CHEMTECH

SDG NARRATIVE

LAB NAME: CHEMTECH CONSULTING GROUP
CASE: 49450
SDG: C0CE9
CONTRACT: 68HERH20D0011
LAB CODE: CHM
CHEMTECH PROJECT: M2358
MODIFICATION REF. NUMBER: NA

Sample ID	EPA Sample ID	pH
M2358-01	C0CE9	
M2358-02	C0CF0	
M2358-03	C0CF1	
M2358-04MS	C0CF1MS	
M2358-05MSD	C0CF1MSD	
M2358-06	C0CF2	
M2358-07	C0CF3	
M2358-07DL	C0CF3DL	
M2358-08	C0CF4	
M2358-08DL	C0CF4DL	
M2358-09	C0CF5	
M2358-10	C0CF6	
M2358-10DL	C0CF6DL	
M2358-11	C0CF7	
M2358-11DL	C0CF7DL	
M2358-12	C0CF8	
M2358-13	C0CF9	
M2358-14	C0CG0	
M2358-15	C0CG1	
M2358-16	C0CG2	
M2358-17	C0CG3	
M2358-18	C0CG4	
M2358-19	C0CG5	

19 Soil samples were delivered to the laboratory intact on 05/11/2021.

Test requested on the Chain of Custody was Aroclor 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 2.6 degree Celsius for the samples received on 05/11/2021.

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.

Aroclors:
The analyses were performed on instrument GCECD_R. The front column is ZB-MR1 which is 30 meters, 0.32 mm ID, 0.5 um df, Catalogue # 7HM-G016-17. The rear column is ZB-MR2 which is 30 meters, 0.32 mm ID, 0.25 µm; Catalogue # 7HM-G017-11.

The sample was analyzed on a single injection dual column system. To distinguish the second column analysis from the first column a -2 suffix was added to the file id on the form 1. These refer to forms were both columns are reported. Form 1s for the IBLK and ALCS are referenced as IBLK(1)/IBLK(2), MS(1)/MS(2), MSD(1)/MSD(2), and ALCS01(1)/ALCS01(2) respectively.

Aroclor sample was extracted by Method SFAM01.1 on 05/14/2021 and analyzed on 05/14, 05/17/2021. All the samples were subjected to a Sulfuric acid cleanup. The sample was extracted and analyzed within contractual holding time.

The Surrogate recoveries met the acceptable criteria except for
C0CF7 [Decachlorobiphenyl(1) - 158%],
C0CF7DL [Decachlorobiphenyl(1) - 162%, Decachlorobiphenyl(2) - 155%],
C0CG0 [Tetrachloro-m-xylene(1) - 161%, Tetrachloro-m-xylene(2) - 174%],
C0CG1 [Tetrachloro-m-xylene(2) - 153%] and
C0CG3 [Tetrachloro-m-xylene(2) - 152%]. The SOW allows one surrogate to fail to meet the criteria per column. ((Please See Section 11.3.6 of Exhibit D Aroclor Analysis).

C0CF1MS met the requirements.
C0CF1MSD met the requirements except for AR1016 & AR1260 on both columns due to sample matrix interference. Both MS-MSD are different extracts. Also sample has positive detection of PCBs, associated CCC is within QC limits, hence lab cannot pin point any other reason rather than matrix interference. No corrective action is required for failure to meet the MS/MSD criteria by the SOW. (Section 12.2.5.5 of Exhibit D Aroclor Analysis).

The RPD met the requirements except for AR1016 & AR1260 on both columns due to sample matrix interference. No corrective action is required for failure to meet the MS/MSD criteria by the SOW.

The Laboratory Control Sample met requirements.
The Blank analysis did not indicate the presence of lab contamination.
The Initial Calibration met the requirements.
The Continuing Calibrations met the requirements.
The Retention Times were acceptable for all samples.

Samples C0CF3, C0CF4, C0CF6 and C0CF7 were diluted due to high concentrations.

Samples C0CG4 failed to meet the %D for the results between the two columns Criteria. Sample C0CF2 have the concentration of target compound# AR1254 below Method detection limits, therefore it is not reported as hit in Form1.

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

Calculation for Concentration in Soil samples:

Concentration ug/Kg (Dry weight basis) = $\dfrac{(Ax)\ (Vt)\ (DF)\ (GPC)}{(CF)\ (Vi)\ (Ws)\ (D)}$

Where,

Ax = Response (peak area or height) of the compound to be measured.
CF = Mean Calibration Factor from the initial calibration (area/ng).
Vt = Volume of the concentrated extract in uL

Vi = Volume of extract injected (uL). (If a single injection is made onto two columns, use ½ the volume in the syringe as the volume injected onto each column).
Ws = Weight of sample extracted (g).
D = % dry weight or $\dfrac{100 - \%Moisture}{100}$

GPC = $\dfrac{Vin}{Vout}$ = GPC factor (If no GPC is performed, GPC=1)

DF = Dilution Factor

Example of AR1254 calculation for Peak 1

Calibration factor Peak 1 100ppb ISTD= $\dfrac{peak\ area}{Mass\ injected\ ng}$
Column1

$$= \dfrac{40134097}{0.100}$$

= 401340970 calibration factor for Peak 1 100ppb

   Average of 5 peaks = 370772927

Sample C0CE9
Ax = 39613629
CF = 370772927
Vt = 10000
Vi = 1.0
Ws = 30.1
D = 0.824
GPC = 1.0

DF = 1.0

Concentration ug/Kg (Dry weight basis) = $\dfrac{(Ax)\ (Vt)\ (DF)\ (GPC)}{(CF)\ (Vi)\ (Ws)\ (D)}$

$$= \dfrac{(39613629)\ (10000)\ (1.0)\ (1.0)}{(370772927)\ (1.0)\ (30.1)\ (0.824)}$$

Peak 1 = 43.08

Average of 5 peaks = 50.61

Reported results = 51 ug/kg

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.