



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

20 December 2017

Work Order: 1712081

Price: \$650.00

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:
 12/20/2017

Analytical Report for Samples

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Qualifier
Unnamed Trib-Outfall	1712081-01	Water	12/06/2017	12/08/2017	
Little Lake	1712081-02	Water	12/06/2017	12/08/2017	
Unnamed Trib-Park	1712081-03	Water	12/06/2017	12/08/2017	
Unnamed Trib-Jackson	1712081-04	Water	12/06/2017	12/08/2017	
Honey Creek-Dexter	1712081-05	Water	12/06/2017	12/08/2017	

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-Outfall

Lab ID: 1712081-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Dioxane									See note Y28
123-91-1	1,4-dioxane	1.1	1.0	ug/L	1	12/13/17	B7L1405	8260 Modified	



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Client ID: Little Lake

Lab ID: 1712081-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Dioxane									See note Y28
123-91-1	1,4-dioxane	3.6	1.0	ug/L	1	12/13/17	B7L1405	8260 Modified	



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Client ID: Unnamed Trib-Park

Lab ID: 1712081-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Dioxane									See note Y28
123-91-1	1,4-dioxane	3.4	1.0	ug/L	1	12/13/17	B7L1405	8260 Modified	



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Client ID: Unnamed Trib-Jackson

Lab ID: 1712081-04

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Dioxane									See note Y28
123-91-1	1,4-dioxane	2.6	1.0	ug/L	1	12/13/17	B7L1405	8260 Modified	



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Client ID: Honey Creek-Dexter

Lab ID: 1712081-05

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	12/13/17	B7L1405	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 B7L1405 - Method: 5030				Prepared: 12/13/2017							
Blank (B7L1405-BLK1)											
1,4-dioxane	ND	1.0	ug/L							12/13/2017	
LCS (B7L1405-BS1)											
1,4-dioxane	10.7	1.0	ug/L	10.00		107	70-130			12/13/2017	
Matrix Spike (B7L1405-MS1) Source: 1712081-01											
1,4-dioxane	10.9	1.0	ug/L	10.00	1.09	98.2	70-130			12/13/2017	
Matrix Spike Dup (B7L1405-MSD1) Source: 1712081-01											
1,4-dioxane	11.1	1.0	ug/L	10.00	1.09	100	70-130	1.64	30	12/13/2017	



Analysis Request Sheet

Lab Work Order Number

Project Name

Matrix

1712081

Gelman Sciences

WATER

Site Code/Project Number
81000018

AY
18

CC Email 1
lundk@michigan.gov

Project TAT Days

Sample Collector
DAN HAMEL *

Dept-Division-District
DEQ-RRD-Jackson

Index
44410

CC Email 2

Project Due Date

Sample Collector Phone
517-745-6595 *

State Project Manager
Dan Hamel

PCA
30740

CC Email 3

Accept Analysis hold time codes

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

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	UNAMED TRIB-OUTFALL	12/6/17	1029		Please include QA/QC with Lab Data Report(s)
2	LITTLE LAKE	12/6/17	1059		
3	UNAMED TRIB - PARK	12/6/17	1120		
4	UNAMED TRIB - JACKSON	12/6/17	1141		
5	HONGY CREEK - DEXTER	12/6/17	1205		
6					
7					
8					
9					
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 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 - SemVolcs 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	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	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 - 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 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 Chem Oxyg Dem - COD 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

Chain of Custody	Relinquished by	Received By	Date / Time
	Print Name & Org. DAN HAMEL DEQ-RRD	Melissa Smith	12/8/17 14:38
	Signature: Dan Hamel		
	Print Name & Org.		
Signature:			