



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

27 November 2017

Work Order: 1711068

Price: \$1,170.00

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



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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:
 11/27/2017

Analytical Report for Samples

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Qualifier
Unnamed Trib-Jackson	1711068-01	Water	11/07/2017	11/08/2017	
Little Lake	1711068-02	Water	11/07/2017	11/08/2017	
Smith Pond-West	1711068-03	Water	11/07/2017	11/08/2017	
Unnamed Trib-Outfall	1711068-04	Water	11/07/2017	11/08/2017	
Arbor landings Pond	1711068-05	Water	11/07/2017	11/08/2017	
Smith Pond-east	1711068-06	Water	11/07/2017	11/08/2017	
Third sisters lake	1711068-07	Water	11/07/2017	11/08/2017	
Unnamed trib-park	1711068-08	Water	11/07/2017	11/08/2017	
Honey Creek-Dexter	1711068-09	Water	11/07/2017	11/08/2017	

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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Client ID: Unnamed Trib-Jackson

Lab ID: 1711068-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Dioxane									See note Y28
123-91-1	1,4-dioxane	1.9	1.0	ug/L	1	11/15/17	B7K1621	8260 Modified	



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Client ID: Little Lake

Lab ID: 1711068-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Dioxane									See note Y28
123-91-1	1,4-dioxane	1.6	1.0	ug/L	1	11/15/17	B7K1621	8260 Modified	



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Client ID: Smith Pond-West

Lab ID: 1711068-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Dioxane									See note Y28
123-91-1	1,4-dioxane	1.0	1.0	ug/L	1	11/15/17	B7K1621	8260 Modified	



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Client ID: Unnamed Trib-Outfall

Lab ID: 1711068-04

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Dioxane									See note Y28
123-91-1	1,4-dioxane	1.6	1.0	ug/L	1	11/15/17	B7K1621	8260 Modified	



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Client ID: Arbor landings Pond

Lab ID: 1711068-05

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Dioxane									See note Y28
123-91-1	1,4-dioxane	ND	1.0	ug/L	1	11/15/17	B7K1621	8260 Modified	



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Client ID: Smith Pond-east

Lab ID: 1711068-06

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Dioxane									See note Y28
123-91-1	1,4-dioxane	ND	1.0	ug/L	1	11/15/17	B7K1621	8260 Modified	



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Client ID: Third sisters lake

Lab ID: 1711068-07

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Dioxane									See note Y28
123-91-1	1,4-dioxane	4.1	1.0	ug/L	1	11/15/17	B7K1621	8260 Modified	



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Client ID: Unnamed trib-park

Lab ID: 1711068-08

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Dioxane									See note Y28
123-91-1	1,4-dioxane	2.0	1.0	ug/L	1	11/15/17	B7K1621	8260 Modified	



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Client ID: Honey Creek-Dexter

Lab ID: 1711068-09

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Dioxane									See note Y28
123-91-1	1,4-dioxane	1.2	1.0	ug/L	1	11/15/17	B7K1621	8260 Modified	



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Organics-Dioxane - Quality Control

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Analyzed	Qualifier
Batch B7K1621 - Method: 5030				Prepared: 11/15/2017							
Blank (B7K1621-BLK1)											
1,4-dioxane	ND	1.0	ug/L							11/15/2017	
LCS (B7K1621-BS1)											
1,4-dioxane	10.4	1.0	ug/L	10.00		104	70-130			11/15/2017	
Matrix Spike (B7K1621-MS1) Source: 1711068-01											
1,4-dioxane	11.6	1.0	ug/L	10.00	1.86	97.5	70-130			11/15/2017	
Matrix Spike Dup (B7K1621-MSD1) Source: 1711068-01											
1,4-dioxane	11.8	1.0	ug/L	10.00	1.86	99.7	70-130	1.88	30	11/15/2017	



Analysis Request Sheet

Lab Work Order Number: 1711068 Project Name: **Gelman Sciences** Matrix: **WATER**

Site Code/Project Number: **8100018** AY: **18** CC Email 1: **lundk@michigan.gov** Project TAT Days: Sample Collector: **Kevin Lund***

Dept-Division-District: **DEQ-RRD-Jackson** Index: **44410** CC Email 2: Project Due Date: Sample Collector Phone: **517-513-1846***

State Project Manager: **Dan Hamel** PCA: **30740** CC Email 3: Contract Firm:

State Project Manager Email: **hameld@michigan.gov** Project: **451586** Overflow Lab Choice 1: Contract Firm Primary Contact:

State Project Manager Phone: **(517)745-6595** Phase: **00** Overflow Lab Choice 2: Primary Contact Phone:

Accept Analysis hold time codes:

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	01 Unnamed Trib - Jackson	11/7/17	1230	3	Please include QA/QC with Lab Data Report(s)
2	02 L. Alle Lake		1300		
3	03 Smith Pond - West		1340		
4	04 Unnamed Trib - outfall		1305		
5	05 Arbor landings pond		1430		
6	06 Smith Pond - east		1345		
7	07 Third sister lake		1400		
8	08 Unnamed trib - park		1245		
9	09 Honey Creek - Dexter		1445		
10					

ORGANIC CHEMISTRY	MAD - DISSOLVED METALS	MA - TOTAL METALS	GENERAL 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	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	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	GB Total 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 (Amenable / Weak Acid Dissociable) 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 - TOS (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 Carb/Carb Alkalinity 1 2 3 4 5 6 7 8 9 10 (Includes Total Alkalinity) 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 - SO ₄ 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 Diss Org Carbon - DOC (FF) 1 2 3 4 5 6 7 8 9 10 (Field - Filtered & Preserved) GN Diss Org Carbon - DOC (LF) 1 2 3 4 5 6 7 8 9 10 (Lab - Filtered & Preserved) GA Total Org Carbon - TOC 1 2 3 4 5 6 7 8 9 10 GA Ammonia - NH ₃ 1 2 3 4 5 6 7 8 9 10 GA Nitrate+Nitrite - NO ₃ +NO ₂ 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
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,Ti,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)			
MD - Metals Dissolved Lab Filtration 1 2 3 4 5 6 7 8 9 10			

Chain of Custody	Relinquished by	Received By	Date / Time
	Print Name & Org. Ray Govus - DEQ RRD	Dan Hamel - DEQ RRD	11/8/17
	Signature: <i>[Signature]</i>	<i>[Signature]</i>	1220 HRS
	Print Name & Org. DAN HAMEL	Melissa Smith	11/8/17 1411
Signature: <i>[Signature]</i>	<i>[Signature]</i>		
Print Name & Org.			
Signature:			