



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
ENVIRONMENTAL LABORATORY

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

22 November 2016

Work Order: 1610212

Price: \$1,140.00

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,

Carol Smith  
Laboratory Director (Acting)



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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:**  
11/22/2016

**Analytical Report for Samples**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Qualifier
MW-138d	1610212-01	Water	10/24/2016	10/27/2016	
MW-138s	1610212-02	Water	10/24/2016	10/27/2016	
MW-138i	1610212-03	Water	10/24/2016	10/27/2016	
MW-141d	1610212-04	Water	10/24/2016	10/27/2016	
MW-141s	1610212-05	Water	10/24/2016	10/27/2016	
SEEP-234 8th	1610212-06	Water	10/24/2016	10/27/2016	
CREEK-HANNAH NAT AREA	1610212-07	Water	10/24/2016	10/27/2016	

**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.
- X Methods 8260 & 624 are used to analyze volatile organics that have boiling points below 200 °C. 2-Methylnaphthalene & naphthalene have boiling points above 200 °C and are better suited to analysis by methods 8270 & 625 as semivolatile organics.
- A10 Result and reporting limit are estimated due to low initial verification standard criteria failure.
- A08 Result(s) and reporting limits(s) are estimated due to low recovery of batch QC.
- A03 Result(s) and reporting limit(s) are estimated due to low matrix spike recovery.
- ND Indicates compound analyzed for but not detected
- RL Reporting Limit
- NA Not Applicable



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TEL: (517) 335-9800  
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Client ID: MW-138d

Lab ID: 1610212-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
<b>Organics-Dioxane</b>									
123-91-1	1,4-dioxane	ND	1.0	ug/L	1	11/01/16	B6K0311	8260 Modified	Y28



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Client ID: MW-138s

Lab ID: 1610212-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
<b>Organics-Dioxane</b>									
123-91-1	1,4-dioxane	ND	1.0	ug/L	1	11/01/16	B6K0311	8260 Modified	Y28



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Client ID: MW-138i

Lab ID: 1610212-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
<b>Organics-Dioxane</b>									
123-91-1	1,4-dioxane	8.1	1.0	ug/L	1	11/01/16	B6K0311	8260 Modified	



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Client ID: MW-141d

Lab ID: 1610212-04

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
<b>Organics-Dioxane</b>									
123-91-1	1,4-dioxane	3.8	1.0	ug/L	1	11/01/16	B6K0311	8260 Modified	Y28



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Client ID: MW-141s

Lab ID: 1610212-05

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
<b>Organics-Dioxane</b>									
123-91-1	1,4-dioxane	3.1	1.0	ug/L	1	11/01/16	B6K0311	8260 Modified	Y28



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Client ID: SEEP-234 8th  
 Lab ID: 1610212-06

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
<b>Organics-Volatiles</b>									
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
591-78-6	2-Hexanone	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	X
67-64-1	2-Propanone (acetone)	ND	20	ug/L	1	11/01/16	B6K0107	8260	A08, A10
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
107-13-1	Acrylonitrile	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
71-43-2	Benzene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
108-86-1	Bromobenzene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
74-97-5	Bromochloromethane	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
75-27-4	Bromodichloromethane	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
75-25-2	Bromoform	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
74-83-9	Bromomethane	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
75-15-0	Carbon disulfide	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
56-23-5	Carbon tetrachloride	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
108-90-7	Chlorobenzene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
75-00-3	Chloroethane	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
67-66-3	Chloroform	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
74-87-3	Chloromethane	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
110-82-7	Cyclohexane	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
124-48-1	Dibromochloromethane	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	





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 Lab ID: 1610212-06

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
<b>Organics-Volatiles</b>									
74-95-3	Dibromomethane	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
60-29-7	Diethyl ether	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
108-20-3	Diisopropyl Ether	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
637-92-3	Ethyltertiarybutylether	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
67-72-1	Hexachloroethane	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
98-82-8	Isopropylbenzene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	11/01/16	B6K0107	8260	
74-88-4	Methyl iodide	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
75-09-2	Methylene chloride	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
1634-04-4	Methyltertiarybutylether	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
91-20-3	Naphthalene	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	X
104-51-8	n-Butylbenzene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
103-65-1	n-Propylbenzene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
95-47-6	o-Xylene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
99-87-6	p-Isopropyl toluene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
135-98-8	sec-Butylbenzene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
100-42-5	Styrene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
98-06-6	tert-Butylbenzene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
75-65-0	tertiary Butyl Alcohol	ND	50	ug/L	1	11/01/16	B6K0107	8260	
994-05-8	tertiaryAmylmeylether	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
127-18-4	Tetrachloroethylene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
109-99-9	Tetrahydrofuran	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
108-88-3	Toluene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
79-01-6	Trichloroethylene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
75-01-4	Vinyl chloride	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
Surrogate: Bromofluorobenzene			106 %	85-115		11/01/16	B6K0107	8260	
Surrogate: Dibromofluoromethane			98.9 %	82.7-115		11/01/16	B6K0107	8260	
Surrogate: Toluene-d8			101 %	85-115		11/01/16	B6K0107	8260	



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Client ID: SEEP-234 8th

Lab ID: 1610212-06

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
<b>Organics-Dioxane</b>									
123-91-1	1,4-dioxane	ND	1.0	ug/L	1	11/01/16	B6K0311	8260 Modified	Y28



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Client ID: CREEK-HANNAH NAT AREA

