SDG NARRATIVE

LAB NAME: CHEMTECH CONSULTING GROUP
CASE: 49119
SDG: C0AD9
CONTRACT: EPW14030
LAB CODE: CHM
CHEMTECH PROJECT: L4451
MODIFICATION REF. NUMBER: NA

Sample ID	EPA Sample ID	pH
L4451-01	C0AD9	
L4451-01DL	C0AD9DL	
L4451-01DL2	C0AD9DL2	
L4451-02	C0AE0	
L4451-02DL	C0AE0DL	
L4451-02DL2	C0AE0DL2	
L4451-03	C0AE1	
L4451-03DL	C0AE1DL	
L4451-03DL2	C0AE1DL2	
L4451-04	C0AE2	
L4451-04DL	C0AE2DL	
L4451-04DL2	C0AE2DL2	
L4451-05	C0AE3	
L4451-05DL	C0AE3DL	
L4451-06	C0AG0	
L4451-06DL	C0AG0DL	
L4451-06DL2	C0AG0DL2	
L4451-07	C0AG1	
L4451-07DL	C0AG1DL	
L4451-07DL2	C0AG1DL2	
L4451-08	C0AG2	
L4451-08DL	C0AG2DL	
L4451-08DL2	C0AG2DL2	
L4451-09	C0AG3	
L4451-10	C0AG4	
L4451-11	C0AG5	
L4451-12	C0AG6	
L4451-13	C0AG7	

L4451-14	C0AG9	
L4451-15	C0AH2	
L4451-16	C0AH6	
L4451-16DL	C0AH6DL	
L4451-17	C0AH9	
L4451-17DL	C0AH9DL	
L4451-17DL2	C0AH9DL2	
L4451-18	C0AJ6	
L4451-19	C0AJ7	
L4451-20MS	C0AJ7MS	
L4451-21MSD	C0AJ7MSD	
L4451-22	C0AJ8	

22 Soil samples were delivered to the laboratory intact on 10/16/2020.

Test requested on the Chain of Custody was Aroclor by Method SOM02.4

The temperature of the samples was measured using an I R Gun. The samples temperature was 3.2 degree Celsius for the samples received on 10/16/2020.

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 2, 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.

Issue 2: "Lab is sending this email with regards to case 49119 and SDG C0AD9.

This is an ongoing case where lab has received soil samples for PCB analysis. As a precautionary step, Lab has analyzed sample C0AG1 with 100x dilution where sample was found positive with extremely elevated target analyte from calibration range and required multiple high dilution to bring target analyte within calibration range as you can see attached form-1 with quant reports. However, due to very high dilution factor, this sample has surrogates diluted out therefore lab would like to confirm that lab will report 100x dilution analysis with surrogate failure as first analysis and further dilutions in hardcopy and SEDD.

Resolution 2: Please inform ChemTech their resolution, written below, is acceptable to the Region; have the laboratory apply this resolution to all remaining SDGs within Case 49119. In addition, have the laboratory make note of the issue in their SDG Narrative and proceed with the analysis of the samples.

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.

Samples were 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 8 and form 1. These referrers to forms were both columns are reported. Form 1s for the IBLK, MS, MSD and ALCS have the -2 on the form as per the method section 3.3.7.1 foot notes.

Aroclor samples were extracted by Method SOM02.4 on 10/19/2020 and analyzed on 10/22, 10/23, 10/26/2019. All the samples were subjected to a Sulfuric acid cleanup. The samples were extracted and analyzed within contractual holding time.

