CHEMTECH

SDG NARRATIVE

LAB NAME: CHEMTECH CONSULTING GROUP
CASE: 49797
SDG: BGLW7
CONTRACT: 68HERH20D0011
LAB CODE: CHM
CHEMTECH PROJECT: N1168
MODIFICATION REF. NUMBER: NA

Sample ID	EPA Sample ID	pH
N1168-01	BGLW7	
N1168-01ME	BGLW7ME	
N1168-02	BGLW8	
N1168-03	BGLW9	
N1168-04	BGLX0	
N1168-05	BGLX1	
N1168-06	BGLX2	
N1168-07	BGLX3	
N1168-08	BGLX4	
N1168-09	BGLX5	
N1168-10	BGLX6	
N1168-12	BGLX7	1.0
N1168-14	BGLX8	
N1168-15	BGLX9	
N1168-16	BGLY0	
N1168-17	BGLY1	
N1168-18	BGLY2	
N1168-19	BGLY3	
N1168-20	BGLY4	
N1168-21	BGLY5	
N1168-22	BGLY6	

19 Water samples were delivered to the laboratory intact on 01/15/2022.
1 Water samples were delivered to the laboratory intact on 01/15/2022.

Test requested on the Chain of Custody was 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 2.1, 2.3 degree Celsius for the samples received on 01/15/2022.

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.

Issue 2: The laboratory received samples for VOA and SVOA analysis. PRs are not listed on the COC for water samples, but PRs are scheduled. The laboratory would like to confirm they should proceed with PRs for the water samples.

Resolution 2: Per Region 2, please note the issue in the SDG Narrative and proceed with the analysis of the samples as scheduled.

Low Volatiles:
The analysis performed on instrument MSVOA_V were done using GC column RXI-624SIL MS 30m 0.18mm 1.4 um. Cat#13868.
The analysis performed on instrument MSVOA_W were done using GC column RXI-624SIL MS 30m 0.25mm 1.4 um. Cat#13868.
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
BGLW7 [1,2-Dichlorobenzene-d4 - 74%],
BGLX1 [1,2-Dichlorobenzene-d4 - 69%, 1,2-Dichloroethane-d4 - 65%, 1,2-Dichloropropane-d6 - 67%],
BGLX6 [1,1-Dichloroethene-d2 - 42%, 1,2-Dichlorobenzene-d4 - 74%],
BGLY6 [1,2-Dichlorobenzene-d4 - 71%, 1 and2-Dichloropropane-d6 - 69%].As per method, up to three surrogates are allowed to fail. No corrective action was taken.

The Internal Standards Areas met the acceptable criteria for all Samples.
Instrument Performance Check met requirements.
The Retention Times were met for all samples.
The Tuning criteria met requirements.

The Initial Calibration met the requirements.

The Continuing Calibration met the requirements.
The Continuing Calibration (VSTD050392) file ID VV024384.D met the requirements except for 1,2-Dichloropropane-d6 (-20.3%).As per method, up to two target analyte in opening and closing CCV are allowed to exceed the %D values. Therefore no further corrective action was taken.

The Continuing Calibration (VSTD025540) file ID VW021941.Dmet the requirements except for Chloroethane (-28.1%).As per method, up to two target analyte in opening and closing CCV are allowed to exceed the %D values. Therefore no further corrective action was taken.

The Continuing Calibration (VSTD025542) file ID VW021964.D.Dmet the requirements except for Chloroethane-d5 (-32.2%) and Chloroethane (-26.4) .As per method, up to two target analyte in opening and closing CCV are allowed to exceed the %D values. Therefore no further corrective action was taken.