Lab ID: 1610212-07

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
<b>Organics-Volatiles</b>									
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
591-78-6	2-Hexanone	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	X
67-64-1	2-Propanone (acetone)	ND	20	ug/L	1	11/01/16	B6K0107	8260	A08, A10
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
107-13-1	Acrylonitrile	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
71-43-2	Benzene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
108-86-1	Bromobenzene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
74-97-5	Bromochloromethane	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
75-27-4	Bromodichloromethane	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
75-25-2	Bromoform	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
74-83-9	Bromomethane	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
75-15-0	Carbon disulfide	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
56-23-5	Carbon tetrachloride	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
108-90-7	Chlorobenzene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
75-00-3	Chloroethane	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
67-66-3	Chloroform	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
74-87-3	Chloromethane	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
110-82-7	Cyclohexane	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
124-48-1	Dibromochloromethane	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	



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Client ID: CREEK-HANNAH NAT AREA

Lab ID: 1610212-07

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
<b>Organics-Volatiles</b>									
74-95-3	Dibromomethane	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
60-29-7	Diethyl ether	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
108-20-3	Diisopropyl Ether	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
637-92-3	Ethyltertiarybutylether	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
67-72-1	Hexachloroethane	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
98-82-8	Isopropylbenzene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	11/01/16	B6K0107	8260	
74-88-4	Methyl iodide	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
75-09-2	Methylene chloride	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
1634-04-4	Methyltertiarybutylether	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
91-20-3	Naphthalene	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	X
104-51-8	n-Butylbenzene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
103-65-1	n-Propylbenzene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
95-47-6	o-Xylene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
99-87-6	p-Isopropyl toluene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
135-98-8	sec-Butylbenzene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
100-42-5	Styrene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
98-06-6	tert-Butylbenzene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
75-65-0	tertiary Butyl Alcohol	ND	50	ug/L	1	11/01/16	B6K0107	8260	
994-05-8	tertiaryAmylmethylether	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
127-18-4	Tetrachloroethylene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
109-99-9	Tetrahydrofuran	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
108-88-3	Toluene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	5.0	ug/L	1	11/01/16	B6K0107	8260	
79-01-6	Trichloroethylene	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
75-01-4	Vinyl chloride	ND	1.0	ug/L	1	11/01/16	B6K0107	8260	
<i>Surrogate: Bromofluorobenzene</i>			<i>105 %</i>	<i>85-115</i>		<i>11/01/16</i>	<i>B6K0107</i>	<i>8260</i>	
<i>Surrogate: Dibromofluoromethane</i>			<i>98.2 %</i>	<i>82.7-115</i>		<i>11/01/16</i>	<i>B6K0107</i>	<i>8260</i>	
<i>Surrogate: Toluene-d8</i>			<i>101 %</i>	<i>85-115</i>		<i>11/01/16</i>	<i>B6K0107</i>	<i>8260</i>	



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ENVIRONMENTAL LABORATORY

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Client ID: CREEK-HANNAH NAT AREA

Lab ID: 1610212-07

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
<b>Organics-Dioxane</b>									
123-91-1	1,4-dioxane	ND	1.0	ug/L	1	11/01/16	B6K0311	8260 Modified	Y28



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Organics-Volatiles - Quality Control

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Analyzed	Qualifier
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Batch B6K0107 - Method: 5030

Prepared: 11/01/2016

Blank (B6K0107-BLK1)

1,1,1,2-Tetrachloroethane	ND	1.0	ug/L							11/01/2016	
1,1,1-Trichloroethane	ND	1.0	ug/L							11/01/2016	
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L							11/01/2016	
1,1,2-Trichloroethane	ND	1.0	ug/L							11/01/2016	
1,1-Dichloroethane	ND	1.0	ug/L							11/01/2016	
1,1-Dichloroethylene	ND	1.0	ug/L							11/01/2016	
1,2,3-Trichlorobenzene	ND	5.0	ug/L							11/01/2016	
1,2,3-Trichloropropane	ND	1.0	ug/L							11/01/2016	
1,2,3-Trimethylbenzene	ND	1.0	ug/L							11/01/2016	
1,2,4-Trichlorobenzene	ND	5.0	ug/L							11/01/2016	
1,2,4-Trimethylbenzene	ND	1.0	ug/L							11/01/2016	
1,2-Dibromo-3-chloropropane	ND	5.0	ug/L							11/01/2016	
1,2-Dibromoethane	ND	1.0	ug/L							11/01/2016	
1,2-Dichlorobenzene	ND	1.0	ug/L							11/01/2016	
1,2-Dichloroethane	ND	1.0	ug/L							11/01/2016	
1,2-Dichloropropane	ND	1.0	ug/L							11/01/2016	
1,3,5-Trimethylbenzene	ND	1.0	ug/L							11/01/2016	
1,3-Dichlorobenzene	ND	1.0	ug/L							11/01/2016	
1,4-Dichlorobenzene	ND	1.0	ug/L							11/01/2016	
2-Butanone (MEK)	ND	5.0	ug/L							11/01/2016	
2-Hexanone	ND	5.0	ug/L							11/01/2016	
2-Methylnaphthalene	ND	5.0	ug/L							11/01/2016	X
2-Propanone (acetone)	ND	20	ug/L							11/01/2016	A08, A10
4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L							11/01/2016	
Acrylonitrile	ND	5.0	ug/L							11/01/2016	
Benzene	ND	1.0	ug/L							11/01/2016	
Bromobenzene	ND	1.0	ug/L							11/01/2016	
Bromochloromethane	ND	1.0	ug/L							11/01/2016	
Bromodichloromethane	ND	1.0	ug/L							11/01/2016	
Bromoform	ND	1.0	ug/L							11/01/2016	
Bromomethane	ND	5.0	ug/L							11/01/2016	
Carbon disulfide	ND	1.0	ug/L							11/01/2016	
Carbon tetrachloride	ND	1.0	ug/L							11/01/2016	
Chlorobenzene	ND	1.0	ug/L							11/01/2016	
Chloroethane	ND	5.0	ug/L							11/01/2016	
Chloroform	ND	1.0	ug/L							11/01/2016	
Chloromethane	ND	5.0	ug/L							11/01/2016	
cis-1,2-Dichloroethylene	ND	1.0	ug/L							11/01/2016	
cis-1,3-Dichloropropylene	ND	1.0	ug/L							11/01/2016	
Cyclohexane	ND	5.0	ug/L							11/01/2016	
Dibromochloromethane	ND	1.0	ug/L							11/01/2016	
Dibromomethane	ND	1.0	ug/L							11/01/2016	
Dichlorodifluoromethane	ND	5.0	ug/L							11/01/2016	
Diethyl ether	ND	5.0	ug/L							11/01/2016	
Diisopropyl Ether	ND	5.0	ug/L							11/01/2016	
Ethylbenzene	ND	1.0	ug/L							11/01/2016	
Ethyltertiarybutylether	ND	5.0	ug/L							11/01/2016	
Hexachloroethane	ND	5.0	ug/L							11/01/2016	



