SDG NARRATIVE

LAB NAME: CHEMTECH CONSULTING GROUP
CASE: 50211
SDG: A0B12
CONTRACT: 68HERH20D0011
LAB CODE: CHM
CHEMTECH PROJECT: N4924
MODIFICATION REF. NUMBER: 3147.0

Sample ID	EPA Sample ID	pH
N4924-01	A0B12	
N4924-02	A0B13	
N4924-02DL	A0B13DL	
N4924-03	A0B14	
N4924-04	A0B15	
N4924-05	A0B16	
N4924-05DL	A0B16DL	
N4924-06	A0B17	
N4924-06DL	A0B17DL	
N4924-07	A0B18	
N4924-07DL	A0B18DL	
N4924-07DL2	A0B18DL2	
N4924-08	A0B19	
N4924-08DL	A0B19DL	
N4924-08DL2	A0B19DL2	
N4924-09	A0B20	
N4924-09DL	A0B20DL	
N4924-10	A0B21	
N4924-11MS	A0B21MS	
N4924-12MSD	A0B21MSD	
N4924-13	A0B22	
N4924-13DL	A0B22DL	

13 Soil samples were delivered to the laboratory intact on 09/30/2022.

Test requested on the Chain of Custody was Aroclor by Method SFAM01.1.

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 09/30/2022.

Aroclors:
The analyses were performed on instrument GCECD_Q. 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 10/08/2022 and analyzed on 10/10, 10/11/2022. All the samples were subjected to a Sulfuric acid cleanup. The sample was extracted and analyzed within contractual holding time.

Using MA# 3147.0 see the MA instructions at the end of the Case Narrative.

The Surrogate recoveries met the acceptable criteria except
A0B18DL2 [Decachlorobiphenyl(1) - 0%, Decachlorobiphenyl(2) - 0%, Tetrachloro-m-xylene(1) - 0%, Tetrachloro-m-xylene(2) - 0%],
A0B19DL2 [Decachlorobiphenyl(1) - 0%, Decachlorobiphenyl(2) - 0%, Tetrachloro-m-xylene(1) - 0% and Tetrachloro-m-xylene(2) - 0%].The SOW allows one surrogate to fail to meet the criteria per column. ((Please See Section 11.3.6 of Exhibit D Aroclor Analysis).

A0B21MS met the requirements except for AR1016 on both columns and AR1260 on the second column due to sample 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).

A0B21 MSD met the requirements except for AR1016 on both columns and AR1260 on the second column due to sample 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.
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 A0B13, A0B16, A0B17, A0B18, A0B18DL, A0B19, A0B19DL, A0B20 and A0B22 were diluted due to high concentrations.

Samples A0B18 and A0B19 GC/MS confirmation run performed and raw data reported in hard copy.

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

Calculation for Concentration in Soil samples:

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

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 $\frac{100 - \%\text{Moisture}}{100}$

GPC = $\frac{Vin}{Vout}$ = GPC factor (If no GPC is performed, GPC=1)
DF = Dilution Factor

Example of AR1260 calculation for Peak 1

$$\text{Calibration factor Peak 1 100ppb ISTD= Column2} = \frac{\text{peak area}}{\text{Mass injected ng}}$$

$$= \frac{50017603}{0.100}$$

= 500176030 calibration factor for Peak 1 100ppb

Average of 5 peaks = 450563051

Sample A0B12
Ax = 261050301
CF = 450563051
Vt = 10000
Vi = 1.0
Ws = 30.0
D =0. 378
GPC = 1.0
DF = 1.0

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

$$= \frac{(261050301)\,(10000)\,(1.0)\,(1.0)}{(450563051)\,(1.0)\,(30.0)\,(0.378)}$$

Peak 1 = 510.92

Average of 5 peaks = 361.29

Reported results = 360 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.