



ANALYTICAL SUMMARY REPORT

February 01, 2024

Great West Engineering
PO Box 4817
Helena, MT 59604-4817

Work Order: H24010426 Quote ID: H17043

Project Name: Cascade Special Testing

Energy Laboratories Inc Helena MT received the following 3 samples for Great West Engineering on 1/17/2024 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H24010426-001	Madison 3 Well	01/17/24 12:45	01/17/24	Drinking Water	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Drinking Water Alkalinity to pH 4.5 Bacteria, Iron Related Bacteria, Sulfate Reducing Conductivity Services Provided by Lab Ferrous Iron by colorimetry EPH-Sep Funnel Extraction SW3510C Hydrocarbons, Extractable SW8015MPetroleum Screen Anions by Ion Chromatography Iron, Ferric pH Metals Digestion by E200.2 Preparation, Dissolved Filtration MCAWW Solids, Total Dissolved Sulfide, Methylene Blue Colorimetric 524-Purgeable Organics, SDWA
H24010426-002	Firehouse Sink	01/16/24 14:45	01/17/24	Drinking Water	524-Purgeable Organics, SDWA
H24010426-003	Trip Blank	01/16/24 14:45	01/17/24	Trip Blank	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:



LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Great West Engineering
Client Sample ID: Madison 3 Well
PWS #: MT0000171 **Name:** CASCADE TOWN OF
Facility ID: WL008
SamplingPoint/Location: RW008 / Madison 3 Well
Project ID: Cascade Special Testing
Collector's Name: Bruce Lauerman
Compliance Sample: YES

Lab ID: H24010426-001
Report Date: 02/01/24
Collection Date: 01/17/24 12:45
Date Received: 01/17/24
Matrix: Drinking Water
Federal ID#: MT00945

Contact Phone #:
Sample Type: SP

FRDS Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
MICROBIOLOGICAL							
Bacteria, Iron Related	9000	CFU/ml		1.0		IRB-BART	01/17/24 16:29 / tmj
Bacteria, Sulfate Reducing	1400	CFU/ml		1.0		SRB-BART	01/17/24 16:29 / tmj
PHYSICAL PROPERTIES							
1925 pH	7.6	s.u.	H	0.1		A4500-H B	01/18/24 09:04 / eer
1996 pH Measurement Temp	11.3	°C				A4500-H B	01/18/24 09:04 / eer
1064 Conductivity @ 25 C	646	umhos/cm		5		A2510 B	01/18/24 09:04 / eer
1930 Solids, Total Dissolved TDS @ 180 C	411	mg/L		20		A2540 C	01/18/24 16:46 / dpw
INORGANICS							
1927 Alkalinity, Total as CaCO3	180	mg/L		4		A2320 B	01/18/24 16:59 / eer
1055 Sulfate	154	mg/L		1		E300.0	01/19/24 12:15 / SRW
Sulfide	ND	mg/L		0.04		A4500-S D	01/21/24 10:40 / ams
FERROUS IRON BY COLORIMETRY							
Iron, Ferrous	ND	mg/L		0.1		A3500FeB	01/18/24 09:21 / dpw
METALS, DISSOLVED							
Iron, Ferrous	ND	mg/L		0.02		E200.8	01/18/24 13:52 / dck
METALS, TOTAL							
Iron, Ferric	0.04	mg/L		0.03		Calculation	01/24/24 08:49 / slj
METALS, TOTAL (CONTRACT LAB MT00945)							
1028 Iron	0.10	mg/L		0.02		E200.7	01/19/24 11:19 / slj
VOLATILE ORGANIC COMPOUNDS							
2990 Benzene	ND	ug/L		0.50	5	E524.2	01/17/24 18:29 / tmj
2993 Bromobenzene	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2430 Bromochloromethane	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2943 Bromodichloromethane	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2942 Bromoform	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2214 Bromomethane	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2422 n-Butylbenzene	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2428 sec-Butylbenzene	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2426 tert-Butylbenzene	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj

Report Definitions: RL - Analyte Reporting Limit
 QCL - Quality Control Limit
 H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level
 ND - Not detected at the Reporting Limit (RL)



LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Great West Engineering

Client Sample ID: Madison 3 Well

PWS #: MT0000171 **Name:** CASCADE TOWN OF

Facility ID: WL008

Sampling Point/Location: RW008 / Madison 3 Well

Project ID: Cascade Special Testing

Collector's Name: Bruce Lauerman

Contact Phone #:

Compliance Sample: YES

Sample Type: SP

Lab ID: H24010426-001

Report Date: 02/01/24

Collection Date: 01/17/24 12:45

Date Received: 01/17/24

Matrix: Drinking Water

Federal ID#: MT00945

FRDS Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
VOLATILE ORGANIC COMPOUNDS							
2982 Carbon tetrachloride	ND	ug/L		0.50	5	E524.2	01/17/24 18:29 / tmj
2980 1,2-Dichloroethane	ND	ug/L		0.50	5	E524.2	01/17/24 18:29 / tmj
2989 Chlorobenzene	ND	ug/L		0.50	100	E524.2	01/17/24 18:29 / tmj
2944 Chlorodibromomethane	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2216 Chloroethane	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2941 Chloroform	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2210 Chloromethane	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2965 2-Chlorotoluene	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2966 4-Chlorotoluene	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2408 Dibromomethane	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2968 1,2-Dichlorobenzene	ND	ug/L		0.50	600	E524.2	01/17/24 18:29 / tmj
2967 1,3-Dichlorobenzene	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2969 1,4-Dichlorobenzene	ND	ug/L		0.50	75	E524.2	01/17/24 18:29 / tmj
2212 Dichlorodifluoromethane	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2978 1,1-Dichloroethane	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2977 1,1-Dichloroethene	ND	ug/L		0.50	7	E524.2	01/17/24 18:29 / tmj
2380 cis-1,2-Dichloroethene	ND	ug/L		0.50	70	E524.2	01/17/24 18:29 / tmj
2979 trans-1,2-Dichloroethene	ND	ug/L		0.50	100	E524.2	01/17/24 18:29 / tmj
2983 1,2-Dichloropropane	ND	ug/L		0.50	5	E524.2	01/17/24 18:29 / tmj
2412 1,3-Dichloropropane	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2416 2,2-Dichloropropane	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2410 1,1-Dichloropropene	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2413 cis-1,3-Dichloropropene	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2224 trans-1,3-Dichloropropene	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2992 Ethylbenzene	ND	ug/L		0.50	700	E524.2	01/17/24 18:29 / tmj
2246 Hexachlorobutadiene	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2994 Isopropylbenzene	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2030 p-Isopropyltoluene	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2251 Methyl tert-butyl ether (MTBE)	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2964 Methylene chloride	ND	ug/L		0.50	5	E524.2	01/17/24 18:29 / tmj
2248 Naphthalene	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2998 n-Propylbenzene	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2996 Styrene	ND	ug/L		0.50	100	E524.2	01/17/24 18:29 / tmj
2986 1,1,1,2-Tetrachloroethane	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2988 1,1,2,2-Tetrachloroethane	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2987 Tetrachloroethene	ND	ug/L		0.50	5	E524.2	01/17/24 18:29 / tmj

Report RL - Analyte Reporting Limit
Definitions: QCL - Quality Control Limit

MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)



LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Great West Engineering
Client Sample ID: Madison 3 Well
PWS #: MT0000171 **Name:** CASCADE TOWN OF
Facility ID: WL008
SamplingPoint/Location: RW008 / Madison 3 Well
Project ID: Cascade Special Testing
Collector's Name: Bruce Lauerman **Contact Phone #:**
Compliance Sample: YES **Sample Type:** SP

Lab ID: H24010426-001
Report Date: 02/01/24
Collection Date: 01/17/24 12:45
Date Received: 01/17/24
Matrix: Drinking Water
Federal ID#: MT00945

FRDS Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
VOLATILE ORGANIC COMPOUNDS							
2991 Toluene	ND	ug/L		0.50	1000	E524.2	01/17/24 18:29 / tmj
2420 1,2,3-Trichlorobenzene	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2378 1,2,4-Trichlorobenzene	ND	ug/L		0.50	70	E524.2	01/17/24 18:29 / tmj
2981 1,1,1-Trichloroethane	ND	ug/L		0.50	200	E524.2	01/17/24 18:29 / tmj
2985 1,1,2-Trichloroethane	ND	ug/L		0.50	5	E524.2	01/17/24 18:29 / tmj
2984 Trichloroethene	ND	ug/L		0.50	5	E524.2	01/17/24 18:29 / tmj
2218 Trichlorofluoromethane	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2414 1,2,3-Trichloropropane	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2418 1,2,4-Trimethylbenzene	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2424 1,3,5-Trimethylbenzene	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2976 Vinyl chloride	ND	ug/L		0.50	2	E524.2	01/17/24 18:29 / tmj
2963 m+p-Xylenes	ND	ug/L		1.0		E524.2	01/17/24 18:29 / tmj
2997 o-Xylene	ND	ug/L		0.50		E524.2	01/17/24 18:29 / tmj
2950 Trihalomethanes, Total	ND	ug/L		0.50	80	E524.2	01/17/24 18:29 / tmj
2955 Xylenes, Total	ND	ug/L		0.50	10000	E524.2	01/17/24 18:29 / tmj
Surr: p-Bromofluorobenzene	105	%REC			70-130	E524.2	01/17/24 18:29 / tmj
Surr: 1,2-Dichloroethane-d4	104	%REC			70-130	E524.2	01/17/24 18:29 / tmj
Surr: Toluene-d8	101	%REC			70-130	E524.2	01/17/24 18:29 / tmj

EXTRACTABLE PETROLEUM HYDROCARBONS-SCREEN ANALYSIS

Total Extractable Hydrocarbons	ND	ug/L		300	1000	SW8015M	01/23/24 10:46 / ctf
Surr: o-Terphenyl	66.0	%REC			40-140	SW8015M	01/23/24 10:46 / ctf

- Note: Total Extractable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.