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Organics-Volatiles - Quality Control

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Analyzed	Qualifier
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Batch B6K0107 - Method: 5030

Prepared: 11/01/2016

Blank (B6K0107-BLK1)

Isopropylbenzene	ND	1.0	ug/L							11/01/2016	
m & p - Xylene	ND	2.0	ug/L							11/01/2016	
Methyl iodide	ND	1.0	ug/L							11/01/2016	
Methylene chloride	ND	5.0	ug/L							11/01/2016	
Methyltertiarybutylether	ND	1.0	ug/L							11/01/2016	
Naphthalene	ND	5.0	ug/L							11/01/2016	X
n-Butylbenzene	ND	1.0	ug/L							11/01/2016	
n-Propylbenzene	ND	1.0	ug/L							11/01/2016	
o-Xylene	ND	1.0	ug/L							11/01/2016	
p-Isopropyl toluene	ND	1.0	ug/L							11/01/2016	
sec-Butylbenzene	ND	1.0	ug/L							11/01/2016	
Styrene	ND	1.0	ug/L							11/01/2016	
tert-Butylbenzene	ND	1.0	ug/L							11/01/2016	
tertiary Butyl Alcohol	ND	50	ug/L							11/01/2016	
tertiaryAmylmethylether	ND	5.0	ug/L							11/01/2016	
Tetrachloroethylene	ND	1.0	ug/L							11/01/2016	
Tetrahydrofuran	ND	5.0	ug/L							11/01/2016	
Toluene	ND	1.0	ug/L							11/01/2016	
trans-1,2-Dichloroethylene	ND	1.0	ug/L							11/01/2016	
trans-1,3-Dichloropropylene	ND	1.0	ug/L							11/01/2016	
trans-1,4-Dichloro-2-butene	ND	5.0	ug/L							11/01/2016	
Trichloroethylene	ND	1.0	ug/L							11/01/2016	
Trichlorofluoromethane	ND	1.0	ug/L							11/01/2016	
Vinyl chloride	ND	1.0	ug/L							11/01/2016	
Surrogate: Bromofluorobenzene	50.6		ug/L	50.00		101	85-115			11/01/2016	
Surrogate: Dibromofluoromethane	49.0		ug/L	50.00		98.1	82.7-115			11/01/2016	
Surrogate: Toluene-d8	49.2		ug/L	50.00		98.3	85-115			11/01/2016	

LCS (B6K0107-BS1)

1,1,1,2-Tetrachloroethane	42.7	1.0	ug/L	50.00		85.5	70-130			11/01/2016	
1,1,1-Trichloroethane	44.6	1.0	ug/L	50.00		89.3	70-130			11/01/2016	
1,1,2,2-Tetrachloroethane	48.1	1.0	ug/L	50.00		96.2	70-130			11/01/2016	
1,1,2-Trichloroethane	46.1	1.0	ug/L	50.00		92.1	70-130			11/01/2016	
1,1-Dichloroethane	42.7	1.0	ug/L	50.00		85.3	70-130			11/01/2016	
1,1-Dichloroethylene	41.7	1.0	ug/L	50.00		83.3	70-130			11/01/2016	
1,2,3-Trichlorobenzene	46.9	5.0	ug/L	50.00		93.9	70-130			11/01/2016	
1,2,3-Trichloropropane	46.3	1.0	ug/L	50.00		92.6	70-130			11/01/2016	
1,2,3-Trimethylbenzene	47.5	1.0	ug/L	50.00		95.1	70-130			11/01/2016	
1,2,4-Trichlorobenzene	47.3	5.0	ug/L	50.00		94.6	70-130			11/01/2016	
1,2,4-Trimethylbenzene	49.0	1.0	ug/L	50.00		98.0	70-130			11/01/2016	
1,2-Dibromo-3-chloropropane	41.2	5.0	ug/L	50.00		82.4	70-130			11/01/2016	
1,2-Dibromoethane	48.8	1.0	ug/L	50.00		97.6	70-130			11/01/2016	
1,2-Dichlorobenzene	46.0	1.0	ug/L	50.00		92.0	70-130			11/01/2016	
1,2-Dichloroethane	45.6	1.0	ug/L	50.00		91.2	70-130			11/01/2016	
1,2-Dichloropropane	45.2	1.0	ug/L	50.00		90.5	70-130			11/01/2016	
1,3,5-Trimethylbenzene	50.2	1.0	ug/L	50.00		100	70-130			11/01/2016	
1,3-Dichlorobenzene	46.1	1.0	ug/L	50.00		92.2	70-130			11/01/2016	
1,4-Dichlorobenzene	44.1	1.0	ug/L	50.00		88.3	70-130			11/01/2016	



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Organics-Volatiles - Quality Control

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Analyzed	Qualifier
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Batch B6K0107 - Method: 5030

Prepared: 11/01/2016

LCS (B6K0107-BS1)

