

**SDG NARRATIVE****LAB NAME: CHEMTECH CONSULTING GROUP****CASE: 50584****SDG: BFZ69****CONTRACT: 68HERH20D0011****LAB CODE: CHM****CHEMTECH PROJECT: O2067****MODIFICATION REF. NUMBER: NA**

Sample ID	EPA Sample ID	pH
O2067-01	BFZ73	
O2067-02	BFZ79	
O2067-03	BFZ83	
O2067-04	BFZ78	
O2067-05	BFZ85	
O2067-06	BFZ91	
O2067-07	BFZ69	
O2067-08	BFZ80	
O2067-09	BFZ82	
O2067-10	BFZ77	
O2067-11	BFZ84	
O2067-12	BFZ86	
O2067-13	BFZ71	
O2067-14	BFZ72	
O2067-15	BFZ87	
O2067-16	BFZ88	
O2067-17	BFZ89	
O2067-18	BFZ92	

09 Water sample was delivered to the laboratory intact on 03/23/2023.

09 Water sample was delivered to the laboratory intact on 03/24/2023.

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

The temperature of the samples was measured using an I R Gun. The samples temperature was 3.2, 4.1, 3.4 degree Celsius for the samples received on 03/23/2023, 2.5, 2.8, 2.7 degree Celsius for the samples received on 03/24/2023.

Semivolatiles :

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.

The samples were analyzed on instrument BNA_P 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 03/23/2023 and 03/24/2023. The analysis of SVOCMS Group4 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 {PB151690BS} recoveries met the requirements for all compounds.

The Blank Spike for {PB151699BS} recoveries met the requirements for all compounds.

The Blank Spike for {PB151701BS} recoveries met the requirements for all compounds.

The Blank Spike for {PB151703BS} recoveries met the requirements for all compounds.

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 requirement.

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

Concentration of Water Sample:

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

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

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

No positive target compounds were detected in the samples.

RRF Calculation of standard 20 ppb for **1,4-Dioxane** with N instrument for method 03/03/2023.

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

$$= 52638/227220 \times 20/8$$

$$= 0.579 \text{ (Reported RRF)}$$

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 03/23/2023 and 03/24/2023, the analysis of SVOCMS Group3 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 {PB151691BS} recoveries met the requirements for all compounds.

The Blank Spike for {PB151700BS} recoveries met the requirements for all compounds.

The Blank Spike for {PB151702BS} recoveries met the requirements for all compounds.

The Blank Spike for {PB151704BS} recoveries met the requirements for all compounds.

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.

According to SOW SIM analysis is not required for the target analyte 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 analytes, as listed in Exhibit C, includes 1,4-Dioxane. Therefore Samples BFZ77 was 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:

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

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.

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

Example calculation of BFZ69 for 1,4-Dioxane:

$A_x = 4059$

$A_{is} = 9233$

$I_s = 0.4$

$V_o = 1000$

$V_i = 1$

$V_t = 1000$

RRF = 0.432

GPC = 1

$$\begin{aligned}\text{Concentration ug/L} &= \frac{(4059) (0.4) (1000) (1) (1)}{(9233) (0.432) (1000) (1)} \\ &= 0.41 \text{ ug/L}\end{aligned}$$

RRF Calculation of standard 0.4 ppb 1,4-Dioxane with instrument N for method 03/30/2023.

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

$$\begin{aligned}&= \frac{4279}{9867} \times \frac{0.4}{0.4} \\ &= 0.434 \text{ (Reported RRF)}\end{aligned}$$

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.