

**SDG NARRATIVE****LAB NAME: CHEMTECH CONSULTING GROUP****CASE: 48745****SDG: DBCS3****CONTRACT: EPW14030****LAB CODE: CHM****CHEMTECH PROJECT: L1326****MODIFICATION REF. NUMBER: NA**

Sample ID	EPA Sample ID	pH
L1326-01	DBCS3	1.0
L1326-02	DBCS4	1.0
L1326-02DL	DBCS4DL	1.0
L1326-03	DBCS5	1.0
L1326-04	DBCS6	1.0
L1326-05	DBCS7	1.0
L1326-06	DBCS8	1.0
L1326-06DL	DBCS8DL	1.0
L1326-07	DBCS9	1.0
L1326-07DL	DBCS9DL	1.0
L1326-08	DBCT0	1.0
L1326-10	DBCX5	1.0

09 water samples were delivered to the laboratory intact on 01/30/2020.

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

Samples for Volatile Organic analyses were transferred unopened to the Volatile Laboratory. Sample Tags were not received with the samples.

The temperature of the samples was measured using an I R Gun. The samples temperature was 2.5 degree Celsius for the samples received on 01/30/2020.

**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 4, 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.

**Discrepancies with tags, jars, and/or COC:**

**Issue 2:** The laboratory received eight water samples and one blank on 1/30/2020. There is no Sample ID listed for the blank sample on either the COC or sample containers. Additionally, a turnaround time is not listed for the blank sample.

**Resolution 2:** Per Region 4, Sample ID DBCX5 should be used for the trip blank with a 7 day turnaround time. Please note the issue in the SDG Narrative and proceed with the analysis of the samples.

**Inappropriate/insufficient designation of laboratory QC:**

**Issue 3:** Laboratory QC is scheduled for these samples; however, no sample was received with extra volume, and there is no sample designated for Laboratory QC on the COC. The laboratory would like to confirm that they should proceed without Laboratory QC.

**Resolution 3:** Per Region 4, the laboratory will forego MS/MSD since no extra volume was received. Please note the issue in the SDG Narrative and proceed with the analysis of the samples.

**Inappropriate/insufficient designation of laboratory QC:**

**LAB:** “Lab is sending this email with regards to case 48745 and SDG DBCS3.

- For samples DBCS3 & DBCS5; Lab has received water samples for VOA analysis. As a precautionary step, lab has analyzed dilution analysis for these samples for VOA analysis. However, samples found positive with high concentration detected for target analytes therefore lab would like to confirm that lab will report dilution analysis for these samples as first analysis in hardcopy and EDD.
- For sample DBCS6; Due to foamy nature of the sample, as a precautionary step lab has analyzed sample with most plausible dilution factor for VOA analysis as you can see attached quant report. However, this sample can't be analyzed undiluted due to foamy nature therefore lab would like to confirm that lab will report dilution analysis for this sample as a first analysis in hardcopy and EDD.
- For sample DBCS9; Lab has analyzed undiluted VOA analysis for this sample. This samples found positive with extremely elevated target analyte from calibration range and require dilution to bring over calibration target analyte within the calibration range. However, this sample has more than three surrogates are outside the QC limits as you can see attached quant report, surrogate recovery form for your reference therefore lab will report undiluted VOA analysis with surrogate failure as first analysis and further dilution analysis in hardcopy and EDD.

**REGION:** “The laboratory’s approach is acceptable to the Region.”

**Low Volatiles:**

The analysis performed on instrument MSVOA\_U were done using GC column DB-624UI 20m 0.18mm 1.0 um. Cat#121-1324UI. The Trap was supplied by OI Analytical, OI #10 Trap , OI Eclipse 4660 Concentrator.

The analysis performed on instrument MSVOA\_V were done using GC column DB-624UI 30m 0.18mm 1.0 um. Cat#121-1324UI

The analysis of VOC-Low Level -10 was based on method SOM02.4\_Low.

The Holding Times were met for all analysis.

The Surrogate recoveries met the acceptable criteria except for

DBCS9 [1,1,2,2-Tetrachloroethane-d2 - 121%, 1,2-Dichlorobenzene-d4 - 122%, 2-Butanone-d5 - 139%, 2-Hexanone-d5 - 135%],

DBCT0 [1,1-Dichloroethene-d2 - 58%]. As per the method, up to 3 surrogates are allowed to fail. No further corrective action was taken. Sample DBCS9 failed more than 3 surrogates. Due to high concentration of sample, this sample required dilution. Therefore, sample DBCS9 was reanalyzed dilution and reported. Lab notified this issue to region.