2-Butanone (MEK)	35.3	5.0	ug/L	50.00		70.6	70-130			11/01/2016	
2-Hexanone	38.3	5.0	ug/L	50.00		76.5	70-130			11/01/2016	
2-Methylnaphthalene	49.3	5.0	ug/L	50.00		98.5	70-130			11/01/2016	X
2-Propanone (acetone)	29.2	20	ug/L	50.00		58.4	70-130			11/01/2016	A08, A10
4-Methyl-2-pentanone (MIBK)	46.2	5.0	ug/L	50.00		92.4	70-130			11/01/2016	
Acrylonitrile	44.1	5.0	ug/L	50.00		88.2	70-130			11/01/2016	
Benzene	44.7	1.0	ug/L	50.00		89.4	70-130			11/01/2016	
Bromobenzene	44.3	1.0	ug/L	50.00		88.6	70-130			11/01/2016	
Bromochloromethane	44.9	1.0	ug/L	50.00		89.8	70-130			11/01/2016	
Bromodichloromethane	48.5	1.0	ug/L	50.00		96.9	70-130			11/01/2016	
Bromoform	45.1	1.0	ug/L	50.00		90.2	70-130			11/01/2016	
Bromomethane	40.8	5.0	ug/L	50.00		81.5	70-130			11/01/2016	
Carbon disulfide	43.6	1.0	ug/L	50.00		87.3	70-130			11/01/2016	
Carbon tetrachloride	45.6	1.0	ug/L	50.00		91.2	70-130			11/01/2016	
Chlorobenzene	45.7	1.0	ug/L	50.00		91.5	70-130			11/01/2016	
Chloroethane	43.5	5.0	ug/L	50.00		87.0	70-130			11/01/2016	
Chloroform	43.2	1.0	ug/L	50.00		86.4	70-130			11/01/2016	
Chloromethane	58.6	5.0	ug/L	50.00		117	70-130			11/01/2016	
cis-1,2-Dichloroethylene	43.8	1.0	ug/L	50.00		87.7	70-130			11/01/2016	
cis-1,3-Dichloropropylene	45.3	1.0	ug/L	50.00		90.6	70-130			11/01/2016	
Cyclohexane	46.3	5.0	ug/L	50.00		92.6	70-130			11/01/2016	
Dibromochloromethane	43.9	1.0	ug/L	50.00		87.8	70-130			11/01/2016	
Dibromomethane	45.3	1.0	ug/L	50.00		90.6	70-130			11/01/2016	
Dichlorodifluoromethane	44.2	5.0	ug/L	50.00		88.3	70-130			11/01/2016	
Diethyl ether	45.5	5.0	ug/L	50.00		91.0	70-130			11/01/2016	
Diisopropyl Ether	46.5	5.0	ug/L	50.00		93.1	70-130			11/01/2016	
Ethylbenzene	47.3	1.0	ug/L	50.00		94.7	70-130			11/01/2016	
Ethyltertiarybutylether	46.0	5.0	ug/L	50.00		91.9	70-130			11/01/2016	
Hexachloroethane	46.1	5.0	ug/L	50.00		92.1	70-130			11/01/2016	
Isopropylbenzene	51.2	1.0	ug/L	50.00		102	70-130			11/01/2016	
m & p - Xylene	97.6	2.0	ug/L	100.0		97.6	70-130			11/01/2016	
Methyl iodide	37.4	1.0	ug/L	50.00		74.8	70-130			11/01/2016	
Methylene chloride	42.3	5.0	ug/L	50.00		84.7	70-130			11/01/2016	
Methyltertiarybutylether	47.2	1.0	ug/L	50.00		94.4	70-130			11/01/2016	
Naphthalene	50.8	5.0	ug/L	50.00		102	70-130			11/01/2016	X
n-Butylbenzene	48.7	1.0	ug/L	50.00		97.4	70-130			11/01/2016	
n-Propylbenzene	49.3	1.0	ug/L	50.00		98.7	70-130			11/01/2016	
o-Xylene	48.4	1.0	ug/L	50.00		96.9	70-130			11/01/2016	
p-Isopropyl toluene	49.2	1.0	ug/L	50.00		98.4	70-130			11/01/2016	
sec-Butylbenzene	50.0	1.0	ug/L	50.00		100	70-130			11/01/2016	
Styrene	48.4	1.0	ug/L	50.00		96.7	70-130			11/01/2016	
tert-Butylbenzene	50.0	1.0	ug/L	50.00		99.9	70-130			11/01/2016	
tertiary Butyl Alcohol	237	50	ug/L	250.0		94.6	70-130			11/01/2016	
tertiaryAmylmethylether	46.8	5.0	ug/L	50.00		93.7	70-130			11/01/2016	
Tetrachloroethylene	44.3	1.0	ug/L	50.00		88.5	70-130			11/01/2016	
Tetrahydrofuran	44.6	5.0	ug/L	50.00		89.1	70-130			11/01/2016	
Toluene	45.8	1.0	ug/L	50.00		91.5	70-130			11/01/2016	
trans-1,2-Dichloroethylene	43.8	1.0	ug/L	50.00		87.7	70-130			11/01/2016	





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Organics-Volatiles - Quality Control

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Analyzed	Qualifier
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Batch B6K0107 - Method: 5030

Prepared: 11/01/2016

LCS (B6K0107-BS1)

trans-1,3-Dichloropropylene	41.6	1.0	ug/L	50.00		83.2	70-130			11/01/2016	
trans-1,4-Dichloro-2-butene	40.9	5.0	ug/L	50.00		81.8	70-130			11/01/2016	
Trichloroethylene	44.4	1.0	ug/L	50.00		88.7	70-130			11/01/2016	
Trichlorofluoromethane	42.2	1.0	ug/L	50.00		84.4	70-130			11/01/2016	
Vinyl chloride	43.0	1.0	ug/L	50.00		86.1	70-130			11/01/2016	
Surrogate: Bromofluorobenzene	50.4		ug/L	50.00		101	85-115			11/01/2016	
Surrogate: Dibromofluoromethane	49.5		ug/L	50.00		98.9	82.7-115			11/01/2016	
Surrogate: Toluene-d8	50.2		ug/L	50.00		100	85-115			11/01/2016	

