

SDG NARRATIVE**LAB NAME: CHEMTECH CONSULTING GROUP****CASE: 49787****SDG: EW5Q1****CONTRACT: 68HERH20D0011****LAB CODE: CHM****CHEMTECH PROJECT: M4995****MODIFICATION REF. NUMBER: NA**

Sample ID	EPA Sample ID	pH
M4995-01	EW5Q4	
M4995-02	EW5R2	
M4995-03	EW5R3	
M4995-04	EW5R7	
M4995-05	EW5S4	
M4995-06	EW5R1	
M4995-07	EW5R5	
M4995-08	EW5Q1	
M4995-09	EW5Q2	
M4995-10	EW5Q3	
M4995-11MS	EW5Q3MS	
M4995-12MSD	EW5Q3MSD	

12 Water samples were delivered to the laboratory intact on 12/09/2021.

Test requested on the Chain of Custody was Semivolatile Organic, Semivolatile Organic-SIM by Method SFAM01.1.

Sample Tags were not received with the samples.

The temperature of the samples was measured using an I R Gun. The samples temperature was 2.1, 3.1, 2.5 degree Celsius for the samples received on 12/09/2021.

Shipping Discrepancies and/or QC issues:

Issue 1: Sample tags were not received with samples at the laboratory. Sample tag numbers may or may not be listed on the TR/COC.

Resolutions 1: The laboratory will note the samples with the missing tags in the SDG Narrative and proceed with the analysis of the samples. The resolution will be applied to all samples received for this Case.

Discrepancies with tags, jars, and/or COC

Issue 2: The COC for Case 49787 states 1,4-Dioxane, but the samples were scheduled for 1,4-Dioxane and 1,4-Dioxane SIM. Please advise if the laboratory should analyze for 1,4-Dioxane SIM, if required.

Resolution 2: Per Region 5, the laboratory should analyze the samples for 1,4-Dioxane and 1,4-Dioxane SIM as scheduled. Please note the issue in the SDG Narrative and proceed with the analysis of the samples.

Issue 3: The laboratory received sample EW5Q3 designated for laboratory QC for 1,4-Dioxane and 1,4-Dioxane SIM. The laboratory needs to use all of the sample volume received for laboratory QC, so there will be no sample volume remaining if re-extraction is required.

Resolution 3: Per Region 5, the laboratory should note the issue in the SDG Narrative and proceed with the analysis of the samples.

Semivolatiles :

The samples were analyzed on instrument BNA_G using GC Column ZB-GR Semi Volatiles Guardian which is 30 meters, 0.25 mm ID, 0.5 um df, Catalog # 7HG-G027-17-GGA.

Semis volatile Organic sample for water sample was extracted by Method SFAM01.1 on 12/12/2021 and 12/14/2021. The analysis of SVOC-SFAM was based on method SFAM01.1_SVOC.

The Holding Times were met for all analysis.

The Surrogate recoveries met the acceptable criteria.

The Internal Standards Areas met the acceptable requirements.

The Retention Times were acceptable for all samples.

The Blank Spike for {PB141354BS} recoveries met the requirements for all compounds.

The Blank Spike for {PB141411BS} recoveries met the requirements for all compounds.

The Blank Spike for {PB141413BS} recoveries met the requirements for all compounds.

The MS recoveries met the requirements for all compounds .

The MSD recoveries met the acceptable requirements .

The RPD met criteria .

The Blank analysis did not indicate the presence of lab contamination.

The Tuning criteria met requirements.

The Initial Calibration met the requirements.

The Continuous Calibration met the requirements.

See **Manual Integration report** for the manual integration information at the end of the case narrative.

Concentration of Water Sample:

Concentration ug/L = $\frac{(Ax) (Is) (Vt) (DF) (GPC)}{(Ais) (RRF) (Vo) (Vi)}$

Where,

A_x = Area of the characteristic ion for the compound to be measured.

A_{is} = Area of the characteristic ion for the internal standard.

I_s = Amount of internal standard injected in ng.

V_o = Volume of water extracted in mL.

V_i = Volume of extract injected in uL.

