**CHEMTECH**

**SDG NARRATIVE**


**LAB NAME: CHEMTECH CONSULTING GROUP**
**CASE: 49057**
**SDG: BEQE6**
**CONTRACT: EPW14030**
**LAB CODE: CHM**
**CHEMTECH PROJECT: L4285**
**MODIFICATION REF. NUMBER: NA**

| Sample ID | EPA Sample ID | pH |
|---|---|---|
| L4285-01 | BEQE6 | |
| L4285-02 | BEQE7 | |
| L4285-03 | BEQE8 | |
| L4285-04 | BEQE9 | |
| L4285-04DL | BEQE9DL | |
| L4285-04DL2 | BEQE9DL2 | |
| L4285-05MS | BEQE9MS | |
| L4285-06MSD | BEQE9MSD | |
| L4285-07 | BEQF0 | |
| L4285-08 | BEQF1 | |
| L4285-09 | BEQG3 | |
| L4285-09DL | BEQG3DL | |
| L4285-10 | BEQ78 | |
| L4285-11 | BEQD7 | |
| L4285-12 | BEQD8 | |
| L4285-12DL | BEQD8DL | |
| L4285-13 | BEQD9 | |
| L4285-13DL | BEQD9DL | |
| L4285-13DL2 | BEQD9DL2 | |
| L4285-14 | BEQE0 | |
| L4285-15 | BEQE1 | |
| L4285-16 | BEQE2 | |
| L4285-16DL | BEQE2DL | |
| L4285-17 | BEQE3 | |
| L4285-18 | BEQE4 | |
| L4285-19 | BEQE5 | |

9 Soil samples were delivered to the laboratory intact on 10/08/2020.
1 Water samples were delivered to the laboratory intact on 10/09/2020.
9 Soil samples were delivered to the laboratory intact on 10/09/2020.

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 4.3 degree Celsius for the samples received on 10/08/2020 and 3.3 degree Celsius for the samples received on 10/09/2020.

**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**: The laboratory received sediment samples for ARO analysis on 10/8/2020 and determined the percent solids for Sample BEQE6 to be 27.8%.  The laboratory would like to confirm that they should proceed with the analysis of this sample.

**Resolution 2:** Per Region 2, please note the issue in the 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.  This 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 10/14, 10/15/2020 and analyzed on 10/13, 10/15, 10/16/2020. 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
BEQE9DL2 [Decachlorobiphenyl(1) - 0%, Decachlorobiphenyl(2) - 0%, Tetrachloro-m-xylene(1) - 0%, Tetrachloro-m-xylene(2) - 0%],
BEQD7 [Decachlorobiphenyl(2) - 27%] and
BEQD9DL2 [Decachlorobiphenyl(1) - 0%, Decachlorobiphenyl(2) - 0%, Tetrachloro-m-xylene(1) - 0%, 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) and Surrogates were diluted out due to the high dilution. No further corrective action was taken.

BEQE9MS met the requirements except for AR1016 on both columns 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).
BEQE9MSD met the requirements except for AR1016 on both columns 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 Retention Times were acceptable for all samples except for BEQE9DL2 and BEQD9DL2.
The Blank analysis did not indicate the presence of lab contamination.

The Initial Calibration met the requirements.
The Continuing Calibrations met the requirements.
Samples BEQE9, BEQE9DL, BEQG3, BEQD8, BEQD9, BEQD9DL and BEQE2 were diluted due to high concentrations.

Samples BEQD8DL, BEQD9, BEQD9DL, BEQD9DL2, BEQE0, BEQE1, BEQE2, BEQE2DL, BEQE6, BEQE9, BEQE9DL, BEQE9DL2, BEQE9MS, BEQE9MSD, BEQF0, BEQG3 and BEQG3DL 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:**

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 AR1248 calculation for Peak 1**

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

$$= \frac{3862191}{0.100}$$

$$= 38621910 \text{ calibration factor for Peak 1 100ppb}$$

Average of 5 peaks  = 33878437

**Sample BEQD7**
Ax = 12926490
CF = 33878437
Vt = 10000
Vi = 1.0
Ws = 30.1
D = 0.402
GPC = 1.0
DF = 1.0

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

$$= \frac{(12926490)\ (10000)\ (1.0)\ (1.0)}{(33878437)\ (1.0)\ (30.1)\ (0.402)}$$

Peak 1 = 315.33

Average of 5 peaks = 285.73
Reported results = 290 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