

**SDG NARRATIVE****LAB NAME: Alliance Technical Group, LLC****CASE: 51870****SDG: H46Q9****CONTRACT: 68HERH20D0011****LAB CODE: ACE****LAB ORDER ID: P4804****MODIFICATION REF. NUMBER: NA**

Sample ID	EPA Sample ID	pH
P4804-01	H46Q9	1.0
P4804-02	H46R7	1.0
P4804-02DL	H46R7DL	1.0
P4804-03	H46R9	1.0
P4804-04	H46S0	1.0
P4804-04DL	H46S0DL	1.0
P4804-05	H46S2	1.0
P4804-05DL	H46S2DL	1.0
P4804-06	H46S5	1.0
P4804-06DL	H46S5DL	1.0
P4804-07	H46S9	1.0
P4804-07DL	H46S9DL	1.0
P4804-08	H46T0	1.0
P4804-08DL	H46T0DL	1.0
P4804-09	H46T1	1.0
P4804-09DL	H46T1DL	1.0
P4804-10	H46T8	1.0
P4804-10DL	H46T8DL	1.0
P4804-11	H46T9	1.0
P4804-11DL	H46T9DL	1.0
P4804-12	H46W0	1.0
P4804-13MS	H46W0MS	1.0
P4804-14MSD	H46W0MSD	1.0
P4804-15	H46W1	1.0
P4804-15DL	H46W1DL	1.0
P4804-16	H46W4	1.0
P4804-16DL	H46W4DL	1.0
P4804-18	H46T2	1.0

P4804-18DL	H46T2DL	1.0
P4804-19	H46T3	1.0
P4804-20	H46T4	1.0
P4804-20DL	H46T4DL	1.0
P4804-21	H46T5	1.0
P4804-21DL	H46T5DL	1.0
P4804-22	H46T6	1.0
P4804-22DL	H46T6DL	1.0
P4804-23	H46T7	1.0
P4804-23DL	H46T7DL	1.0

16 Water samples were delivered to the laboratory intact on 11/09/2024.

06 Water samples were delivered to the laboratory intact on 11/13/2024.

Test requested on the Chain of Custody was Trace volatile Organic by Method SFAM01.1.

The temperature of the samples was measured using an I R Gun. The samples temperature was 2.3 degree Celsius for the samples received on 11/09/2024. The samples temperature was 2.6 degree Celsius for the samples received on 11/13/2024.

#### **Shipping Discrepancies and/or QC issues:**

**LAB:** "Lab is sending this email with regards to case 51870 and H46Q9.

Lab has received water samples for TVOA analysis. Lab has analyzed samples H46T6, H46T5, H46T4, H46S0, H46S5, H46S6, H46T0, H46T1 are analyzed in a continuous analytical sequence for TVOA analysis. All samples are found positive with high concentration of target analytes and required dilution to bring target analytes within calibration range as you can see attached quant report for your reference. In this case, lab will report undiluted TVOA analysis without instrument blank in between the samples and further dilution in final electronic deliverables.

Lab has analyzed sample H46S0 and sample found positive with high concentration of target analytes. Sample required dilution as well and due to matrix interference, sample has internal standard recovery outside the QC limits therefore lab would like to confirm that lab will report undiluted TVOA analysis with internal standard failure and further dilution in final electronic deliverables.

Based on the samples analysis, Lab has analyzed sample H46T2 with dilution factor. However, sample found positive with high concentration of target analytes required further dilution as you can see attached quant report. In this case, Lab will report dilution analysis as first analysis and further dilution analysis in final electronic deliverables.

Please see attached.”

**REGION:** “The approach the laboratory is using for the issues below is acceptable to the Region.”

**ISSUE:** “Lab has received water samples for TVOA analysis. Lab has analyzed samples H46W4, H46R9, H46S2, H46T8, H46T9, H46W1 are analyzed in a continuous analytical sequence for TVOA analysis. All samples are found positive with high concentration of target analytes and required dilution to bring target analytes within calibration range as you can see attached quant report for your reference. In this case, lab will report undiluted TVOA analysis without instrument blank in between the samples and further dilution in final electronic deliverables.

Please see attached.”

**REGION:** “The approached covered below is acceptable to the Region.”

#### **Trace Volatiles:**

The analysis performed on instrument MSVOA\_V were done using GC column DB-624UI 20m 0.18mm 1.0 um. Cat#121-1324UI.

The analysis performed on instrument MSVOA\_U were done using GC column DB-624UI 20m 0.18mm 1.0 um. Cat#121-1324UI.

The analysis of VOC-SFAM was based on method SFAM01.1\_Trace.

The Surrogate recoveries met the acceptable criteria except for,

H46S5 [Toluene-d8 - 64%],

H46S9 [Toluene-d8 - 66%],

H46T1 [Toluene-d8 - 70%],

H46W1 [trans-1,3-Dichloropropene-d4 - 49%],

H46W4 [Toluene-d8 - 70%],

H46T7DL [Chloroethane-d5 - 59%],

As per method, up to three surrogates are allowed to fail. No corrective action was taken.

The Internal Standards Areas met the acceptable requirements except for H46S0.

