# SDG NARRATIVE

**LAB NAME: Alliance Technical Group, LLC**
**CASE: 51900**
**SDG: E2955**
**CONTRACT: 68HERH20D0011**
**LAB CODE: ACE**
**CHEMTECH PROJECT: Q1195**
**MODIFICATION REF. NUMBER: NA**

| Sample ID | EPA Sample ID | pH |
|---|---|---|
| Q1195-01 | E2948 | 1.0 |
| Q1195-02 | E2949 | 1.0 |
| Q1195-03 | E2955 | 1.0 |
| Q1195-04 | E2956 | 1.0 |
| Q1195-05 | E2957 | 1.0 |
| Q1195-06 | E2958 | 1.0 |
| Q1195-07 | E2959 | 1.0 |
| Q1195-08MS | E2959MS | 1.0 |
| Q1195-09MSD | E2959MSD | 1.0 |
| Q1195-10 | E2960 | 1.0 |
| Q1195-11 | E2961 | 1.0 |
| Q1195-12 | E2962 | 1.0 |
| Q1195-13 | E2963 | 1.0 |
| Q1195-13DL | E2963DL | 1.0 |
| Q1195-14 | E2965 | 1.0 |
| Q1195-14DL | E2965DL | 1.0 |
| Q1195-15 | E2966 | 1.0 |
| Q1195-15DL | E2966DL | 1.0 |
| Q1195-16 | E2967 | 1.0 |
| Q1195-17 | E2968 | 1.0 |
| Q1195-18 | E2969 | 1.0 |

18 Water samples were delivered to the laboratory intact on 01/27/2025.

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 1.8 degree Celsius for the samples received on 01/27/2025.

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

**Issue:-** "The Lab has received water samples for TVOA analysis where samples E2965 and E2966 were found with high concentration of target analytes and required dilutions. Due to possible matrix interference and high concentration, more than three surrogates are outside of QC limits. In this Case, the lab would like to confirm that the lab will report the sample E2965 and E2966 with surrogate failure, further dilution of the samples in final electronic deliverables. The Lab performed the analysis for the samples E2965 AND E2966 in continuous analytical sequence. where samples have high concentrations of target analytes and require dilution as well as you can review attached quant reports for the samples. Due to continuous analytical sequence, instrument blank was not analyzed in between the samples. There is no other lab QC failure for the associate samples. Therefore, the lab would like to confirm that the lab will report undiluted TVOA analysis without instrument blank in between the samples and further dilution analysis for final electronic deliverables."

**Resolution-**: ""*…report the sample E2965 and E2966 with surrogate failure, further dilution of the samples in final electronic deliverables."*

**Trace 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 analysis of VOC-SFAM was based on method SFAM01.1_Trace.
Holding Times were met requirement.

The Surrogate recoveries met the acceptable criteria Except for,
E2959MS [1,1,2,2-Tetrachloroethane-d2 - 121%, 2-Butanone-d5 - 137%],
E2959MSD [2-Butanone-d5 - 343%, 2-Hexanone-d5 - 302%, Chloroform-d - 128%, Toluene-d8 - 172%, trans-1,3-Dichloropropene-d4 - 170%],
E2962 [1,2-Dichlorobenzene-d4 - 73%, 1,2-Dichloroethane-d4 - 65%, Benzene-d6 - 65%],
E2965 [1,1,2,2-Tetrachloroethane-d2 - 136%, 1,2-Dichloroethane-d4 - 150%, 2-Butanone-d5 - 191%, 2-Hexanone-d5 - 259%, Toluene-d8 - 158%, trans-1,3-Dichloropropene-d4 - 157%, Vinyl Chloride-d3 - 192%],
E2966 [1,2-Dichloroethane-d4 - 130%, 1,2-Dichloropropane-d6 - 216%, Benzene-d6 - 195%, Toluene-d8 - 174%],
E2967 [Chloroethane-d5 - 158%, Vinyl Chloride-d3 - 145%],
E2969 [1,1,2,2-Tetrachloroethane-d2 - 121%, 2-Hexanone-d5 - 138%],
As per method, up to three surrogates are allowed to fail. No corrective action was taken.
E2959MS/MSD which is not required the corrective action for failing Surrogate recoveries in MS/MSD.
Lab has received water samples for TVOA analysis where samples E2965 and E2966 were found with high concentration of target analytes and required dilution, Due to possible matrix interference and high concentration, more than three surrogates are outside of QC limits.,therefor

lab Reported samples E2965 and E2966 with surrogate failure, further dilution of the samples in final Hard Copy, Please see EPA communication after SDG Narrative.

The Internal Standards Areas met the acceptable requirements.
Instrument Performance Check met requirements.
The Retention Times met requirements.
The Tuning criteria met requirements.

The MS {E2959MS} recovery met the requirements for all compounds.
The MSD {E2959MSD} recovery met the requirements for all compounds.
The MSD {E2959MSD} RPD met the requirements for all compounds.

The Initial Calibration met the requirements.

The Continuing Calibration (VSTD005125) file ID VU063083.D met the requirements except for Vinyl Chloride-d3 (-34.7%) and Benzene-d6 (-20.4%). 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 End Continuing Calibration (VSTD005126) file ID VU063093.D met the requirements except for Vinyl Chloride-d3 (-52.5%) .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.

Samples E2963, E2965 and E2966 were diluted due to high concentrations.

The sample E2965 was analyzed following the analysis of E2963. Samples E2963 had hit of compound Tetrachloroethene with concentration above calibration levels. Sample E2965 have not detected of the compound Tetrachloroethene. Therefore, as per method no instrument blank was required.

The Samples E2965 and E2966 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 E2967 was analyzed following the analysis of E2966. Samples E2966 had hit of compound Methyl Acetate, Toluene, m,p-Xylene and o-Xylene with concentration above calibration levels. Sample E2967 have not detected of the compound Methyl Acetate, Toluene, m,p-Xylene and o-Xylene. 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**

Concentration in ug/L = $\frac{(Ax)\ (Is)\ (DF)}{(Ais)\ (RRF)\ (Vo)}$

Where,
Ax = Area of the characteristic ion (EICP) for the compound to be measured.
Ais = 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.
Vo = Total volume of water purged, in mL.
DF = Dilution Factor

Example calculation of **E2963** for **Acetone**:

Ax= 16408
Is = 125
RRF= 0.034
DF= 1
Ais= 114854
Vo. = 25
Concentration in ug/L = $\frac{(16408)\ (125)\ (1)}{(114854)(0.034)(25)}$

Reported Result = 21.01 ug/L

Final Reported Result = 21 ug/L

Relative Response Factor = **Dichlorodifluoromethane**: RUN **VU012725** for **0.5** ppb

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

RRF= $\frac{4631}{103472}$ X $\frac{5.0}{0.5}$

RRF= 0.448

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.