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ND - Not detected at the Reporting Limit (RL)



LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Great West Engineering

Client Sample ID: Firehouse Sink

PWS #: MT0000171 **Name:** CASCADE TOWN OF

Facility ID: CH002

Sampling Point/Location: EP510 / Firehouse Sink

Project ID: Cascade Special Testing

Collector's Name: Bruce Lauerman

Contact Phone #:

Compliance Sample: YES

Sample Type: SP

Lab ID: H24010426-002

Report Date: 02/01/24

Collection Date: 01/16/24 14:45

Date Received: 01/17/24

Matrix: Drinking Water

Federal ID#: MT00945

FRDS Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
VOLATILE ORGANIC COMPOUNDS							
2990 Benzene	ND	ug/L		0.50	5	E524.2	01/18/24 17:37 / tmj
2993 Bromobenzene	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2430 Bromochloromethane	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2943 Bromodichloromethane	2.4	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2942 Bromoform	0.71	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2214 Bromomethane	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2422 n-Butylbenzene	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2428 sec-Butylbenzene	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2426 tert-Butylbenzene	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2982 Carbon tetrachloride	ND	ug/L		0.50	5	E524.2	01/18/24 17:37 / tmj
2980 1,2-Dichloroethane	ND	ug/L		0.50	5	E524.2	01/18/24 17:37 / tmj
2989 Chlorobenzene	ND	ug/L		0.50	100	E524.2	01/18/24 17:37 / tmj
2944 Chlorodibromomethane	2.3	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2216 Chloroethane	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2941 Chloroform	1.5	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2210 Chloromethane	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2965 2-Chlorotoluene	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2966 4-Chlorotoluene	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2408 Dibromomethane	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2968 1,2-Dichlorobenzene	ND	ug/L		0.50	600	E524.2	01/18/24 17:37 / tmj
2967 1,3-Dichlorobenzene	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2969 1,4-Dichlorobenzene	ND	ug/L		0.50	75	E524.2	01/18/24 17:37 / tmj
2212 Dichlorodifluoromethane	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2978 1,1-Dichloroethane	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2977 1,1-Dichloroethene	ND	ug/L		0.50	7	E524.2	01/18/24 17:37 / tmj
2380 cis-1,2-Dichloroethene	ND	ug/L		0.50	70	E524.2	01/18/24 17:37 / tmj
2979 trans-1,2-Dichloroethene	ND	ug/L		0.50	100	E524.2	01/18/24 17:37 / tmj
2983 1,2-Dichloropropane	ND	ug/L		0.50	5	E524.2	01/18/24 17:37 / tmj
2412 1,3-Dichloropropane	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2416 2,2-Dichloropropane	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2410 1,1-Dichloropropene	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2413 cis-1,3-Dichloropropene	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2224 trans-1,3-Dichloropropene	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2992 Ethylbenzene	ND	ug/L		0.50	700	E524.2	01/18/24 17:37 / tmj
2246 Hexachlorobutadiene	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2994 Isopropylbenzene	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj

Report Definitions: RL - Analyte Reporting Limit
QCL - Quality Control Limit

MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)



LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Great West Engineering
Client Sample ID: Firehouse Sink
PWS #: MT0000171 **Name:** CASCADE TOWN OF
Facility ID: CH002
Sampling Point/Location: EP510 / Firehouse Sink
Project ID: Cascade Special Testing
Collector's Name: Bruce Lauerman **Contact Phone #:**
Compliance Sample: YES **Sample Type:** SP

Lab ID: H24010426-002
Report Date: 02/01/24
Collection Date: 01/16/24 14:45
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Matrix: Drinking Water
Federal ID#: MT00945

FRDS Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
VOLATILE ORGANIC COMPOUNDS							
2030 p-Isopropyltoluene	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2251 Methyl tert-butyl ether (MTBE)	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2964 Methylene chloride	ND	ug/L		0.50	5	E524.2	01/18/24 17:37 / tmj
2248 Naphthalene	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2998 n-Propylbenzene	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2996 Styrene	ND	ug/L		0.50	100	E524.2	01/18/24 17:37 / tmj
2986 1,1,1,2-Tetrachloroethane	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2988 1,1,2,2-Tetrachloroethane	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2987 Tetrachloroethene	ND	ug/L		0.50	5	E524.2	01/18/24 17:37 / tmj
2991 Toluene	ND	ug/L		0.50	1000	E524.2	01/18/24 17:37 / tmj
2420 1,2,3-Trichlorobenzene	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2378 1,2,4-Trichlorobenzene	ND	ug/L		0.50	70	E524.2	01/18/24 17:37 / tmj
2981 1,1,1-Trichloroethane	ND	ug/L		0.50	200	E524.2	01/18/24 17:37 / tmj
2985 1,1,2-Trichloroethane	ND	ug/L		0.50	5	E524.2	01/18/24 17:37 / tmj
2984 Trichloroethene	ND	ug/L		0.50	5	E524.2	01/18/24 17:37 / tmj
2218 Trichlorofluoromethane	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2414 1,2,3-Trichloropropane	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2418 1,2,4-Trimethylbenzene	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2424 1,3,5-Trimethylbenzene	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2976 Vinyl chloride	ND	ug/L		0.50	2	E524.2	01/18/24 17:37 / tmj
2963 m+p-Xylenes	ND	ug/L		1.0		E524.2	01/18/24 17:37 / tmj
2997 o-Xylene	ND	ug/L		0.50		E524.2	01/18/24 17:37 / tmj
2950 Trihalomethanes, Total	6.9	ug/L		0.50	80	E524.2	01/18/24 17:37 / tmj
2955 Xylenes, Total	ND	ug/L		0.50	10000	E524.2	01/18/24 17:37 / tmj
Surr: p-Bromofluorobenzene	108	%REC			70-130	E524.2	01/18/24 17:37 / tmj
Surr: 1,2-Dichloroethane-d4	105	%REC			70-130	E524.2	01/18/24 17:37 / tmj
Surr: Toluene-d8	102	%REC			70-130	E524.2	01/18/24 17:37 / tmj

Report RL - Analyte Reporting Limit
Definitions: QCL - Quality Control Limit

MCL - Maximum Contaminant Level
 ND - Not detected at the Reporting Limit (RL)



LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Great West Engineering

Client Sample ID: Trip Blank

PWS #: **Name:** UNKNOWN

Facility ID:

Sampling Point/Location:

Project ID: Cascade Special Testing

Collector's Name: ELI

Contact Phone #:

Compliance Sample: NO

Sample Type:

Lab ID: H24010426-003

Report Date: 02/01/24

Collection Date: 01/16/24 14:45

Date Received: 01/17/24

Matrix: Trip Blank

Federal ID#: MT00945

FRDS Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
VOLATILE ORGANIC COMPOUNDS							
2990 Benzene	ND	ug/L		0.50	5	E524.2	01/17/24 19:30 / tmj
2993 Bromobenzene	ND	ug/L		0.50		E524.2	01/17/24 19:30 / tmj
2430 Bromochloromethane	ND	ug/L		0.50		E524.2	01/17/24 19:30 / tmj
2943 Bromodichloromethane	ND	ug/L		0.50		E524.2	01/17/24 19:30 / tmj
2942 Bromoform	ND	ug/L		0.50		E524.2	01/17/24 19:30 / tmj
2214 Bromomethane	ND	ug/L		0.50		E524.2	01/17/24 19:30 / tmj
2422 n-Butylbenzene	ND	ug/L		0.50		E524.2	01/17/24 19:30 / tmj
2428 sec-Butylbenzene	ND	ug/L		0.50		E524.2	01/17/24 19:30 / tmj
2426 tert-Butylbenzene	ND	ug/L		0.50		E524.2	01/17/24 19:30 / tmj
2982 Carbon tetrachloride	ND	ug/L		0.50	5	E524.2	01/17/24 19:30 / tmj
2980 1,2-Dichloroethane	ND	ug/L		0.50	5	E524.2	01/17/24 19:30 / tmj
2989 Chlorobenzene	ND	ug/L		0.50	100	E524.2	01/17/24 19:30 / tmj
2944 Chlorodibromomethane	ND	ug/L		0.50		E524.2	01/17/24 19:30 / tmj
2216 Chloroethane	ND	ug/L		0.50		E524.2	01/17/24 19:30 / tmj
2941 Chloroform	ND	ug/L		0.50		E524.2	01/17/24 19:30 / tmj
2210 Chloromethane	ND	ug/L		0.50		E524.2	01/17/24 19:30 / tmj
2965 2-Chlorotoluene	ND	ug/L		0.50		E524.2	01/17/24 19:30 / tmj
2966 4-Chlorotoluene	ND	ug/L		0.50		E524.2	01/17/24 19:30 / tmj
2408 Dibromomethane	ND	ug/L		0.50		E524.2	01/17/24 19:30 / tmj
2968 1,2-Dichlorobenzene	ND	ug/L		0.50	600	E524.2	01/17/24 19:30 / tmj
2967 1,3-Dichlorobenzene	ND	ug/L		0.50		E524.2	01/17/24 19:30 / tmj
2969 1,4-Dichlorobenzene	ND	ug/L		0.50	75	E524.2	01/17/24 19:30 / tmj
2212 Dichlorodifluoromethane	ND	ug/L		0.50		E524.2	01/17/24 19:30 / tmj
2978 1,1-Dichloroethane	ND	ug/L		0.50		E524.2	01/17/24 19:30 / tmj
2977 1,1-Dichloroethene	ND	ug/L		0.50	7	E524.2	01/17/24 19:30 / tmj
2380 cis-1,2-Dichloroethene	ND	ug/L		0.50	70	E524.2	01/17/24 19:30 / tmj
2979 trans-1,2-Dichloroethene	ND	ug/L		0.50	100	E524.2	01/17/24 19:30 / tmj
2983 1,2-Dichloropropane	ND	ug/L		0.50	5	E524.2	01/17/24 19:30 / tmj
2412 1,3-Dichloropropane	ND	ug/L		0.50		E524.2	01/17/24 19:30 / tmj
2416 2,2-Dichloropropane	ND	ug/L		0.50		E524.2	01/17/24 19:30 / tmj
2410 1,1-Dichloropropene	ND	ug/L		0.50		E524.2	01/17/24 19:30 / tmj
2413 cis-1,3-Dichloropropene	ND	ug/L		0.50		E524.2	01/17/24 19:30 / tmj
2224 trans-1,3-Dichloropropene	ND	ug/L		0.50		E524.2	01/17/24 19:30 / tmj
2992 Ethylbenzene	ND	ug/L		0.50	700	E524.2	01/17/24 19:30 / tmj
2246 Hexachlorobutadiene	ND	ug/L		0.50		E524.2	01/17/24 19:30 / tmj
2994 Isopropylbenzene	ND	ug/L		0.50		E524.2	01/17/24 19:30 / tmj

Report RL - Analyte Reporting Limit
Definitions: QCL - Quality Control Limit

MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Great West Engineering

Work Order: H24010426

Report Date: 02/01/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B										Batch: R191746
Lab ID: MBLK		Method Blank								Run: PHSC_101-H_240118A 01/18/24 16:35
Alkalinity, Total as CaCO3		ND	mg/L	2						
Lab ID: LCS		Laboratory Control Sample								Run: PHSC_101-H_240118A 01/18/24 16:39
Alkalinity, Total as CaCO3		600	mg/L	4.0	101	90	110			
Lab ID: H24010426-001ADUP		Sample Duplicate								Run: PHSC_101-H_240118A 01/18/24 17:07
Alkalinity, Total as CaCO3		180	mg/L	4.0				0.3	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Great West Engineering

Work Order: H24010426

Report Date: 02/01/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2510 B										Analytical Run: PHSC_101-H_240118A
Lab ID: SC 150		Initial Calibration Verification Standard								01/18/24 08:26
Conductivity @ 25 C		153	umhos/cm	5.0	102	90	110			
Lab ID: SC 20000		Initial Calibration Verification Standard								01/18/24 08:28
Conductivity @ 25 C		20100	umhos/cm	5.0	101	90	110			
Lab ID: SC 5000		Initial Calibration Verification Standard								01/18/24 08:30
Conductivity @ 25 C		4970	umhos/cm	5.0	99	90	110			
Method: A2510 B										Batch: R191746
Lab ID: SC 1000		Laboratory Control Sample								01/18/24 08:32
Conductivity @ 25 C		1020	umhos/cm	5.0	102	90	110			Run: PHSC_101-H_240118A
Lab ID: MBLK		Method Blank								01/18/24 09:02
Conductivity @ 25 C		ND	umhos/cm	5						Run: PHSC_101-H_240118A
Lab ID: H24010426-001ADUP		Sample Duplicate								01/18/24 09:06
Conductivity @ 25 C		652	umhos/cm	5.0				0.9	10	Run: PHSC_101-H_240118A

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Great West Engineering

Work Order: H24010426

Report Date: 02/01/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C										
Batch: TDS20240118A										
Lab ID: MBLK		Method Blank								
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	7						
										Run: Accu-124 (14410200)_240118 01/18/24 16:46
Lab ID: LCS		Laboratory Control Sample								
Solids, Total Dissolved TDS @ 180 C		1980	mg/L	50	99	90	110			Run: Accu-124 (14410200)_240118 01/18/24 16:46
Lab ID: H24010426-001ADUP		Sample Duplicate								
Solids, Total Dissolved TDS @ 180 C		415	mg/L	25				1.0	10	Run: Accu-124 (14410200)_240118 01/18/24 16:47
RPD = 1.0 %										

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Great West Engineering

Work Order: H24010426

Report Date: 02/01/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A3500FeB		Analytical Run: GENESYS 20_240118A								
Lab ID: CCV	Continuing Calibration Verification Standard									01/18/24 09:21
Iron, Ferrous		3.11	mg/L	0.10	104	90	110			
Method: A3500FeB		Batch: R191753								
Lab ID: MBLK	Method Blank									01/18/24 09:21
Iron, Ferrous		ND	mg/L	0.005						
Lab ID: LCS	Laboratory Control Sample									01/18/24 09:21
Iron, Ferrous		4.34	mg/L	0.10	108	90	110			
Lab ID: H24010426-001HMS	Sample Matrix Spike									01/18/24 09:21
Iron, Ferrous		4.42	mg/L	0.10	109	80	120			
Lab ID: H24010426-001HMSD	Sample Matrix Spike Duplicate									01/18/24 09:21
Iron, Ferrous		4.42	mg/L	0.10	109	80	120	0.1	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Great West Engineering

Work Order: H24010426

Report Date: 02/01/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
Method: A4500-H B		Analytical Run: PHSC_101-H_240118A									
Lab ID: pH 7	2	Initial Calibration Verification Standard								01/18/24 08:21	
pH		7.0	s.u.	0.1	100	98	102				
pH Measurement Temp		21.1	°C			0	0				
Lab ID: CCV - pH 7	2	Continuing Calibration Verification Standard								01/18/24 15:32	
pH		7.0	s.u.	0.1	100	98	102				
pH Measurement Temp		21.5	°C			0	0				
Method: A4500-H B		Batch: R191746									
Lab ID: H24010426-001ADUP	2	Sample Duplicate								Run: PHSC_101-H_240118A	01/18/24 09:06
pH		7.6	s.u.	0.1				0.1	3	H	
pH Measurement Temp		10.9	°C								

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

H - Analysis performed past the method holding time



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Great West Engineering

Work Order: H24010426

Report Date: 02/01/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-S D								Analytical Run: GENESYS 20_240121A		
Lab ID: CCV		Continuing Calibration Verification Standard							01/21/24 10:40	
Sulfide		0.494	mg/L	0.040	99	85	115			
Method: A4500-S D									Batch: R191826	
Lab ID: MBLK		Method Blank						Run: GENESYS 20_240121A		01/21/24 10:40
Sulfide		ND	mg/L	0.005						
Lab ID: LCS		Laboratory Control Sample						Run: GENESYS 20_240121A		01/21/24 10:40
Sulfide		0.252	mg/L	0.040	105	85	115			
Lab ID: H24010426-001FMS		Sample Matrix Spike						Run: GENESYS 20_240121A		01/21/24 10:40
Sulfide		0.235	mg/L	0.040	98	70	130			
Lab ID: H24010426-001FMSD		Sample Matrix Spike Duplicate						Run: GENESYS 20_240121A		01/21/24 10:40
Sulfide		0.237	mg/L	0.040	99	70	130	1.2	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Great West Engineering