Matrix Spike (B6K0107-MS1)

Source: 1610223-07

1,1,1,2-Tetrachloroethane	46.5	1.0	ug/L	50.00	ND	93.0	70-130			11/01/2016	
1,1,1-Trichloroethane	46.5	1.0	ug/L	50.00	ND	93.1	70-130			11/01/2016	
1,1,2,2-Tetrachloroethane	49.2	1.0	ug/L	50.00	ND	98.5	70-130			11/01/2016	
1,1,2-Trichloroethane	51.9	1.0	ug/L	50.00	ND	104	70-130			11/01/2016	
1,1-Dichloroethane	51.4	1.0	ug/L	50.00	ND	103	70-130			11/01/2016	
1,1-Dichloroethylene	52.8	1.0	ug/L	50.00	ND	106	70-130			11/01/2016	
1,2,3-Trichlorobenzene	44.9	5.0	ug/L	50.00	ND	89.7	70-130			11/01/2016	
1,2,3-Trichloropropane	42.3	1.0	ug/L	50.00	ND	84.6	70-130			11/01/2016	
1,2,3-Trimethylbenzene	52.6	1.0	ug/L	50.00	ND	105	70-130			11/01/2016	
1,2,4-Trichlorobenzene	45.9	5.0	ug/L	50.00	ND	91.8	70-130			11/01/2016	
1,2,4-Trimethylbenzene	54.6	1.0	ug/L	50.00	ND	109	70-130			11/01/2016	
1,2-Dibromo-3-chloropropane	38.8	5.0	ug/L	50.00	ND	77.6	70-130			11/01/2016	
1,2-Dibromoethane	51.7	1.0	ug/L	50.00	ND	103	70-130			11/01/2016	
1,2-Dichlorobenzene	50.0	1.0	ug/L	50.00	ND	100	70-130			11/01/2016	
1,2-Dichloroethane	52.4	1.0	ug/L	50.00	ND	105	70-130			11/01/2016	
1,2-Dichloropropane	51.4	1.0	ug/L	50.00	ND	103	70-130			11/01/2016	
1,3,5-Trimethylbenzene	54.2	1.0	ug/L	50.00	ND	108	70-130			11/01/2016	
1,3-Dichlorobenzene	49.8	1.0	ug/L	50.00	ND	99.5	70-130			11/01/2016	
1,4-Dichlorobenzene	48.2	1.0	ug/L	50.00	ND	96.4	70-130			11/01/2016	
2-Butanone (MEK)	32.6	5.0	ug/L	50.00	ND	65.1	70-130			11/01/2016	A03
2-Hexanone	35.1	5.0	ug/L	50.00	ND	70.3	70-130			11/01/2016	
2-Methylnaphthalene	34.3	5.0	ug/L	50.00	ND	68.5	70-130			11/01/2016	A03, X
2-Propanone (acetone)	25.2	20	ug/L	50.00	ND	50.4	70-130			11/01/2016	A03, A10
4-Methyl-2-pentanone (MIBK)	49.9	5.0	ug/L	50.00	ND	99.8	70-130			11/01/2016	
Acrylonitrile	47.3	5.0	ug/L	50.00	ND	94.6	70-130			11/01/2016	
Benzene	51.4	1.0	ug/L	50.00	ND	103	70-130			11/01/2016	
Bromobenzene	48.9	1.0	ug/L	50.00	ND	97.8	70-130			11/01/2016	
Bromochloromethane	51.8	1.0	ug/L	50.00	ND	104	70-130			11/01/2016	
Bromodichloromethane	53.3	1.0	ug/L	50.00	ND	107	70-130			11/01/2016	
Bromoform	46.4	1.0	ug/L	50.00	ND	92.8	70-130			11/01/2016	
Bromomethane	34.1	5.0	ug/L	50.00	ND	68.2	70-130			11/01/2016	A03
Carbon disulfide	54.3	1.0	ug/L	50.00	ND	109	70-130			11/01/2016	
Carbon tetrachloride	49.9	1.0	ug/L	50.00	ND	99.9	70-130			11/01/2016	
Chlorobenzene	51.3	1.0	ug/L	50.00	ND	103	70-130			11/01/2016	
Chloroethane	54.4	5.0	ug/L	50.00	ND	109	70-130			11/01/2016	
Chloroform	51.7	1.0	ug/L	50.00	ND	103	70-130			11/01/2016	
Chloromethane	41.2	5.0	ug/L	50.00	ND	82.4	70-130			11/01/2016	
cis-1,2-Dichloroethylene	51.9	1.0	ug/L	50.00	ND	104	70-130			11/01/2016	



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Organics-Volatiles - Quality Control

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Analyzed	Qualifier
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Batch B6K0107 - Method: 5030

Prepared: 11/01/2016

Matrix Spike (B6K0107-MS1)

