SDG NARRATIVE

LAB NAME: CHEMTECH CONSULTING GROUP
CASE: 48933
SDG: F9B00
CONTRACT: EPW14030
LAB CODE: CHM
CHEMTECH PROJECT: L2725
MODIFICATION REF. NUMBER: NA

Sample ID	EPA Sample ID	Test	pH
L2725-01	F9B00		1.0
L2725-01DL	F9B00DL	VOC	1.0
L2725-02	F9B01		1.0
L2725-02DL	F9B01DL	VOC	1.0
L2725-03	F9B02		1.0
L2725-04	F9B04		1.0
L2725-04DL	F9B04DL	VOC	1.0
L2725-05	F9B05		1.0
L2725-06	F9B15		1.0
L2725-07	F9B17		1.0
L2725-07DL	F9B17DL	VOC	1.0
L2725-08	F9B18		1.0
L2725-09	F9B19		1.0
L2725-10	F9B20		1.0
L2725-11	F9B22		1.0
L2725-11DL	F9B22DL	SVOC	
L2725-11DL	F9B22DL	VOC	1.0
L2725-11DL2	F9B22DL2	SVOC	
L2725-12	F9B23		1.0
L2725-12DL	F9B23DL	SVOC	
L2725-13	F9B28		1.0
L2725-14	F9B31		1.0
L2725-15	F9B32		1.0
L2725-16	F9B33		1.0
L2725-17	F9B34		1.0
L2725-18	F9B35		1.0

18 Water samples were delivered to the laboratory intact on 05/20/2020.

Test requested on the Chain of Custody was Volatile Organic and Semi-Volatile Organic by Method SOM02.4.

Samples for Volatile Organic analyses were transferred unopened to the Volatile Laboratory. Sample Tags were not received with the samples.

The temperature of the samples was measured using an I R Gun. The samples temperature was 2.5, 2.0, 2.8, 3.4, 2.2, 3.2 degree Celsius for the samples received on 05/20/2020.

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.

Resolution 1: In accordance with previous direction from Region 6, the laboratory will note the issue in the SDG Narrative, and proceed with the analysis of the sample. The Resolution will be applied to all samples received for this Case

Trace 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 Trap was supplied by OI Analytical, OI #10 Trap, OI Eclipse 4660 Concentrator.
The analysis of VOC-Low Level -15 was based on method SOM02.4_Trace.

The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Internal Standards Areas met the acceptable requirements.
Instrument Performance Check met requirements.
The Tuning criteria met requirements.
The Retention Times were acceptable for all samples.
The Initial Calibration met the requirements.
The Continuing Calibration met the requirements.

The Blank analysis indicated presence of Chloroform [0.28ug/L] FileID:VV016125.D (VBLK35) {VV0520WBL01} due to possible lab contamination.
The Blank analysis indicated presence of Chloroform [0.2ug/L] and Chloromethane [0.41ug/L] FileID:VV016146.D (VBLK36) {VV0521WBL01} due to possible lab contamination. As per method, less than the respective CRQL is allowed to fail for Chloroform and Chloromethane. Therefore no further corrective action was taken.

The storage blank did not indicate the presence of lab contamination.

Samples F9B00, F9B01, F9B04, F9B17 and F9B22 were diluted due to high concentrations.

The sample F9B01 was analyzed following the analysis of F9B00. Both samples had common hit of compound with concentration above calibration levels for cis-1,2-Dichloroethene. It was reanalyzed diluted .As per method no instrument blank was required.

The sample F9B18 was analyzed following the analysis of F9B17. Samples F9B17 had hit of compound Methyl tert-butyl Ether with concentration above calibration levels. Sample F9B18

have not detected of the compound Methyl tert-butyl Ether. Therefore, 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:

$$\text{Concentration in ug/L} = \frac{(Ax)\,(Is)\,(DF)}{(Ais)\,(RRF)\,(Vo)}$$

Where,
Ax = Area of the characteristic ion (EICP) for the compound to be measured.
Ais = Area of the characteristic ion (EICP) for the internal standard.
Is = Amount of internal standard added in ng.
RRF = Mean Relative Response Factor from the initial calibration standard.
Vo = Total volume of water purged, in mL.
DF = Dilution Factor.

Example Calculation for sample **F9B00** for **Acetone:**

Ax = 2416
Is = 125
RRF= 0.051
DF = 1
Ais = 138680
Vo. = 25

$$\text{Concentration in ug/L} = \frac{(2416)\,(125)\,(1)}{(138680)(0.051)(25)}$$

$$= 1.71\text{ug/L}$$

Reported Result = 1.7ug/L

Relative Response Factor = **Dichlorodifluoromethane**: RUN **VV050720** for 0.5 ppb

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

$$RRF = \frac{5702}{150988} \times \frac{5.0}{0.5}$$

RRF= 0.378

Semivolatiles :

The samples were analyzed on instrument BNA_M 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 SOM02.4 on 05/20/2020 05/21/2020,The analysis of SVOC was based on method SOM02.4_SVOC.

The Holding Times were met for all analysis.

The Surrogate recoveries met the acceptable criteria except for F9B22DL2 [1,4-Dioxane-d8 - 0%, 4,6-Dinitro-2-methylphenol-d2 - 0%, 4-Chloroaniline-d4 - 0%, 4-Methylphenol-d8 - 14%, 4-Nitrophenol-d4 - 0%, Anthracene-d10 - 0%], F9B23DL[4-Chloroaniline-d4 - 0% and 4-Nitrophenol-d4 - 0%].

The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The Blank analysis did not indicate the presence of lab contamination.
The Tuning criteria met requirements.

The %RSD met requirement for initial Calibration except for 1,4-Dioxane-d8 (20.3)for the initial calibration with dated 05/13/2020 with instrument M. As per method, 4 compounds can be failed within 40% Therefore no corrective action was required.

The Continuous Calibration met the requirements.

Samples F9B22, F9B22DL and F9B23 were diluted due to high concentrations..

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

Concentration of Water Sample:

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

Where,
Ax = Area of the characteristic ion for the compound to be measured.
Ais = Area of the characteristic ion for the internal standard.
Is = Amount of internal standard injected in ng.
Vo = Volume of water extracted in mL.
Vi = Volume of extract injected in uL.
Vt = Volume of the concentrated extract in uL
RRF = Mean Relative Response Factor determined from the initial calibration standard.
GPC = Vin = GPC factor (If no GPC is performed, GPC=1)
Vout = Volume of extract collected after GPC cleanup.

Example calculation of F9B00 for Dimethylphthalate:

Ax = 105885
Ais = 400881
Is = 20
Vo = 1000
Vi = 1
Vt = 1000
RRF = 1.684
GPC = 1

Concentration ug/L = $\frac{(105885)\ (20)\ (1000)\ (1)\ (1)}{(400881)\ (1.684)\ (1000)\ (1)}$

Reported Result = 3.1 ug/L

RRF Calculation of standard 20 ppb for **Naphthalene** with instrument M for method 05/13/2020

RRF= Area of compound / Area of Internal Standard X Conc. of Internal Standard / Conc. of Compound

= 535344/456063 X 20/20

= 1.174 (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