The Surrogate recoveries met the acceptable criteria except for
C0AD9DL [Decachlorobiphenyl(1) - 0%, Decachlorobiphenyl(2) - 0%, Tetrachloro-m-xylene(1) - 0%, Tetrachloro-m-xylene(2) - 0%],
C0AD9DL2 [Decachlorobiphenyl(1) - 0%, Decachlorobiphenyl(2) - 0%, Tetrachloro-m-xylene(1) - 0%, Tetrachloro-m-xylene(2) - 0%],
C0AE0DL2 [Decachlorobiphenyl(1) - 0%, Decachlorobiphenyl(2) - 0%, Tetrachloro-m-xylene(1) - 0%, Tetrachloro-m-xylene(2) - 0%],
C0AE1DL2 [Decachlorobiphenyl(1) - 0%, Decachlorobiphenyl(2) - 0%, Tetrachloro-m-xylene(1) - 0%, Tetrachloro-m-xylene(2) - 0%],
C0AE2DL2 [Decachlorobiphenyl(1) - 0%, Decachlorobiphenyl(2) - 0%, Tetrachloro-m-xylene(1) - 0%, Tetrachloro-m-xylene(2) - 0%],
C0AG0DL [Decachlorobiphenyl(1) - 0%, Decachlorobiphenyl(2) - 0%, Tetrachloro-m-xylene(1) - 0%, Tetrachloro-m-xylene(2) - 0%],
C0AG0DL2 [Decachlorobiphenyl(1) - 0%, Decachlorobiphenyl(2) - 0%, Tetrachloro-m-xylene(1) - 0%, Tetrachloro-m-xylene(2) - 0%],
C0AG1 [Decachlorobiphenyl(1) - 0%, Decachlorobiphenyl(2) - 0%, Tetrachloro-m-xylene(1) - 0%, Tetrachloro-m-xylene(2) - 0%],
C0AG1DL [Decachlorobiphenyl(1) - 0%, Decachlorobiphenyl(2) - 0%, Tetrachloro-m-xylene(1) - 0%, Tetrachloro-m-xylene(2) - 0%],
C0AG1DL2 [Decachlorobiphenyl(1) - 0%, Decachlorobiphenyl(2) - 0%, Tetrachloro-m-xylene(1) - 0%, Tetrachloro-m-xylene(2) - 0%],
C0AG2DL [Decachlorobiphenyl(1) - 0%, Decachlorobiphenyl(2) - 0%, Tetrachloro-m-xylene(1) - 0%, Tetrachloro-m-xylene(2) - 0%],
C0AG2DL2 [Decachlorobiphenyl(1) - 0%, Decachlorobiphenyl(2) - 0%, Tetrachloro-m-xylene(1) - 0%, Tetrachloro-m-xylene(2) - 0%],
C0AH9 [Decachlorobiphenyl(2) - 152%],
C0AH9DL [Decachlorobiphenyl(1) - 0%, Decachlorobiphenyl(2) - 0%, Tetrachloro-m-xylene(1) - 0%, Tetrachloro-m-xylene(2) - 0%],
C0AH9DL2 [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 requirements per column. No further corrective action was taken. (Section 11.3.6 of Exhibit D Pesticides Analysis).

Samples C0AD9DL, C0AD9DL2, C0AE0DL2, C0AE1DL2, C0AE2DL2, C0AG0DL, C0AG0DL2, C0AG1, C0AG1DL, C0AG1DL2, C0AG2DL, C0AG2DL2, C0AH9DL, C0AH9DL2 Surrogates was diluted out due to the high dilution. No further corrective action was taken.

C0AJ7MS met the requirements
C0AJ7MSD met the requirements.
The RPD met the requirements.

The Retention Times met requirements except for C0AD9DL, C0AD9DL2, C0AE0DL2, C0AE1DL2, C0AE2DL2, C0AG0DL, C0AG0DL2, C0AG1, C0AG1DL, C0AG1DL2, C0AG2DL, C0AG2DL2, C0AH9DL, C0AH9DL2 which was diluted out.

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.

Samples C0AD9, C0AD9DL, C0AE0, C0AE0DL, C0AE1, C0AE1DL, C0AE2, C0AE2DL, C0AE3, C0AG0, C0AG0DL, C0AG1, C0AG1DL, C0AG2, C0AG2DL, C0AH6, C0AH9 and C0AH9DL were diluted due to high concentrations of AR1248 and AR1260.

Samples C0AG1 was diluted due to bad matrix. These samples was analyzed with straight 100x dilution Based on other samples analysis, this sample have high concentration and required further dilution. Therefore lab will not provide undiluted analysis. Please see the communication with Region about this issue on the shipping and discrepancies section.

Samples C0AD9, C0AE1, C0AG2, C0AH2, C0AH9, C0AJ6 failed to meet the %D for the results between the two columns Criteria.

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 = Vin = GPC factor (If no GPC is performed, GPC=1)
Vout
DF = Dilution Factor

Example of AR1260 calculation for Peak 1

Calibration factor Peak 1 100ppb ISTD= peak area
Column2 Mass injected ng

= 20261376
0.100

= 202613760 calibration factor for Peak 1 100ppb

Average of 5 peaks = 177278687

Sample C0AD9
Ax = 33702929559
CF = 177278687
Vt = 10000
Vi = 1.0
Ws = 30.1
D = 0.837
GPC = 1.0
DF = 1.0

Concentration ug/Kg (Dry weight basis) = (Ax) (Vt) (DF) (GPC)
(CF) (Vi) (Ws) (D)

= (33702929559) (10000) (1.0) (1.0)
(177278687) (1.0) (30.1) (0.837)

Peak 1 = 75460.40

Average of 5 peaks = 40834

Reported results = 41000 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