Work Order: H24010426

Report Date: 02/01/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7										Analytical Run: ICP2-HE_240119A
Lab ID: ICV		Initial Calibration Verification Standard								01/19/24 10:27
Iron		3.89	mg/L	0.020	97	95	105			
Lab ID: CCV-1		Continuing Calibration Verification Standard								01/19/24 10:31
Iron		2.47	mg/L	0.020	99	95	105			
Lab ID: CCV		Continuing Calibration Verification Standard								01/19/24 11:01
Iron		2.50	mg/L	0.020	100	90	110			
Method: E200.7										Batch: 70104
Lab ID: MB-70104		Method Blank								01/19/24 11:11
Iron		ND	mg/L	0.02						Run: ICP2-HE_240119A
Lab ID: LCS-70104		Laboratory Control Sample								01/19/24 11:15
Iron		2.49	mg/L	0.020	100	85	115			Run: ICP2-HE_240119A
Lab ID: H24010426-001CMS3		Sample Matrix Spike								01/19/24 11:30
Iron		2.54	mg/L	0.020	97	70	130			Run: ICP2-HE_240119A
Lab ID: H24010426-001CMSD3		Sample Matrix Spike Duplicate								01/19/24 11:34
Iron		2.55	mg/L	0.020	98	70	130	0.2	20	Run: ICP2-HE_240119A

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Great West Engineering

Work Order: H24010426

Report Date: 02/01/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Analytical Run: ICPMS205-H_240118A
Lab ID: ICV		Initial Calibration Verification Standard								01/18/24 12:32
Iron		0.299	mg/L	0.020	100	90	110			
Lab ID: CCV		Continuing Calibration Verification Standard								01/18/24 13:27
Iron		1.31	mg/L	0.020	100	90	110			
Method: E200.8										Batch: R191782
Lab ID: LRB		Method Blank								01/18/24 13:36
Iron		ND	mg/L	0.004						Run: ICPMS205-H_240118A
Lab ID: LFB		Laboratory Fortified Blank								01/18/24 13:39
Iron		0.156	mg/L	0.020	104	85	115			Run: ICPMS205-H_240118A
Lab ID: H24010426-001BMS		Sample Matrix Spike								01/18/24 13:58
Iron		0.158	mg/L	0.020	101	70	130			Run: ICPMS205-H_240118A
Lab ID: H24010426-001BMSD		Sample Matrix Spike Duplicate								01/18/24 14:02
Iron		0.158	mg/L	0.020	101	70	130	0.1	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Great West Engineering

Work Order: H24010426

Report Date: 02/01/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0										Analytical Run: IC METROHM_240119A
Lab ID: ICV		Initial Calibration Verification Standard								01/19/24 09:52
Sulfate	401	mg/L	1.0	100	90	110				
Lab ID: CCV		Continuing Calibration Verification Standard								01/19/24 10:35
Sulfate	198	mg/L	1.0	99	90	110				
Method: E300.0										Batch: R191837
Lab ID: ICB		Method Blank								01/19/24 09:38
Sulfate	ND	mg/L	0.03							Run: IC METROHM_240119A
Lab ID: LFB		Laboratory Fortified Blank								01/19/24 10:06
Sulfate	102	mg/L	1.0	102	90	110				Run: IC METROHM_240119A
Lab ID: H24010452-002AMS		Sample Matrix Spike								01/19/24 13:27
Sulfate	136	mg/L	1.0	102	90	110				Run: IC METROHM_240119A
Lab ID: H24010452-002AMSD		Sample Matrix Spike Duplicate								01/19/24 13:42
Sulfate	137	mg/L	1.0	103	90	110	1.1	20		Run: IC METROHM_240119A

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Great West Engineering

Work Order: H24010426

Report Date: 02/01/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E524.2										
Analytical Run: R191756										
Lab ID: 17-Jan-24_CCV_2	63 Continuing Calibration Verification Standard									01/17/24 11:41
Benzene		5.28	ug/L	0.50	106	70	130			
Bromobenzene		5.27	ug/L	0.50	105	70	130			
Bromochloromethane		5.16	ug/L	0.50	103	70	130			
Bromodichloromethane		5.07	ug/L	0.50	101	70	130			
Bromoform		4.91	ug/L	0.50	98	70	130			
Bromomethane		5.64	ug/L	0.50	113	70	130			
n-Butylbenzene		5.73	ug/L	0.50	115	70	130			
sec-Butylbenzene		5.64	ug/L	0.50	113	70	130			
tert-Butylbenzene		5.52	ug/L	0.50	110	70	130			
Carbon tetrachloride		5.36	ug/L	0.50	107	70	130			
Chlorobenzene		5.23	ug/L	0.50	105	70	130			
Chlorodibromomethane		5.00	ug/L	0.50	100	70	130			
Chloroethane		5.16	ug/L	0.50	103	70	130			
Chloroform		5.21	ug/L	0.50	104	70	130			
Chloromethane		5.15	ug/L	0.50	103	70	130			
2-Chlorotoluene		5.57	ug/L	0.50	111	70	130			
4-Chlorotoluene		5.58	ug/L	0.50	112	70	130			
Dibromomethane		4.92	ug/L	0.50	98	70	130			
1,2-Dichlorobenzene		5.26	ug/L	0.50	105	70	130			
1,3-Dichlorobenzene		5.28	ug/L	0.50	106	70	130			
1,4-Dichlorobenzene		5.25	ug/L	0.50	105	70	130			
Dichlorodifluoromethane		4.88	ug/L	0.50	98	70	130			
1,1-Dichloroethane		5.32	ug/L	0.50	106	70	130			
1,2-Dichloroethane		5.01	ug/L	0.50	100	70	130			
1,1-Dichloroethene		5.41	ug/L	0.50	108	70	130			
cis-1,2-Dichloroethene		5.29	ug/L	0.50	106	70	130			
trans-1,2-Dichloroethene		5.22	ug/L	0.50	104	70	130			
1,2-Dichloropropane		5.25	ug/L	0.50	105	70	130			
1,3-Dichloropropane		4.92	ug/L	0.50	98	70	130			
2,2-Dichloropropane		5.60	ug/L	0.50	112	70	130			
1,1-Dichloropropene		5.20	ug/L	0.50	104	70	130			
cis-1,3-Dichloropropene		4.99	ug/L	0.50	100	70	130			
trans-1,3-Dichloropropene		4.97	ug/L	0.50	99	70	130			
Ethylbenzene		5.39	ug/L	0.50	108	70	130			
Hexachlorobutadiene		6.30	ug/L	0.50	126	70	130			
Isopropylbenzene		5.60	ug/L	0.50	112	70	130			
p-Isopropyltoluene		5.75	ug/L	0.50	115	70	130			
Methyl tert-butyl ether (MTBE)		4.61	ug/L	0.50	92	70	130			
Methylene chloride		5.46	ug/L	0.50	109	70	130			
Naphthalene		5.00	ug/L	0.50	100	70	130			
n-Propylbenzene		5.78	ug/L	0.50	116	70	130			
Styrene		5.42	ug/L	0.50	108	70	130			
1,1,1,2-Tetrachloroethane		5.07	ug/L	0.50	101	70	130			
1,1,2,2-Tetrachloroethane		4.89	ug/L	0.50	98	70	130			
Tetrachloroethene		5.35	ug/L	0.50	107	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Great West Engineering

Work Order: H24010426

Report Date: 02/01/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E524.2										
Analytical Run: R191756										
Lab ID: 17-Jan-24_CCV_2	63 Continuing Calibration Verification Standard									01/17/24 11:41
Toluene		5.47	ug/L	0.50	109	70	130			
1,2,3-Trichlorobenzene		4.99	ug/L	0.50	100	70	130			
1,2,4-Trichlorobenzene		4.97	ug/L	0.50	99	70	130			
1,1,1-Trichloroethane		5.36	ug/L	0.50	107	70	130			
1,1,2-Trichloroethane		4.80	ug/L	0.50	96	70	130			
Trichloroethene		5.24	ug/L	0.50	105	70	130			
Trichlorofluoromethane		5.26	ug/L	0.50	105	70	130			
1,2,3-Trichloropropane		4.94	ug/L	0.50	99	70	130			
1,2,4-Trimethylbenzene		5.79	ug/L	0.50	116	70	130			
1,3,5-Trimethylbenzene		5.76	ug/L	0.50	115	70	130			
Vinyl chloride		5.04	ug/L	0.20	101	70	130			
m+p-Xylenes		11.1	ug/L	0.50	111	70	130			
o-Xylene		5.45	ug/L	0.50	109	70	130			
Trihalomethanes, Total		20.2	ug/L	0.50	101	70	130			
Xylenes, Total		16.5	ug/L	0.50	110	70	130			
Surr: p-Bromofluorobenzene				0.50	103	70	130			
Surr: 1,2-Dichloroethane-d4				0.50	96	70	130			
Surr: Toluene-d8				0.50	105	70	130			