Lab has analyzed sample H46S0 and sample found positive with high concentration of target analysts. Sample required dilution as well and due to matrix interference, sample has internal standard recovery outside the QC limits therefore lab reported undiluted TVOA analysis with internal standard failure and further dilution in final Hard Copy, Please see EPA communication after SDG Narrative.

Instrument Performance Check met requirements.

The Retention Times met requirements.

The Tuning criteria met requirements.

The MS {H46W0MS} recovery met the requirements for all compounds.

The MSD {H46W0MSD} recovery met the requirements for all compounds.

The RPD {H46W0MSD} RPD met the requirements for all compounds.

The %RSD met requirement for initial Calibration except for 1,1,2,2-Tetrachloroethane (20.9%) for the initial calibration dated 11/20/2024 with U instrument, As per method, the %RSD up to two Compounds are allowed to fail to meet the minimum criteria as long as the compound meets the maximum of 40% RSD. No further corrective action was taken.

The Continuing Calibration (VSTD005142) file ID VU061755.D met the requirements except for 1,1-Dichloroethene-d2 (-28.4%). As per method, up to two target analyte in opening and closing CCV are allowed to exceed the %D values. Therefore no further corrective action was taken.

The Continuing Calibration (VSTD005302) file ID VV038034.D met the requirements except for Methylcyclohexane (-31.7%). As per method, up to two target analyte in opening and closing CCV are allowed to exceed the %D values. Therefore no further corrective action was taken.

The Blank analysis did not indicate the presence of lab contamination.

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

Based on the samples analysis, Lab has analyzed sample H46T2 with dilution factor. However, sample found positive with high concentration of target analytes required further dilution, therefore Lab reported diluted analysis as first analysis and further dilution analysis in final Hard Copy, Please see EPA communication after SDG Narrative.

Samples H46R7, H46S0, H46S2, H46S5, H46S9, H46T0, H46T1, H46T8, H46T9, H46W1, H46W4, H46T2, H46T4, H46T5, H46T6 and H46T7 were diluted due to high concentrations.

The sample H46S0 was analyzed following the analysis of H46R7. Both samples had common hit of compound with concentration above calibration levels for cis-1,2-Dichloroethene, It was reanalyzed at a diluted. As per method, no instrument blank was required and not analyzed.

The sample H46S5 was analyzed following the analysis of H46S0. Both samples had common hit of compound with concentration above calibration levels for Vinyl chloride and cis-1,2-Dichloroethene, It was reanalyzed at a diluted. As per method, no instrument blank was required and not analyzed.

The Samples H46S5, H46S9, H46T0 and H46T1 were analyzed back to back in an continuous analytical sequence and samples found positive with high concentration of target analytes are detected and required dilution. However, instrument blanks were not analyzed in between them per SOW due to samples are analyzed in continuous analytical sequence, so Lab has reported both the analysis as undiluted analysis without instrument blanks and further dilution analysis. Please see EPA communication after SDG Narrative.

The sample H46W4 was analyzed following the analysis of H46T1. Both samples had common hit of compound with concentration above calibration levels for cis-1,2-Dichloroethene, It was reanalyzed at a diluted. As per method, no instrument blank was required and not analyzed.

The Samples H46S2, H46T8, H46T9 and H46W1 were analyzed back to back in an continuous analytical sequence and samples found positive with high concentration of target analytes are detected and required dilution. However, instrument blanks were not analyzed in between them per SOW due to samples are analyzed in continuous analytical sequence, so Lab has reported both the analysis as undiluted analysis without instrument blanks and further dilution analysis. Please see EPA communication after SDG Narrative.

The Samples H46T6, H46T5 and H46T4 were analyzed back to back in an continuous analytical sequence and samples found positive with high concentration of target analytes are detected and required dilution. However, instrument blanks were not analyzed in between them per SOW due to samples are analyzed in continuous analytical sequence, so Lab has reported both the analysis as undiluted analysis without instrument blanks and further dilution analysis. Please see EPA communication after SDG Narrative.

The sample H46Q9 was analyzed following the analysis of H46T4. Samples H46T4 had hit of compound Methyl tert-butyl Ether with concentration above calibration levels. Sample H46Q9 have not detected of the compound Methyl tert-butyl Ether. Therefore, as per method no instrument blank was required.

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

### Calculation:

#### Low/Med Water Level 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.

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 of **H46R7** for **Vinyl chloride**:

$$A_x = 29754$$

$$I_s = 125$$



$$\text{RRF} = 0.508$$

$$\text{DF} = 1$$

$$\text{Ais} = 186131$$

$$\text{Vo.} = 25$$

$$\text{Concentration in ug/L} = \frac{(29754)(125)(1)}{(186131)(0.508)(25)}$$

$$\text{Reported Result} = 1.57 \text{ ug/L}$$

$$\text{Final Reported Result} = 1.6 \text{ ug/L}$$

Relative Response Factor = **Dichlorodifluoromethane: RUN VV111224** for **0.5** ppb

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

$$\text{RRF} = \frac{15512}{275332} \times \frac{5.0}{0.5}$$

$$\text{RRF} = 0.563$$

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.