

SDG NARRATIVE**LAB NAME: CHEMTECH CONSULTING GROUP****CASE: 49437****SDG: EW6B2****CONTRACT: 68HERH20D0011****LAB CODE: CHM****CHEMTECH PROJECT: M2271****MODIFICATION REF. NUMBER: NA**

Sample ID	EPA Sample ID	Test	pH
M2271-01	EW6B2		1.0
M2271-02MS	EW6B2MS		1.0
M2271-03MSD	EW6B2MSD		1.0
M2271-04	EW6B3		1.0
M2271-05	EW6B4		1.0
M2271-05DL	EW6B4DL	VOC	1.0
M2271-06	EW6B6		1.0
M2271-06DL	EW6B6DL	VOC	1.0
M2271-07	EW6C6		1.0
M2271-10	EW6B5		1.0
M2271-11	EW6D6		1.0

07 Water samples were delivered to the laboratory intact on 05/04/2021.

01 Water samples were delivered to the laboratory intact on 05/05/2021.

01 Water samples were delivered to the laboratory intact on 05/06/2021.

Test requested on the Chain of Custody was Trace Volatile Organic and Volatile Organic 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 2.2 degree Celsius for the samples received on 05/04/2021, 3.1 degree Celsius for the samples received on 05/05/2021, 3.5 degree Celsius for the samples received on 05/06/2021.

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.

Trace Volatiles:

The analysis performed on instrument MSVOA_U were done using GC column DB-624UI 20m 0.18mm 1.0 um. Cat#121-1324UI. The Trap was supplied by OI Analytical, OI #10 Trap, OI Eclipse 4660 Concentrator.

The analysis of VOC-TRACE-SFAM was based on method SFAM01.1_Trace.

The Holding Times were met for all analysis.

The Surrogate recoveries met the acceptable criteria.

The Retention Times met requirements.

The Internal Standards Areas met the acceptable requirements.

Instrument Performance Check met requirements.

The Tuning criteria met requirements.

The initial Calibration met requirements.

The Continuing Calibration (VSTD005137) file ID VU043626.D met the requirements except for 1,1-Dichloroethene-d2 (28.4%). As per method, up to two target analyte in CCV are allowed to exceed the %D values. Therefore no further corrective action was taken.

The Blank analysis indicated presence of Methylene chloride [0.60ug/L] FileID:VU043627.D (VBLK147) {VU0510WBL01} due to possible lab contamination. As per method, less than 2 times the respective CRQL is allowed to fail for Methylene chloride. Therefore no further corrective action was taken.

The storage blank analysis indicated presence of Methylene chloride [0.97ug/L] FileID: VU043635.D {VHBLK002} due to lab contamination. As per method, less than 2 times the respective CRQL is allowed to fail for Methylene chloride. Therefore no further corrective action was taken.

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

Calculation:

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

Where,

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

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

I_s = Amount of internal standard added in ng.

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

V_o = Total volume of water purged, in mL.

DF = Dilution Factor.

Example Calculation for sample **EW6C6** for **Methylene chloride**:

$$A_x = 7655$$

$$I_s = 125$$

$$RRF = 0.448$$

DF = 10

Ais = 103083

Vo. = 25

$$\text{Concentration in ug/L} = \frac{(7655) (125) (10)}{(103083) (0.448) (25)}$$
$$= 0.83\text{ug/L}$$

Reported Result = 0.83ug/L

Relative Response Factor = **Dichlorodifluoromethane**: RUN **VU050321** for **0.5** ppb

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

$$\text{RRF} = \frac{3067}{95616} \times \frac{5.0}{0.5}$$

RRF= 0.321

Low Volatiles:

The analysis performed on instrument MSVOA_V were done using GC column DB-624UI 20m 0.18mm 1.0 um. Cat#121-1324UI. The analysis of VOC-SFAM was based on method SFAM01.1_LOW.

The Holding Times were met for all analysis.

The Surrogate recoveries met the acceptable criteria except for

EW6B2 [1,1-Dichloroethene-d2 - 58%],

EW6B3 [1,1-Dichloroethene-d2 - 50%, Toluene-d8 - 78%],

EW6B4 [1,1-Dichloroethene-d2 - 56%],

EW6B4DL [1,1-Dichloroethene-d2 - 50%] and

EW6B6 [1,1-Dichloroethene-d2 - 49%]. As per method, up to three surrogates are allowed to fail. No corrective action was taken.

Instrument Performance Check met requirements.

The EW6B2MS recoveries met the requirements for all compounds.

The EW6B2MSD recoveries met the acceptable requirements.

The RPD met criteria.

The Retention Times were met for all samples.

The Internal Standards Areas met the acceptable requirements.

The Tuning criteria met requirements.

The Initial Calibration met the requirements.

The Continuing Calibration met the requirements.

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

The storage blank analysis indicated presence of Methylene chloride [1.4ug/L] FileID: VV021309.D {VHBLK001} due to lab contamination. As per method, less than 2 times the

respective CRQL is allowed to fail for Methylene chloride. Therefore no further corrective action was taken.

Samples EW6B4, EW6B6 were diluted due to high concentrations.

The sample EW6B6 was analyzed following the analysis of EW6B4. Both samples had common hit of compound with concentration above calibration levels for Tetrachloroethene. It was reanalyzed at a diluted. As per method no instrument blank was required.

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

Calculation:

Low/Med Water Level Calculation

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

Where,

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

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

Amount of internal standard added in ng.

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

V_o = Total volume of water purged, in mL.

DF = Dilution Factor

Example Calculation for sample **EW6B2** for **Tetrachloroethene**:

A_x = 587808

I_s = 250

RRF = 0.354

DF = 1

A_{is} = 629800

V_o = 5

$$\text{Concentration in ug/L} = \frac{(587808) (250) (1)}{(629800) (0.354) (5)}$$

$$= 132 \text{ ug/L}$$

$$\text{Reported Result} = 130 \text{ ug/L}$$

Relative Response Factor = **Dichlorodifluoromethane**: RUN **VV050321** for **5.0** ppb

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

$$\text{RRF} = \frac{28299}{697235} \times \frac{50}{5.0}$$

RRF= 0.406

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.