Method: E524.2										
Batch: R191756										
Lab ID: 17-Jan-24_LCS_3	63 Laboratory Control Sample									Run: 5973MSD_240117A 01/17/24 12:26
Benzene		5.62	ug/L	0.50	112	70	130			
Bromobenzene		5.73	ug/L	0.50	115	70	130			
Bromochloromethane		5.42	ug/L	0.50	108	70	130			
Bromodichloromethane		5.31	ug/L	0.50	106	70	130			
Bromoform		5.40	ug/L	0.50	108	70	130			
Bromomethane		6.20	ug/L	0.50	124	70	130			
n-Butylbenzene		6.24	ug/L	0.50	125	70	130			
sec-Butylbenzene		6.21	ug/L	0.50	124	70	130			
tert-Butylbenzene		6.05	ug/L	0.50	121	70	130			
Carbon tetrachloride		5.65	ug/L	0.50	113	70	130			
Chlorobenzene		5.47	ug/L	0.50	109	70	130			
Chlorodibromomethane		5.25	ug/L	0.50	105	70	130			
Chloroethane		4.87	ug/L	0.50	97	70	130			
Chloroform		5.49	ug/L	0.50	110	70	130			
Chloromethane		4.83	ug/L	0.50	97	70	130			
2-Chlorotoluene		6.04	ug/L	0.50	121	70	130			
4-Chlorotoluene		5.98	ug/L	0.50	120	70	130			
Dibromomethane		5.21	ug/L	0.50	104	70	130			
1,2-Dichlorobenzene		5.82	ug/L	0.50	116	70	130			
1,3-Dichlorobenzene		5.84	ug/L	0.50	117	70	130			
1,4-Dichlorobenzene		5.71	ug/L	0.50	114	70	130			
Dichlorodifluoromethane		4.53	ug/L	0.50	91	70	130			
1,1-Dichloroethane		5.58	ug/L	0.50	112	70	130			
1,2-Dichloroethane		5.17	ug/L	0.50	103	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Great West Engineering

Work Order: H24010426

Report Date: 02/01/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E524.2										
Batch: R191756										
Lab ID: 17-Jan-24_LCS_3	63	Laboratory Control Sample					Run: 5973MSD_240117A	01/17/24 12:26		
1,1-Dichloroethene		5.77	ug/L	0.50	115	70	130			
cis-1,2-Dichloroethene		5.50	ug/L	0.50	110	70	130			
trans-1,2-Dichloroethene		5.63	ug/L	0.50	113	70	130			
1,2-Dichloropropane		5.51	ug/L	0.50	110	70	130			
1,3-Dichloropropane		5.20	ug/L	0.50	104	70	130			
2,2-Dichloropropane		5.86	ug/L	0.50	117	70	130			
1,1-Dichloropropene		5.61	ug/L	0.50	112	70	130			
cis-1,3-Dichloropropene		5.31	ug/L	0.50	106	70	130			
trans-1,3-Dichloropropene		5.36	ug/L	0.50	107	70	130			
Ethylbenzene		5.80	ug/L	0.50	116	70	130			
Hexachlorobutadiene		7.29	ug/L	0.50	146	70	130			S
Isopropylbenzene		6.17	ug/L	0.50	123	70	130			
p-Isopropyltoluene		6.32	ug/L	0.50	126	70	130			
Methyl tert-butyl ether (MTBE)		4.96	ug/L	0.50	99	70	130			
Methylene chloride		5.79	ug/L	0.50	116	70	130			
Naphthalene		5.85	ug/L	0.50	117	70	130			
n-Propylbenzene		6.20	ug/L	0.50	124	70	130			
Styrene		5.85	ug/L	0.50	117	70	130			
1,1,1,2-Tetrachloroethane		5.46	ug/L	0.50	109	70	130			
1,1,1,2,2-Tetrachloroethane		5.16	ug/L	0.50	103	70	130			
Tetrachloroethene		5.64	ug/L	0.50	113	70	130			
Toluene		5.79	ug/L	0.50	116	70	130			
1,2,3-Trichlorobenzene		5.89	ug/L	0.50	118	70	130			
1,2,4-Trichlorobenzene		5.73	ug/L	0.50	115	70	130			
1,1,1-Trichloroethane		5.66	ug/L	0.50	113	70	130			
1,1,2-Trichloroethane		5.15	ug/L	0.50	103	70	130			
Trichloroethene		5.65	ug/L	0.50	113	70	130			
Trichlorofluoromethane		4.88	ug/L	0.50	98	70	130			
1,2,3-Trichloropropane		5.21	ug/L	0.50	104	70	130			
1,2,4-Trimethylbenzene		6.20	ug/L	0.50	124	70	130			
1,3,5-Trimethylbenzene		6.23	ug/L	0.50	125	70	130			
Vinyl chloride		4.70	ug/L	0.20	94	70	130			
m+p-Xylenes		11.8	ug/L	0.50	118	70	130			
o-Xylene		5.91	ug/L	0.50	118	70	130			
Trihalomethanes, Total		21.4	ug/L	0.50	107	70	130			
Xylenes, Total		17.7	ug/L	0.50	118	70	130			
Surr: p-Bromofluorobenzene				0.50	105	70	130			
Surr: 1,2-Dichloroethane-d4				0.50	98	70	130			
Surr: Toluene-d8				0.50	104	70	130			
Lab ID: 17-Jan-24_MBLK_8	63	Method Blank					Run: 5973MSD_240117A	01/17/24 16:16		
Benzene		ND	ug/L	0.50						
Bromobenzene		ND	ug/L	0.50						
Bromochloromethane		ND	ug/L	0.50						
Bromodichloromethane		ND	ug/L	0.50						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Great West Engineering

Work Order: H24010426

Report Date: 02/01/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E524.2										
Batch: R191756										
Lab ID: 17-Jan-24_MBLK_8	63	Method Blank								
										Run: 5973MSD_240117A
										01/17/24 16:16
Bromoform		ND	ug/L	0.50						
Bromomethane		ND	ug/L	0.50						
n-Butylbenzene		ND	ug/L	0.50						
sec-Butylbenzene		ND	ug/L	0.50						
tert-Butylbenzene		ND	ug/L	0.50						
Carbon tetrachloride		ND	ug/L	0.50						
Chlorobenzene		ND	ug/L	0.50						
Chlorodibromomethane		ND	ug/L	0.50						
Chloroethane		ND	ug/L	0.50						
Chloroform		ND	ug/L	0.50						
Chloromethane		ND	ug/L	0.50						
2-Chlorotoluene		ND	ug/L	0.50						
4-Chlorotoluene		ND	ug/L	0.50						
Dibromomethane		ND	ug/L	0.50						
1,2-Dichlorobenzene		ND	ug/L	0.50						
1,3-Dichlorobenzene		ND	ug/L	0.50						
1,4-Dichlorobenzene		ND	ug/L	0.50						
Dichlorodifluoromethane		ND	ug/L	0.50						
1,1-Dichloroethane		ND	ug/L	0.50						
1,2-Dichloroethane		ND	ug/L	0.50						
1,1-Dichloroethene		ND	ug/L	0.50						
cis-1,2-Dichloroethene		ND	ug/L	0.50						
trans-1,2-Dichloroethene		ND	ug/L	0.50						
1,2-Dichloropropane		ND	ug/L	0.50						
1,3-Dichloropropane		ND	ug/L	0.50						
2,2-Dichloropropane		ND	ug/L	0.50						
1,1-Dichloropropene		ND	ug/L	0.50						
cis-1,3-Dichloropropene		ND	ug/L	0.50						
trans-1,3-Dichloropropene		ND	ug/L	0.50						
Ethylbenzene		ND	ug/L	0.50						
Hexachlorobutadiene		ND	ug/L	0.50						
Isopropylbenzene		ND	ug/L	0.50						
p-Isopropyltoluene		ND	ug/L	0.50						
Methyl tert-butyl ether (MTBE)		ND	ug/L	0.50						
Methylene chloride		ND	ug/L	0.50						
Naphthalene		ND	ug/L	0.50						
n-Propylbenzene		ND	ug/L	0.50						
Styrene		ND	ug/L	0.50						
1,1,1,2-Tetrachloroethane		ND	ug/L	0.50						
1,1,1,2,2-Tetrachloroethane		ND	ug/L	0.50						
Tetrachloroethene		ND	ug/L	0.50						
Toluene		ND	ug/L	0.50						
1,2,3-Trichlorobenzene		ND	ug/L	0.50						
1,2,4-Trichlorobenzene		ND	ug/L	0.50						
1,1,1-Trichloroethane		ND	ug/L	0.50						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Great West Engineering

