



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

20 April 2017

Work Order: 1704087

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:
04/20/2017

Analytical Report for Samples

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Qualifier
MW-121S	1704087-01	Water	04/11/2017	04/14/2017	
MW-121d	1704087-02	Water	04/11/2017	04/14/2017	
MW-123s	1704087-03	Water	04/11/2017	04/14/2017	
MW-123d	1704087-04	Water	04/13/2017	04/14/2017	
MW-129s	1704087-05	Water	04/11/2017	04/14/2017	
MW-129i	1704087-06	Water	04/11/2017	04/14/2017	
MW-129d	1704087-07	Water	04/11/2017	04/14/2017	
MW-120s	1704087-08	Water	04/11/2017	04/14/2017	
MW-120d	1704087-09	Water	04/13/2017	04/14/2017	

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: MW-121S

Lab ID: 1704087-01

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	04/17/17	B7D1808	8260 Modified	



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Client ID: MW-121d

Lab ID: 1704087-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Dioxane									See note Y28
123-91-1	1,4-dioxane	1.5	1.0	ug/L	1	04/17/17	B7D1808	8260 Modified	



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Client ID: MW-123s

Lab ID: 1704087-03

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	04/17/17	B7D1808	8260 Modified	



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Client ID: MW-123d

Lab ID: 1704087-04

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	04/17/17	B7D1808	8260 Modified	



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Client ID: MW-129s

Lab ID: 1704087-05

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	04/17/17	B7D1808	8260 Modified	



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Client ID: MW-129i

Lab ID: 1704087-06

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	04/17/17	B7D1808	8260 Modified	



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Client ID: MW-129d

Lab ID: 1704087-07

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	04/17/17	B7D1808	8260 Modified	



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Client ID: MW-120s

Lab ID: 1704087-08

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	04/17/17	B7D1808	8260 Modified	



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Client ID: MW-120d

Lab ID: 1704087-09

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	04/17/17	B7D1808	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 B7D1808 - Method: 5030				Prepared: 04/17/2017							
Blank (B7D1808-BLK1)											
1,4-dioxane	ND	1.0	ug/L							04/17/2017	
LCS (B7D1808-BS1)											
1,4-dioxane	9.64	1.0	ug/L	10.00		96.4	70-130			04/17/2017	
Matrix Spike (B7D1808-MS1) Source: 1704087-01											
1,4-dioxane	9.72	1.0	ug/L	10.00	ND	97.2	70-130			04/17/2017	
Matrix Spike Dup (B7D1808-MSD1) Source: 1704087-01											
1,4-dioxane	10.3	1.0	ug/L	10.00	ND	103	70-130	5.70	30	04/17/2017	



Analysis Request Sheet

Lab Work Order Number

Project Name

Matrix

1704087

Gelman Sciences

WATER

Site Code/Project Number
81000018

AY
17

CC Email 1
adelman@michigan.gov

Project TAT Days

Sample Collector
Dan Hamel

Dept-Division-District
DEQ-RRD-Jackson

Index
44410

CC Email 2
lundk@michigan.gov

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	01 MW-121s	4/11/17	1052	3	PLEASE INCLUDE QA/QC WITH LABORATORY REPORT.
2	02 MW-121d	4/11/17	1215	3	
3	03 MW-123s	4/11/17	1425	3	
4	04 MW-123d	4/13/17	1202	3	
5	05 MW-129s	4/11/17	1555	3	
6	06 MW-129i	4/11/17	1715	3	
7	07 MW-129d	4/11/17	1805	3	
8	08 MW-120s	4/11/17	1958	3	
9	09 MW-120d	4/13/17	1045	3	
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	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 - 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 Oxy 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 - 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	Terry Hyslop DEQ-RRD	4/13 16:00
	Signature: <i>Dan Hamel</i>	<i>Terry Hyslop</i>	
	Print Name & Org. Terry Hyslop DEQ-RRD	Melissa Smith	4/14/17 14:03
Signature: <i>Terry Hyslop</i>	<i>Melissa Smith</i>		
Print Name & Org.			
Signature:			