Source: 1610223-07

cis-1,3-Dichloropropylene	44.6	1.0	ug/L	50.00	ND	89.3	70-130			11/01/2016	
Cyclohexane	52.8	5.0	ug/L	50.00	ND	106	70-130			11/01/2016	
Dibromochloromethane	46.4	1.0	ug/L	50.00	ND	92.7	70-130			11/01/2016	
Dibromomethane	49.7	1.0	ug/L	50.00	ND	99.3	70-130			11/01/2016	
Dichlorodifluoromethane	49.7	5.0	ug/L	50.00	ND	99.4	70-130			11/01/2016	
Diethyl ether	52.7	5.0	ug/L	50.00	ND	105	70-130			11/01/2016	
Diisopropyl Ether	52.4	5.0	ug/L	50.00	ND	105	70-130			11/01/2016	
Ethylbenzene	53.9	1.0	ug/L	50.00	ND	108	70-130			11/01/2016	
Ethyltertiarybutylether	37.4	5.0	ug/L	50.00	ND	74.7	70-130			11/01/2016	
Hexachloroethane	44.4	5.0	ug/L	50.00	ND	88.8	70-130			11/01/2016	
Isopropylbenzene	54.5	1.0	ug/L	50.00	ND	109	70-130			11/01/2016	
m & p - Xylene	110	2.0	ug/L	100.0	ND	110	70-130			11/01/2016	
Methyl iodide	59.1	1.0	ug/L	50.00	ND	118	70-130			11/01/2016	
Methylene chloride	52.9	5.0	ug/L	50.00	ND	106	70-130			11/01/2016	
Methyltertiarybutylether	43.8	1.0	ug/L	50.00	ND	87.7	70-130			11/01/2016	
Naphthalene	48.2	5.0	ug/L	50.00	ND	96.4	70-130			11/01/2016	X
n-Butylbenzene	51.2	1.0	ug/L	50.00	ND	102	70-130			11/01/2016	
n-Propylbenzene	52.7	1.0	ug/L	50.00	ND	105	70-130			11/01/2016	
o-Xylene	54.9	1.0	ug/L	50.00	ND	110	70-130			11/01/2016	
p-Isopropyl toluene	53.5	1.0	ug/L	50.00	ND	107	70-130			11/01/2016	
sec-Butylbenzene	53.6	1.0	ug/L	50.00	ND	107	70-130			11/01/2016	
Styrene	55.6	1.0	ug/L	50.00	ND	111	70-130			11/01/2016	
tert-Butylbenzene	54.2	1.0	ug/L	50.00	ND	108	70-130			11/01/2016	
tertiary Butyl Alcohol	278	50	ug/L	250.0	ND	111	70-130			11/01/2016	
tertiaryAmylmehtylether	41.1	5.0	ug/L	50.00	ND	82.3	70-130			11/01/2016	
Tetrachloroethylene	50.3	1.0	ug/L	50.00	ND	101	70-130			11/01/2016	
Tetrahydrofuran	45.2	5.0	ug/L	50.00	ND	90.5	70-130			11/01/2016	
Toluene	52.5	1.0	ug/L	50.00	ND	105	70-130			11/01/2016	
trans-1,2-Dichloroethylene	51.7	1.0	ug/L	50.00	ND	103	70-130			11/01/2016	
trans-1,3-Dichloropropylene	38.2	1.0	ug/L	50.00	ND	76.4	70-130			11/01/2016	
trans-1,4-Dichloro-2-butene	37.2	5.0	ug/L	50.00	ND	74.5	70-130			11/01/2016	
Trichloroethylene	51.4	1.0	ug/L	50.00	ND	103	70-130			11/01/2016	
Trichlorofluoromethane	52.3	1.0	ug/L	50.00	ND	105	70-130			11/01/2016	
Vinyl chloride	48.4	1.0	ug/L	50.00	ND	96.7	70-130			11/01/2016	
Surrogate: Bromofluorobenzene	48.9		ug/L	50.00		97.8	85-115			11/01/2016	
Surrogate: Dibromofluoromethane	49.4		ug/L	50.00		98.7	82.7-115			11/01/2016	
Surrogate: Toluene-d8	50.8		ug/L	50.00		102	85-115			11/01/2016	

Matrix Spike Dup (B6K0107-MSD1)

Source: 1610223-07

1,1,1,2-Tetrachloroethane	47.3	1.0	ug/L	50.00	ND	94.6	70-130	1.75	30	11/01/2016	
1,1,1-Trichloroethane	49.6	1.0	ug/L	50.00	ND	99.2	70-130	6.38	30	11/01/2016	
1,1,2,2-Tetrachloroethane	50.0	1.0	ug/L	50.00	ND	100	70-130	1.60	30	11/01/2016	
1,1,2-Trichloroethane	49.6	1.0	ug/L	50.00	ND	99.1	70-130	4.59	30	11/01/2016	
1,1-Dichloroethane	50.4	1.0	ug/L	50.00	ND	101	70-130	2.01	30	11/01/2016	
1,1-Dichloroethylene	50.7	1.0	ug/L	50.00	ND	101	70-130	4.00	30	11/01/2016	
1,2,3-Trichlorobenzene	47.6	5.0	ug/L	50.00	ND	95.2	70-130	5.91	30	11/01/2016	
1,2,3-Trichloropropane	42.2	1.0	ug/L	50.00	ND	84.4	70-130	0.159	30	11/01/2016	
1,2,3-Trimethylbenzene	52.9	1.0	ug/L	50.00	ND	106	70-130	0.499	30	11/01/2016	



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Organics-Volatiles - Quality Control

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Analyzed	Qualifier
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Batch B6K0107 - Method: 5030

Prepared: 11/01/2016

Matrix Spike Dup (B6K0107-MSD1)