Work Order: H24010426

Report Date: 02/01/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E524.2										
Batch: R191756										
Lab ID: 17-Jan-24_MBLK_8	63	Method Blank								
Run: 5973MSD_240117A										
01/17/24 16:16										
1,1,2-Trichloroethane		ND	ug/L	0.50						
Trichloroethene		ND	ug/L	0.50						
Trichlorofluoromethane		ND	ug/L	0.50						
1,2,3-Trichloropropane		ND	ug/L	0.50						
1,2,4-Trimethylbenzene		ND	ug/L	0.50						
1,3,5-Trimethylbenzene		ND	ug/L	0.50						
Vinyl chloride		ND	ug/L	0.20						
m+p-Xylenes		ND	ug/L	0.50						
o-Xylene		ND	ug/L	0.50						
Trihalomethanes, Total		ND	ug/L	0.50						
Xylenes, Total		ND	ug/L	0.50						
Surr: p-Bromofluorobenzene				0.50	111	70	130			
Surr: 1,2-Dichloroethane-d4				0.50	97	70	130			
Surr: Toluene-d8				0.50	105	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Great West Engineering

Work Order: H24010426

Report Date: 02/01/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E524.2										
Analytical Run: R191838										
Lab ID: 18-Jan-24_CCV_3	63 Continuing Calibration Verification Standard									01/18/24 13:10
Benzene		4.78	ug/L	0.50	96	70	130			
Bromobenzene		4.88	ug/L	0.50	98	70	130			
Bromochloromethane		4.51	ug/L	0.50	90	70	130			
Bromodichloromethane		4.58	ug/L	0.50	92	70	130			
Bromoform		4.51	ug/L	0.50	90	70	130			
Bromomethane		6.17	ug/L	0.50	123	70	130			
n-Butylbenzene		5.27	ug/L	0.50	105	70	130			
sec-Butylbenzene		5.16	ug/L	0.50	103	70	130			
tert-Butylbenzene		5.10	ug/L	0.50	102	70	130			
Carbon tetrachloride		4.86	ug/L	0.50	97	70	130			
Chlorobenzene		4.68	ug/L	0.50	94	70	130			
Chlorodibromomethane		4.36	ug/L	0.50	87	70	130			
Chloroethane		4.80	ug/L	0.50	96	70	130			
Chloroform		4.68	ug/L	0.50	94	70	130			
Chloromethane		4.84	ug/L	0.50	97	70	130			
2-Chlorotoluene		5.13	ug/L	0.50	103	70	130			
4-Chlorotoluene		5.05	ug/L	0.50	101	70	130			
Dibromomethane		4.51	ug/L	0.50	90	70	130			
1,2-Dichlorobenzene		4.82	ug/L	0.50	96	70	130			
1,3-Dichlorobenzene		4.88	ug/L	0.50	98	70	130			
1,4-Dichlorobenzene		4.79	ug/L	0.50	96	70	130			
Dichlorodifluoromethane		4.45	ug/L	0.50	89	70	130			
1,1-Dichloroethane		4.77	ug/L	0.50	95	70	130			
1,2-Dichloroethane		4.53	ug/L	0.50	91	70	130			
1,1-Dichloroethene		4.95	ug/L	0.50	99	70	130			
cis-1,2-Dichloroethene		4.70	ug/L	0.50	94	70	130			
trans-1,2-Dichloroethene		4.68	ug/L	0.50	94	70	130			
1,2-Dichloropropane		4.69	ug/L	0.50	94	70	130			
1,3-Dichloropropane		4.47	ug/L	0.50	89	70	130			
2,2-Dichloropropane		5.02	ug/L	0.50	100	70	130			
1,1-Dichloropropene		4.77	ug/L	0.50	95	70	130			
cis-1,3-Dichloropropene		4.59	ug/L	0.50	92	70	130			
trans-1,3-Dichloropropene		4.64	ug/L	0.50	93	70	130			
Ethylbenzene		4.88	ug/L	0.50	98	70	130			
Hexachlorobutadiene		5.74	ug/L	0.50	115	70	130			
Isopropylbenzene		5.11	ug/L	0.50	102	70	130			
p-Isopropyltoluene		5.25	ug/L	0.50	105	70	130			
Methyl tert-butyl ether (MTBE)		4.23	ug/L	0.50	85	70	130			
Methylene chloride		4.78	ug/L	0.50	96	70	130			
Naphthalene		5.07	ug/L	0.50	101	70	130			
n-Propylbenzene		5.24	ug/L	0.50	105	70	130			
Styrene		4.93	ug/L	0.50	99	70	130			
1,1,1,2-Tetrachloroethane		4.58	ug/L	0.50	92	70	130			
1,1,1,2,2-Tetrachloroethane		4.37	ug/L	0.50	87	70	130			
Tetrachloroethene		4.77	ug/L	0.50	95	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Great West Engineering

Work Order: H24010426

Report Date: 02/01/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E524.2										
Analytical Run: R191838										
Lab ID: 18-Jan-24_CCV_3	63 Continuing Calibration Verification Standard									01/18/24 13:10
Toluene		5.00	ug/L	0.50	100	70	130			
1,2,3-Trichlorobenzene		4.89	ug/L	0.50	98	70	130			
1,2,4-Trichlorobenzene		4.86	ug/L	0.50	97	70	130			
1,1,1-Trichloroethane		4.81	ug/L	0.50	96	70	130			
1,1,2-Trichloroethane		4.34	ug/L	0.50	87	70	130			
Trichloroethene		4.81	ug/L	0.50	96	70	130			
Trichlorofluoromethane		4.92	ug/L	0.50	98	70	130			
1,2,3-Trichloropropane		4.37	ug/L	0.50	87	70	130			
1,2,4-Trimethylbenzene		5.28	ug/L	0.50	106	70	130			
1,3,5-Trimethylbenzene		5.30	ug/L	0.50	106	70	130			
Vinyl chloride		4.78	ug/L	0.20	96	70	130			
m+p-Xylenes		10.0	ug/L	0.50	100	70	130			
o-Xylene		4.95	ug/L	0.50	99	70	130			
Trihalomethanes, Total		18.1	ug/L	0.50	91	70	130			
Xylenes, Total		15.0	ug/L	0.50	100	70	130			
Surr: p-Bromofluorobenzene				0.50	105	70	130			
Surr: 1,2-Dichloroethane-d4				0.50	97	70	130			
Surr: Toluene-d8				0.50	104	70	130			

Method: E524.2										
Batch: R191838										
Lab ID: 18-Jan-24_LCS_5	63 Laboratory Control Sample									Run: 5973MSD_240118A 01/18/24 14:22
Benzene		5.38	ug/L	0.50	108	70	130			
Bromobenzene		5.52	ug/L	0.50	110	70	130			
Bromochloromethane		5.34	ug/L	0.50	107	70	130			
Bromodichloromethane		5.22	ug/L	0.50	104	70	130			
Bromoform		5.17	ug/L	0.50	103	70	130			
Bromomethane		6.05	ug/L	0.50	121	70	130			
n-Butylbenzene		6.13	ug/L	0.50	123	70	130			
sec-Butylbenzene		5.87	ug/L	0.50	117	70	130			
tert-Butylbenzene		5.72	ug/L	0.50	114	70	130			
Carbon tetrachloride		5.37	ug/L	0.50	107	70	130			
Chlorobenzene		5.26	ug/L	0.50	105	70	130			
Chlorodibromomethane		5.03	ug/L	0.50	101	70	130			
Chloroethane		4.98	ug/L	0.50	100	70	130			
Chloroform		5.28	ug/L	0.50	106	70	130			
Chloromethane		4.90	ug/L	0.50	98	70	130			
2-Chlorotoluene		5.71	ug/L	0.50	114	70	130			
4-Chlorotoluene		5.72	ug/L	0.50	114	70	130			
Dibromomethane		5.13	ug/L	0.50	103	70	130			
1,2-Dichlorobenzene		5.53	ug/L	0.50	111	70	130			
1,3-Dichlorobenzene		5.53	ug/L	0.50	111	70	130			
1,4-Dichlorobenzene		5.41	ug/L	0.50	108	70	130			
Dichlorodifluoromethane		4.54	ug/L	0.50	91	70	130			
1,1-Dichloroethane		5.34	ug/L	0.50	107	70	130			
1,2-Dichloroethane		5.15	ug/L	0.50	103	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Great West Engineering

