6 7 8 9 10
MN	Diss Solids - TDS (Calc.)	1 2 3 4 5 6 7 8 9 10
GN	Turbidity	1 2 3 4 5 6 7 8 9 10
MN	Total Alkalinity	1 2 3 4 5 6 7 8 9 10
MN	Bicarb/Carb Alkalinity (includes Total Alkalinity)	1 2 3 4 5 6 7 8 9 10
MN	Chloride - Cl	1 2 3 4 5 6 7 8 9 10
MN	Fluoride - F	1 2 3 4 5 6 7 8 9 10
MN	Sulfate - SO4	1 2 3 4 5 6 7 8 9 10
MN	Chromium 6 - Cr+6	1 2 3 4 5 6 7 8 9 10
MN	Conductivity	1 2 3 4 5 6 7 8 9 10
MN	pH	1 2 3 4 5 6 7 8 9 10
GA	Chem Oxyg Dem - COD	1 2 3 4 5 6 7 8 9 10
GA	Diss Org Carbon - DOC (FF) (Field - Filtered & Preserved)	1 2 3 4 5 6 7 8 9 10
GN	Diss Org Carbon - DOC (LF) (Lab - Filtered & Preserved)	1 2 3 4 5 6 7 8 9 10
GA	Total Org Carbon - TOC	1 2 3 4 5 6 7 8 9 10
GA	Ammonia - NH3	1 2 3 4 5 6 7 8 9 10
GA	Nitrate+Nitrite - NO3+NO2	1 2 3 4 5 6 7 8 9 10
GA	Kjeldahl Nitrogen - KN	1 2 3 4 5 6 7 8 9 10
GA	Total Phosphorus - TP	1 2 3 4 5 6 7 8 9 10

Chain of Custody

	Relinquished by	Received By	Date / Time
Print Name & Org.	Ray Govus	Michelle Smith LSD	
Signature:			7/25/17 1244
Print Name & Org.			
Signature:			
Print Name & Org.			
Signature:			