Source: 1610223-07

1,2,4-Trichlorobenzene	48.1	5.0	ug/L	50.00	ND	96.2	70-130	4.67	30	11/01/2016	
1,2,4-Trimethylbenzene	54.8	1.0	ug/L	50.00	ND	110	70-130	0.375	30	11/01/2016	
1,2-Dibromo-3-chloropropane	40.1	5.0	ug/L	50.00	ND	80.2	70-130	3.29	30	11/01/2016	
1,2-Dibromoethane	50.6	1.0	ug/L	50.00	ND	101	70-130	2.01	30	11/01/2016	
1,2-Dichlorobenzene	50.2	1.0	ug/L	50.00	ND	100	70-130	0.298	30	11/01/2016	
1,2-Dichloroethane	50.8	1.0	ug/L	50.00	ND	102	70-130	3.11	30	11/01/2016	
1,2-Dichloropropane	51.3	1.0	ug/L	50.00	ND	103	70-130	0.178	30	11/01/2016	
1,3,5-Trimethylbenzene	54.7	1.0	ug/L	50.00	ND	109	70-130	1.02	30	11/01/2016	
1,3-Dichlorobenzene	50.5	1.0	ug/L	50.00	ND	101	70-130	1.47	30	11/01/2016	
1,4-Dichlorobenzene	48.5	1.0	ug/L	50.00	ND	97.1	70-130	0.667	30	11/01/2016	
2-Butanone (MEK)	30.0	5.0	ug/L	50.00	ND	60.0	70-130	8.25	30	11/01/2016	A03
2-Hexanone	35.6	5.0	ug/L	50.00	ND	71.1	70-130	1.15	30	11/01/2016	
2-Methylnaphthalene	45.0	5.0	ug/L	50.00	ND	90.0	70-130	27.1	30	11/01/2016	X
2-Propanone (acetone)	24.5	20	ug/L	50.00	ND	49.1	70-130	2.64	30	11/01/2016	A03, A10
4-Methyl-2-pentanone (MIBK)	47.7	5.0	ug/L	50.00	ND	95.4	70-130	4.55	30	11/01/2016	
Acrylonitrile	46.5	5.0	ug/L	50.00	ND	93.0	70-130	1.72	30	11/01/2016	
Benzene	51.3	1.0	ug/L	50.00	ND	103	70-130	0.0598	30	11/01/2016	
Bromobenzene	49.5	1.0	ug/L	50.00	ND	99.0	70-130	1.20	30	11/01/2016	
Bromochloromethane	51.3	1.0	ug/L	50.00	ND	103	70-130	0.967	30	11/01/2016	
Bromodichloromethane	54.2	1.0	ug/L	50.00	ND	108	70-130	1.64	30	11/01/2016	
Bromoform	47.5	1.0	ug/L	50.00	ND	95.0	70-130	2.29	30	11/01/2016	
Bromomethane	42.4	5.0	ug/L	50.00	ND	84.8	70-130	21.7	30	11/01/2016	
Carbon disulfide	52.6	1.0	ug/L	50.00	ND	105	70-130	3.14	30	11/01/2016	
Carbon tetrachloride	52.8	1.0	ug/L	50.00	ND	106	70-130	5.68	30	11/01/2016	
Chlorobenzene	50.9	1.0	ug/L	50.00	ND	102	70-130	0.681	30	11/01/2016	
Chloroethane	50.5	5.0	ug/L	50.00	ND	101	70-130	7.49	30	11/01/2016	
Chloroform	50.7	1.0	ug/L	50.00	ND	101	70-130	1.94	30	11/01/2016	
Chloromethane	52.0	5.0	ug/L	50.00	ND	104	70-130	23.3	30	11/01/2016	
cis-1,2-Dichloroethylene	51.1	1.0	ug/L	50.00	ND	102	70-130	1.52	30	11/01/2016	
cis-1,3-Dichloropropylene	46.1	1.0	ug/L	50.00	ND	92.2	70-130	3.23	30	11/01/2016	
Cyclohexane	52.3	5.0	ug/L	50.00	ND	105	70-130	0.873	30	11/01/2016	
Dibromochloromethane	46.8	1.0	ug/L	50.00	ND	93.5	70-130	0.875	30	11/01/2016	
Dibromomethane	49.6	1.0	ug/L	50.00	ND	99.2	70-130	0.112	30	11/01/2016	
Dichlorodifluoromethane	48.1	5.0	ug/L	50.00	ND	96.2	70-130	3.30	30	11/01/2016	
Diethyl ether	51.1	5.0	ug/L	50.00	ND	102	70-130	3.07	30	11/01/2016	
Diisopropyl Ether	51.6	5.0	ug/L	50.00	ND	103	70-130	1.54	30	11/01/2016	
Ethylbenzene	52.9	1.0	ug/L	50.00	ND	106	70-130	1.82	30	11/01/2016	
Ethyltertiarybutylether	41.8	5.0	ug/L	50.00	ND	83.6	70-130	11.2	30	11/01/2016	
Hexachloroethane	46.9	5.0	ug/L	50.00	ND	93.7	70-130	5.41	30	11/01/2016	
Isopropylbenzene	55.1	1.0	ug/L	50.00	ND	110	70-130	1.03	30	11/01/2016	
m & p - Xylene	109	2.0	ug/L	100.0	ND	109	70-130	1.43	30	11/01/2016	
Methyl iodide	55.2	1.0	ug/L	50.00	ND	110	70-130	6.79	30	11/01/2016	
Methylene chloride	51.9	5.0	ug/L	50.00	ND	104	70-130	1.74	30	11/01/2016	
Methyltertiarybutylether	44.9	1.0	ug/L	50.00	ND	89.8	70-130	2.44	30	11/01/2016	
Naphthalene	50.6	5.0	ug/L	50.00	ND	101	70-130	4.89	30	11/01/2016	X
n-Butylbenzene	51.6	1.0	ug/L	50.00	ND	103	70-130	0.884	30	11/01/2016	
n-Propylbenzene	53.5	1.0	ug/L	50.00	ND	107	70-130	1.38	30	11/01/2016	
o-Xylene	54.1	1.0	ug/L	50.00	ND	108	70-130	1.41	30	11/01/2016	



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Organics-Volatiles - Quality Control

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Analyzed	Qualifier
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Batch B6K0107 - Method: 5030

Prepared: 11/01/2016

Matrix Spike Dup (B6K0107-MSD1)