Work Order: H24010426

Report Date: 02/01/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E524.2										
Batch: R191838										
Lab ID: 18-Jan-24_LCS_5	63	Laboratory Control Sample					Run: 5973MSD_240118A	01/18/24 14:22		
1,1-Dichloroethene		5.45	ug/L	0.50	109	70	130			
cis-1,2-Dichloroethene		5.19	ug/L	0.50	104	70	130			
trans-1,2-Dichloroethene		5.36	ug/L	0.50	107	70	130			
1,2-Dichloropropane		5.28	ug/L	0.50	106	70	130			
1,3-Dichloropropane		5.16	ug/L	0.50	103	70	130			
2,2-Dichloropropane		5.62	ug/L	0.50	112	70	130			
1,1-Dichloropropene		5.41	ug/L	0.50	108	70	130			
cis-1,3-Dichloropropene		5.26	ug/L	0.50	105	70	130			
trans-1,3-Dichloropropene		5.26	ug/L	0.50	105	70	130			
Ethylbenzene		5.49	ug/L	0.50	110	70	130			
Hexachlorobutadiene		6.35	ug/L	0.50	127	70	130			
Isopropylbenzene		5.77	ug/L	0.50	115	70	130			
p-Isopropyltoluene		6.00	ug/L	0.50	120	70	130			
Methyl tert-butyl ether (MTBE)		4.99	ug/L	0.50	100	70	130			
Methylene chloride		5.48	ug/L	0.50	110	70	130			
Naphthalene		5.74	ug/L	0.50	115	70	130			
n-Propylbenzene		5.96	ug/L	0.50	119	70	130			
Styrene		5.65	ug/L	0.50	113	70	130			
1,1,1,2-Tetrachloroethane		5.22	ug/L	0.50	104	70	130			
1,1,1,2,2-Tetrachloroethane		5.19	ug/L	0.50	104	70	130			
Tetrachloroethene		5.41	ug/L	0.50	108	70	130			
Toluene		5.56	ug/L	0.50	111	70	130			
1,2,3-Trichlorobenzene		5.76	ug/L	0.50	115	70	130			
1,2,4-Trichlorobenzene		5.44	ug/L	0.50	109	70	130			
1,1,1-Trichloroethane		5.36	ug/L	0.50	107	70	130			
1,1,2-Trichloroethane		5.12	ug/L	0.50	102	70	130			
Trichloroethene		5.35	ug/L	0.50	107	70	130			
Trichlorofluoromethane		5.05	ug/L	0.50	101	70	130			
1,2,3-Trichloropropane		5.15	ug/L	0.50	103	70	130			
1,2,4-Trimethylbenzene		6.02	ug/L	0.50	120	70	130			
1,3,5-Trimethylbenzene		5.96	ug/L	0.50	119	70	130			
Vinyl chloride		4.85	ug/L	0.20	97	70	130			
m+p-Xylenes		11.2	ug/L	0.50	112	70	130			
o-Xylene		5.57	ug/L	0.50	111	70	130			
Trihalomethanes, Total		20.7	ug/L	0.50	104	70	130			
Xylenes, Total		16.8	ug/L	0.50	112	70	130			
Surr: p-Bromofluorobenzene				0.50	105	70	130			
Surr: 1,2-Dichloroethane-d4				0.50	99	70	130			
Surr: Toluene-d8				0.50	103	70	130			
Lab ID: 18-Jan-24_MBLK_6	63	Method Blank					Run: 5973MSD_240118A	01/18/24 15:09		
Benzene		ND	ug/L	0.50						
Bromobenzene		ND	ug/L	0.50						
Bromochloromethane		ND	ug/L	0.50						
Bromodichloromethane		ND	ug/L	0.50						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Great West Engineering

Work Order: H24010426

Report Date: 02/01/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E524.2										
Batch: R191838										
Lab ID: 18-Jan-24_MBLK_6	63	Method Blank								
						Run: 5973MSD_240118A				01/18/24 15:09
Bromoform		ND	ug/L	0.50						
Bromomethane		ND	ug/L	0.50						
n-Butylbenzene		ND	ug/L	0.50						
sec-Butylbenzene		ND	ug/L	0.50						
tert-Butylbenzene		ND	ug/L	0.50						
Carbon tetrachloride		ND	ug/L	0.50						
Chlorobenzene		ND	ug/L	0.50						
Chlorodibromomethane		ND	ug/L	0.50						
Chloroethane		ND	ug/L	0.50						
Chloroform		ND	ug/L	0.50						
Chloromethane		ND	ug/L	0.50						
2-Chlorotoluene		ND	ug/L	0.50						
4-Chlorotoluene		ND	ug/L	0.50						
Dibromomethane		ND	ug/L	0.50						
1,2-Dichlorobenzene		ND	ug/L	0.50						
1,3-Dichlorobenzene		ND	ug/L	0.50						
1,4-Dichlorobenzene		ND	ug/L	0.50						
Dichlorodifluoromethane		ND	ug/L	0.50						
1,1-Dichloroethane		ND	ug/L	0.50						
1,2-Dichloroethane		ND	ug/L	0.50						
1,1-Dichloroethene		ND	ug/L	0.50						
cis-1,2-Dichloroethene		ND	ug/L	0.50						
trans-1,2-Dichloroethene		ND	ug/L	0.50						
1,2-Dichloropropane		ND	ug/L	0.50						
1,3-Dichloropropane		ND	ug/L	0.50						
2,2-Dichloropropane		ND	ug/L	0.50						
1,1-Dichloropropene		ND	ug/L	0.50						
cis-1,3-Dichloropropene		ND	ug/L	0.50						
trans-1,3-Dichloropropene		ND	ug/L	0.50						
Ethylbenzene		ND	ug/L	0.50						
Hexachlorobutadiene		ND	ug/L	0.50						
Isopropylbenzene		ND	ug/L	0.50						
p-Isopropyltoluene		ND	ug/L	0.50						
Methyl tert-butyl ether (MTBE)		ND	ug/L	0.50						
Methylene chloride		ND	ug/L	0.50						
Naphthalene		ND	ug/L	0.50						
n-Propylbenzene		ND	ug/L	0.50						
Styrene		ND	ug/L	0.50						
1,1,1,2-Tetrachloroethane		ND	ug/L	0.50						
1,1,1,2,2-Tetrachloroethane		ND	ug/L	0.50						
Tetrachloroethene		ND	ug/L	0.50						
Toluene		ND	ug/L	0.50						
1,2,3-Trichlorobenzene		ND	ug/L	0.50						
1,2,4-Trichlorobenzene		ND	ug/L	0.50						
1,1,1-Trichloroethane		ND	ug/L	0.50						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Great West Engineering

Work Order: H24010426

Report Date: 02/01/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E524.2										
Batch: R191838										
Lab ID: 18-Jan-24_MBLK_6	63	Method Blank								
Run: 5973MSD_240118A										
01/18/24 15:09										
1,1,2-Trichloroethane		ND	ug/L	0.50						
Trichloroethene		ND	ug/L	0.50						
Trichlorofluoromethane		ND	ug/L	0.50						
1,2,3-Trichloropropane		ND	ug/L	0.50						
1,2,4-Trimethylbenzene		ND	ug/L	0.50						
1,3,5-Trimethylbenzene		ND	ug/L	0.50						
Vinyl chloride		ND	ug/L	0.20						
m+p-Xylenes		ND	ug/L	0.50						
o-Xylene		ND	ug/L	0.50						
Trihalomethanes, Total		ND	ug/L	0.50						
Xylenes, Total		ND	ug/L	0.50						
Surr: p-Bromofluorobenzene				0.50	108	70	130			
Surr: 1,2-Dichloroethane-d4				0.50	99	70	130			
Surr: Toluene-d8				0.50	103	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Great West Engineering

Work Order: H24010426

Report Date: 02/01/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8015M Batch: 70128										
Lab ID: MB-70128	2	Method Blank								01/23/24 09:19
Total Extractable Hydrocarbons		ND	ug/L	300						
Surr: o-Terphenyl					64	40	140			
Lab ID: LCS-70128	2	Laboratory Control Sample								01/23/24 10:03
Total Extractable Hydrocarbons		4540	ug/L	300	71	60	140			
Surr: o-Terphenyl					67	40	140			
Lab ID: LCSD-70128	2	Laboratory Control Sample Duplicate								01/23/24 10:46
Total Extractable Hydrocarbons		4690	ug/L	300	73	60	140	3.3	20	
Surr: o-Terphenyl					67	40	140			
Lab ID: H24010426-001GDUP	2	Sample Duplicate								01/23/24 12:29
Total Extractable Hydrocarbons		ND	ug/L	300						20
Surr: o-Terphenyl					80	40	140			
Lab ID: H24010624-005DMS	2	Sample Matrix Spike								01/29/24 19:51
Total Extractable Hydrocarbons		6130	ug/L	300	89	60	140			
Surr: o-Terphenyl					82	40	140			