The Internal Standards Areas met the acceptable requirements.

Instrument Performance Check met requirements.

Retention Times met requirements.

The Tuning criteria met requirements.

The Initial Calibration met the requirements.

Trans-1, 3-Dichloropropene-d4 fails to meet criteria for the minimum RRF for RRF5.0 the calibration standards in the run dated 01/28/2020 with U instrument. As per the method up to two Compounds are allowed to fail to meet the minimum criteria for the RRF as long as the compound meets the maximum of 40% RSD. No further corrective action was taken.

The %RSD met requirement for initial Calibration except for 1,2,4-trichlorobenzene (25.8%) for the initial calibration dated 01/28/2020 with U instrument, As per method, the %RSD of two compounds can allowed to be fail. Therefore no corrective action was taken.

Trans-1, 3-Dichloropropene-d4 fails to meet criteria for the minimum RRF for RRF5.0 and RRF10 the calibration standards in the run dated 01/31/2020 with V instrument. As per the method up to two Compounds are allowed to fail to meet the minimum criteria for the RRF as long as the compound meets the maximum of 40% RSD. No further corrective action was taken.

The Continuing Calibration Data file id (VSTD05050) VU036623.D and (VSTD05051) VU036646.D which is fail to meet the minimum RRF of 0.200 for Trans-1, 3-Dichloropropene-d4. As per method, the % D of two Compounds can be fail, therefore no correction required.

The Closing Continuing Calibration (VSTD00547) file ID VV013754.D met the requirements except for Bromomethane (62%) and Chloroethane-d5 (69.5%). As per method, up to two targets analyte in closing CCV are allowed to exceed the %D values. Therefore no further corrective action was taken.

The Blank analysis indicated presence of Acetone[1.6ug/L] FileID:VU036624.D (VBLK51) {VU0130WBL02} due to possible lab contamination.

The Blank analysis indicated presence of Acetone[3.4ug/L] and Tetrachloroethene[1.8ug/L] FileID:VU036655.D (VBLK53) {VU0131WBL01} 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 Tetrachloroethene. Therefore, no further corrective action was taken.

The storage blank did not indicate the presence of lab contamination.

Samples DBCS4, DBCS8 and DBCS9 were diluted due to high concentrations.

Sample DBCS3, DBCS5 and DBCS6 found positive with very high concentration of target analytes therefore; as precautionary steps. Lab has analyzed samples with most plausible dilution factor. The samples DBCS3, DBCS5 and DBCS6 were initially diluted as first analysis, Lab notified this issue to region.

QC required Volatile; however there are no extra volume provide for QC samples. Please see EPA communication in shipping discrepancy section.

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

### **Calculation:**

#### **Low Level Water Calculation**

$$\text{Concentration in ug/L} = \frac{(A_x) (I_s) (DF)}{(A_{is}) (RRF) (V_o)}$$

Where,

A<sub>x</sub> = Area of the characteristic ion (EICP) for the compound to be measured.

A<sub>is</sub> = Area of the characteristic ion (EICP) for the internal standard.

I<sub>s</sub> = Amount of internal standard added in ng.

RRF = Mean Relative Response Factor from the initial calibration standard.

V<sub>o</sub> = Total volume of water purged, in mL.

DF = Dilution Factor.

Example Calculation for sample: **DBCS4** for **Carbon disulfide**.

$$A_x = 138220$$

$$I_s = 250$$

$$RRF = 0.939$$

$$DF = 1$$

$$A_{is} = 297325$$

$$V_o = 5$$

$$\begin{aligned} \text{Concentration in ug/L} &= \frac{(138220) (250) (1)}{(297325) (0.939)(5)} \\ &= 24.75\text{ug/L} \end{aligned}$$

Reported Results = 25ug/L

Relative Response Factor = Dichlorodifluoromethane: RUN **VU013120** for 5 ppb

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

$$\text{RRF} = \frac{12222}{357964} \times \frac{50}{5.0}$$

$$\text{RRF} = 0.341$$

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