Source: 1610223-07

p-Isopropyl toluene	53.6	1.0	ug/L	50.00	ND	107	70-130	0.313	30	11/01/2016	
sec-Butylbenzene	53.4	1.0	ug/L	50.00	ND	107	70-130	0.408	30	11/01/2016	
Styrene	53.8	1.0	ug/L	50.00	ND	108	70-130	3.13	30	11/01/2016	
tert-Butylbenzene	53.9	1.0	ug/L	50.00	ND	108	70-130	0.557	30	11/01/2016	
tertiary Butyl Alcohol	218	50	ug/L	250.0	ND	87.4	70-130	24.0	30	11/01/2016	
tertiary Amyl methylether	44.4	5.0	ug/L	50.00	ND	88.8	70-130	7.56	30	11/01/2016	
Tetrachloroethylene	48.6	1.0	ug/L	50.00	ND	97.2	70-130	3.35	30	11/01/2016	
Tetrahydrofuran	45.3	5.0	ug/L	50.00	ND	90.7	70-130	0.214	30	11/01/2016	
Toluene	51.5	1.0	ug/L	50.00	ND	103	70-130	1.77	30	11/01/2016	
trans-1,2-Dichloroethylene	50.8	1.0	ug/L	50.00	ND	102	70-130	1.74	30	11/01/2016	
trans-1,3-Dichloropropylene	41.0	1.0	ug/L	50.00	ND	82.1	70-130	7.21	30	11/01/2016	
trans-1,4-Dichloro-2-butene	31.3	5.0	ug/L	50.00	ND	62.6	70-130	17.3	30	11/01/2016	A03
Trichloroethylene	51.5	1.0	ug/L	50.00	ND	103	70-130	0.183	30	11/01/2016	
Trichlorofluoromethane	50.6	1.0	ug/L	50.00	ND	101	70-130	3.34	30	11/01/2016	
Vinyl chloride	49.8	1.0	ug/L	50.00	ND	99.6	70-130	2.92	30	11/01/2016	
Surrogate: Bromofluorobenzene	50.2		ug/L	50.00		100	85-115			11/01/2016	
Surrogate: Dibromofluoromethane	49.4		ug/L	50.00		98.7	82.7-115			11/01/2016	
Surrogate: Toluene-d8	49.9		ug/L	50.00		99.8	85-115			11/01/2016	



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Organics-Dioxane - Quality Control

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Analyzed	Qualifier
<b>Batch B6K0311 - Method: 5030</b>				<b>Prepared: 11/01/2016</b>							
<b>Blank (B6K0311-BLK1)</b>											
1,4-dioxane	ND	1.0	ug/L							11/01/2016	
<b>LCS (B6K0311-BS1)</b>											
1,4-dioxane	10.3	1.0	ug/L	10.00		103	70-130			11/01/2016	
<b>Matrix Spike (B6K0311-MS1) Source: 1610212-07</b>											
1,4-dioxane	11.4	1.0	ug/L	10.00	ND	114	70-130			11/01/2016	
<b>Matrix Spike Dup (B6K0311-MSD1) Source: 1610212-07</b>											
1,4-dioxane	10.2	1.0	ug/L	10.00	ND	102	70-130	11.8	30	11/01/2016	



# Analysis Request Sheet

Lab Work Order Number <b>610212</b>	Project Name <b>Gelman Sciences</b>	Matrix <b>WATER</b>
Site Code/Project Number <b>81000018</b>	AY <b>1617</b>	CC Email 1 <b>adelmanm@michigan.gov</b>
Dept-Division-District <b>DEQ-RRD-Jackson</b>	Index <b>44410</b>	CC Email 2
State Project Manager <b>Dan Hamel</b>	PCA <b>30740</b>	CC Email 3
State Project Manager Email <b>hameld@michigan.gov</b>	Project <b>451586</b>	Overflow Lab Choice 1
State Project Manager Phone <b>(517) 780-7832</b>	Phase <b>00</b>	Overflow Lab Choice 2
		Project TAT Days
		Project Due Date
		Sample Collector <b>DAN HAMEL</b>
		Sample Collector Phone <b>517-780-7832</b>
		Contract Firm
		Contract Firm Primary Contact
		Primary Contact Phone
		Accept Analysis hold time codes

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	MW-138d	10/24/16	1035	3	PLEASE INCLUDE QA/QC
2	MW-138s	10/24/16	1100	3	INFO WITH LAB DATA REPORTS
3	MW-138j	10/24/16	1138	3	
4	MW-141d	10/24/16	1410	3	↓ ↓ ↓
5	MW-141s	10/24/16	1423	3	
6	SEEP-234 8th	10/24/16	1505	6	↓ ↓ ↓
7	CREEK-HANNANT NAT AREA	10/24/16	1548	6	↓ ↓ ↓
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	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 <sub>2</sub> 1 2 3 4 5 6 7 8 9 10 GN Nitrate - NO <sub>3</sub> (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 <sub>4</sub> 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 (Lab - Filtered & Preserved) GA Total Org Carbon - TOC 1 2 3 4 5 6 7 8 9 10 GA Ammonia - NH <sub>3</sub> 1 2 3 4 5 6 7 8 9 10 GA Nitrate+Nitrite - NO <sub>3</sub> +NO <sub>2</sub> 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 Print Name & Org: <b>DAN HAMEL DEQ-RRD</b> Signature: <i>[Signature]</i>	Received By Print Name & Org: <b>Terry Hstke DEQ-RRD</b> Signature: <i>[Signature]</i>	Date / Time <b>10/20/16</b> <b>14:40</b>
	Print Name & Org: <b>Terry Hstke DEQ-RRD</b> Signature: <i>[Signature]</i>	Signature: <i>[Signature]</i> <b>MDEQ</b>	Date / Time <b>10/27/16</b> <b>0827</b>
	Print Name & Org: Signature:		