V_t = Volume of the concentrated extract in uL

RRF = Mean Relative Response Factor determined from the initial calibration standard.

GPC = V_{in} = GPC factor (If no GPC is performed, GPC=1)

V_{out} = Volume of extract collected after GPC cleanup.

Example calculation of EW5Q1 for 1,4-Dioxane:

A_x = 7132

A_{is} = 31023

I_s = 20

V_o = 1000

V_i = 1

V_t = 1000

RRF = 0.503

GPC = 1

$$\text{Concentration ug/L} = \frac{(7132) (20) (1000) (1) (1)}{(31023) (0.503) (1000) (1)}$$

Reported Result = 9.5 ug/L

RRF Calculation of standard 20 ppb 1,4-Dioxane with instrument G for method 12/14/2021.

$$\text{RRF} = \frac{\text{Area of compound}}{\text{Area of Internal Standard}} \times \frac{\text{Conc. of Internal Standard}}{\text{Conc. of Compound}}$$

$$= 5785 / 29299 \times 20 / 8$$

$$= 0.494 \text{ (Reported RRF)}$$

Semivolatiles SIM:

The samples were analyzed on instrument BNA_N using GC Column ZB-GR Semi Volatiles Guardian which is 30 meters, 0.25 mm ID, 0.5 um df, Catalog # 7HG-G027-17-GGA.

Semis volatile Organic samples for Water were extracted by Method SFAM01.1 on 12/12/21 and 12/14/2021 the analysis of SVOC-SIM-SFAM was based on Method SFAM01.1 SVOC-SIM.

The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The Blank Spike for { PB141412BS } recoveries met the requirements for all compounds.
The Blank Spike for { PB141355BS } recoveries met the requirements for all compounds.
The Blank analysis did not indicate the presence of lab contamination.
The Initial Calibration met the requirements.
The Continuous Calibration met the requirements.
The Tuning criteria met requirements.

According to SOW SIM analysis is not required for the target analyze 1,4-Dioxane when it is detected at or above the sample-adjusted Contract Required Quantitation Limit (CRQL) in the full scan analysis. Analysis of the full suite of target analyze, as listed in Exhibit C, includes 1,4-Dioxane. Therefore Samples EW5R2, EW5R3, EW5S4, EW5R1, EW5Q1, EW5Q2, and EW5Q3 were not analyzed for SIM analysis.

See **Manual Integration report** for the manual integration information at the end of the case Narrative.

Concentration of Water Sample:

Concentration ug/L = $\frac{(A_x) (I_s) (V_t) (DF) (GPC)}{(A_{is}) (RRF) (V_o) (V_i)}$

Where,

A_x = Area of the characteristic ion for the compound to be measured.

A_{is} = Area of the characteristic ion for the internal standard.

I_s = Amount of internal standard injected in ng.

V_o = Volume of water extracted in mL.

V_i = Volume of extract injected in uL.

V_t = Volume of the concentrated extract in uL

RRF = Mean Relative Response Factor determined from the initial calibration standard.

GPC = $\frac{V_{in}}{V_o}$ = GPC factor (If no GPC is performed, GPC=1)

Example calculation of EW5Q4 for 1,4-Dioxane :

A_x = 5258

A_{is} = 5175

I_s = 0.4

V_o = 1000

V_i = 1

V_t = 1000

RRF = 0.488

GPC = 1

$$\text{Concentration ug/L} = \frac{(5258) (0.4) (1000) (1) (1)}{(5175) (0.488) (1000) (1)}$$

$$= 0.83 \text{ ug/L}$$

RRF Calculation of standard 0.4 ppb 1,4-Dioxane with instrument N for method 12/16/2021.

$$\text{RRF} = \frac{\text{Area of compound}}{\text{Area of Internal Standard}} \times \frac{\text{Conc. of Internal Standard}}{\text{Conc. of Compound}}$$

$$= \frac{2378}{4803} \times \frac{0.4}{0.4}$$

$$= 0.495 \text{ (Reported RRF)}$$

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature _____ Name: Nimisha Pandya.

Date: _____ Title: Document Control Officer.