Method: SW8015M Analytical Run: R191890										
Lab ID: CCV_0123HP3B01r-W	15	Continuing Calibration Verification Standard								01/23/24 08:35
n-Nonane		214	ug/L		107	75	125			
n-Decane		196	ug/L		98	75	125			
n-Dodecane		202	ug/L		101	75	125			
n-Tetradecane		199	ug/L		100	75	125			
n-Hexadecane		197	ug/L		98	75	125			
n-Octadecane		196	ug/L		98	75	125			
n-Nonadecane		198	ug/L		99	75	125			
n-Eicosane		196	ug/L		98	75	125			
n-Docosane		196	ug/L		98	75	125			
n-Tetracosane		196	ug/L		98	75	125			
n-Hexacosane		197	ug/L		99	75	125			
n-Octacosane		195	ug/L		98	75	125			
n-Triacontane		191	ug/L		95	75	125			
n-Hexatriacontane		201	ug/L		101	75	125			
Surr: o-Terphenyl					88	75	125			

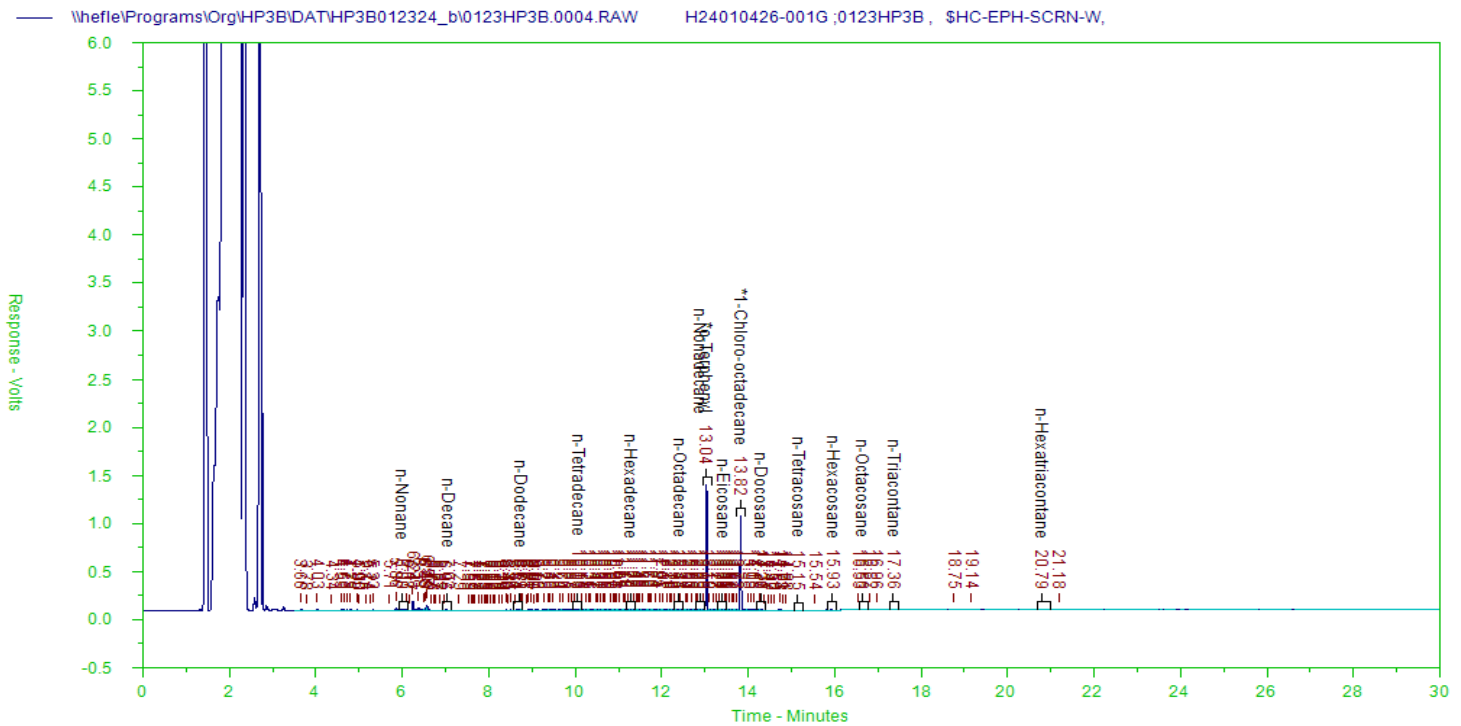
Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

H24010426 - H24010426-001G

Batch ID: 70128



EXTRACTABLE PETROLEUM HYDROCARBONS (EPH) SCREENING ANALYSIS CHROMATOGRAM

Sample Name: H24010426-001G ;0123HP3B , \$HC-EPH-SCRN-W,
Raw File: \\HEFLE\PROGRAMS\ORG\HP3B\DAT\HP3B012324_B\0123HP3B.0004.RAW
Date & Time Acquired: 1/23/2024 10:46:59 AM
Method File: \\HEFLE\PROGRAMS\ORG\HP3B\METHODS\012324_04.MET
Calibration File: \\HEFLE\PROGRAMS\ORG\HP3B\CALS\SRB051723Q.CAL
Sample Weight: 0.96662 Dilution: 2 S.A.: 1

Mean RF for C9 to C18 hydrocarbons: 25094.0800
Mean RF for C19 to C36 Hydrocarbons: 26346.6000
Mean RF for Total Extractable Hydrocarbons: 25720.3400
Rt range for Diesel Range Organics: 6.93 to 17.47
Rt range for C9 to C18 Hydrocarbons: 5.93 to 12.95
Rt range for C19 to C36 Hydrocarbons: 13.00 to 20.98

SURROGATE COMPOUND	RT	AREA	ACTUAL	MEASURED	%REC	
*o-Terphenyl	13.035	2080345	206.907	138.002	66.70	-
*1-Chloro-octadecane	13.824	1701347	206.907	138.096	66.74	-

DRO Area: 814583.1 DRO Amount: 65.52891
TEH Area: 1399184.1 TEH Amount: 112.55697
C9-C18 Area: 1106922.2 C9-C18 Amount: 91.2683
C19-C36 Area: 161811.38 C19-C36 Amount: 12.707458



Work Order Receipt Checklist

Great West Engineering

H24010426

Login completed by: Wanda Johnson

Date Received: 1/17/2024

Reviewed by: tjones

Received by: WJJ

Reviewed Date: 1/18/2024

Carrier name: Hand Deliver

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	3.5°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

Contact and Corrective Action Comments:

Sample for Dissolved Metals/Hardness was subsampled, filtered, and preserved to pH <2 with 2 mL of Nitric acid per 250 mL in the laboratory. According to 40CFR136, samples for Dissolved Metals should be filtered and preserved within 15 minutes of collection.

wjj 1/17/2024



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Chain of Custody (COC) & Analytical Request Record

Lab Workorder #: **HA4010426**

Project Information

Client: Great West Engineering
 Project: Cascade ~~Newest~~ **Special testing**
 Purchase Order:
 Contact/Phone: Bruce Lauerma (406) 495-6181/M: (406) 461-7072

Laboratory Use

Quote: 17043 v.3*
 BO#: 46788
 EE#: 7057
 Turn-Around Time: Standard
 Critical Hold Time: 48 Hours
 # of Samples: 2
 Matrix: Drinking Water



Comments:
Total Iron only
Special testing
PWS 10 00171
3.5 handdel
brice
TB.

Contact ELI prior to RUSH sample submittal for charges, availability & scheduling. Samples submitted may be subcontracted to other laboratories to complete the test(s) requested; this will be clearly noted on the analytical report.

# of Containers	Matrix	RUSH TAT	Anions by Ion Chromatography (E300.0)	Conductivity (A2510 B)	Solids, Total Dissolved (A2540 C)	pH (A4500-H B)	Alkalinity to pH 4.5 (A2320 B)	Metals by ICP/CPMS, Dissolved (E200.7, 8)	Metals by ICP/CPMS, Drinking Water (E200.7, 8)	Iron, Ferric (Calculation)	524-Purgeable Organics, SDWA (E524.2)	Bacteria, Sulfate Reducing (SRB-BART)	Bacteria, Iron Related (IRB-BART)	Sulfide, Methylene Blue Colorimetric (A4500-S D)	Hydrocarbons, Extractable (SW8015M)	Ferrous Iron by colorimetry (A3500FeB)	
																	Hold Time (Days)
1	DW	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2	DW	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
3	DW	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
4	DW	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
5	DW	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
6	DW	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
7	DW	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8	DW	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
9	DW	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
10	DW	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
11	DW	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Lab provided preservatives were used Yes No

Sampler Name (if different than Relinquished by):
 Relinquished by (print): **B Lauerma**
 Relinquished by (print):
 Date/Time: **1/17/24 1457**
 Date/Time:
 Signature: *[Signature]*
 Signature:
 Date/Time: **1-17-24 14 57**
 Date/Time:
 Signature: *[Signature]*
 Signature:

Date Printed: 01/16/2024
 EE: HE - 7057
 COC: Page 1 of 1