The Blank analysis indicated presence of 2-Hexanone [310ug/Kg], Acetone [170ug/Kg] FileID:VV024385.D (VBLK301) {VV0118MBL01} due to possible lab contamination.
The Blank analysis indicated presence of 2-Hexanone [7.0ug/L], Acetone [4.0ug/L] FileID: VV024404.D (VBLK304) {VV0119WBL01} due to possible lab contamination.
As per method, less than 2 times the respective CRQL is allowed to fail for Acetone and less than the respective CRQL is allowed to fail for 2-Hexanone. Therefore, no further corrective action was taken

The Storage blank analysis indicated the presence of lab contamination 2-Hexanone [6.8ug/L], Acetone [4.2ug/L] FileID: VV024406.D (VHBLK002) {VV0119WBL01} due to possible lab contamination. As per method, less than 2 times the respective CRQL is allowed to fail for Acetone and less than the respective CRQL is allowed to fail for 2-Hexanone. Therefore, no further corrective action was taken

Sample BGLW7 was diluted due to high concentration.

The sample BGLW8 was analyzed following the analysis of BGLW7. Sample BGLW7 had hit of compound Tetrachloroethene with concentration above calibration levels. Sample BGLW8 have not detected of the compound Tetrachloroethene. Therefore, as per method no instrument blank was required.
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See **Manual Integration report f**or the manual integration information at the end of the case narrative.

Calculation:
Low/Med Water Level 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.
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

Low/Med Level Soil/Sediment Calculation

$$\text{Concentration in ug/Kg dry Weight basis)} = \frac{(A_x)(I_s)(D_f)}{(Ais)(RRF)(Ws)(D)}$$

Where,

Ax = Area for the compound to be measured

Ais = Area for the specific internal standard

Is = Amount of internal standard added in Nano grams (ng)

RRF = Relative response factor of the calibration standard.

Df = Dilution factor

Ws= Weight of sample

$$D = \frac{100 - \% moisture}{100}$$

Medium-Level Soil/Sediment Concentration

$$Concentration(\mu g/Kg = \frac{(Ax)(Iis)(AVt)(1000)(DF)}{(Ais)\overline{RRF})(Va)(Ws)(S)}$$

Where

Ax = Area for the compound to be measured

Ais = Area for the specific internal standard

Is = Amount of internal standard added in nanograms (ng)

S = % Solids/100

$\overline{RRF}$ = Mean Relative Response Factor from the ambient temperature purge of the initial calibration standard

AV_t = Adjusted total volume of the methanol extract plus soil water in mL determined by:
$AV_t = V_t + \{W_s - [W_s(S)]$.
Where Vt = total volume of methanol extract in mL. This volume is typically 5.0 mL, even though only 0.1 mL is transferred to the vial in Section 10.2.3.6. The quantity derived from $\{W_s - [W_s(S)]\}$ is the soil water volume and is expressed in mL.

Va = Volume of the aliquot of the sample methanol extract (i.e., sample extract not including the methanol added to equal 100 μL), in μL added to reagent water for purging

Ws = Weight of soil/sediment extracted, in g

DF = Dilution Factor. The DF for analysis of soil/sediment sample extracts for volatiles by the medium-level method is defined as the ratio of the volume (μL) taken from the extract used to make the dilution plus the clean solvent added for the dilution (μL), to the volume taken from the extract used to make the dilution. For example, if 10 μL of the extract was taken and added to 90 μL of clean solvent, then ration would be (10 μL + 90 μL/10 μL)= a DF of 10.

Example sample **BGLW7ME** for **Tetrachloroethene**:

Ax = 30547

Ais = 425888

$$Is \quad = \quad 250$$
$$S \quad = \quad 92.0/100 = 0.920$$
$$RRF \quad = \quad 0.319$$
$$AVt \quad = \quad 5.46$$
$$Va \quad = \quad 100$$
$$Ws \quad = \quad 5.76$$
$$DF \quad = \quad 1$$

$$Avt \quad = \quad 5 + [5.76 \ (5.76 \ X \ 92.0/100)] = 5.46$$

$$\text{Concentration } (\mu g/Kg) = \frac{(30547)(250)(5.46)(1000)(1)}{(425888)(0.319)(100)(5.76)(0.920)}$$

Final Reported results = 580ug/Kg

Relative Response Factor = **Dichlorodifluoromethane**: RUN **VV123021** for **5.0** ppb

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

$$RRF = \frac{9543}{237846} \ X \ \frac{50}{5.0}$$

RRF= 0.401

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.