SDG NARRATIVE

LAB NAME: Alliance Technical Group, LLC
CASE: 51943
SDG: C0B98
CONTRACT: 68HERH20D0011
LAB CODE: ACE
LAB ORDER ID: Q1084
MODIFICATION REF. NUMBER: NA

Sample ID	EPA Sample ID	Test	pH
Q1084-01	C0B98		1.0
Q1084-02	C0B99		1.0
Q1084-03	C0BA2		1.0
Q1084-04	C0BA3		1.0
Q1084-04DL	C0BA3DL	VOA	1.0
Q1084-05	C0BA4		1.0
Q1084-06	C0BA5		1.0

06 Water samples were delivered to the laboratory intact on 01/15/2025.

Test requested on the Chain of Custody was Trace Volatile Organic, Semivolatile Organic, and Semivolatile Organic SIM, by Method SFAM01.1.

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 01/15/2025, 3.1 degree Celsius for the samples received on 01/15/2025.

Shipping Discrepancies and/or QC issues:

Discrepancies with tags, jars, and/or COC

Issue 1: A 7-day TAT is scheduled for this Case, but the COC analysis key indicates a 14-day TAT.

Resolution 1: As per Region 3, please make note of the issue in the SDG Narrative and proceed with the analysis of the samples as scheduled (7-Day TAT).

Insufficient/inappropriate designation of laboratory QC

Issue 2: Laboratory QC is not scheduled for TVOA or 1,4-Dioxane for Case 51943, however the COC lists a QC sample for both TVOA and 1,4-Dioxane.

Resolution 2: As per SOW SFAM01.1 Exhibit A, Section 5.5.4.2, note the issue in the SDG Narrative and proceed with the analysis of the samples based on the scheduling instructions.

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

The initial Calibration criteria met requirements.

The Continuing Calibration (VSTD005102) file ID VU062756.D met the requirements except for Vinyl Chloride-d3 (-37.4%) and 1,1-Dichloroethene-d2 (-30.5%). 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 Continuing Calibration (VSTD005103) file ID VU062779.D met the requirements except for Vinyl Chloride-d3 (-36.4%) and 1,1-Dichloroethene-d2 (-26.1%). 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 (VSTD005104) file ID VU062803.D met the requirements except for 2-Butanone (-73.8%) and 2-Butanone-d5 (-69.4%). 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 Blank analysis did not indicate the presence of lab contamination.
The storage blank analysis did not indicate the presence of lab contamination.

Samples C0B99 was diluted due to bad matrix.

Sample C0BA3 was diluted due to high concentration.

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

Calculation:

Low/Med Water Level Calculation

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

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 **C0BA3** for **1,1-Dichloroethene**:

Ax= 41877
Is = 125
RRF= 0.310
DF= 1
Ais= 91666
Vo. = 25

$$\text{Concentration in ug/L} = \frac{(41877)\,(125)\,(1)}{(91666)(0.310)(25)}$$

Reported Result = 7.37 ug/L

Final Reported Result = 7.4 ug/L

Relative Response Factor = **Dichlorodifluoromethane**: RUN **VU010225** for **0.5** ppb

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

$$RRF = \frac{4870}{100728} \times \frac{5.0}{0.5}$$

RRF= 0.483

Semivolatiles:

The samples were analyzed on instrument BNA_P using GC Column ZB-GR Semi Volatiles Guardian which is 30 meters, 0.25 mm ID, 0.5 um df, Catalog # 7HG-G027-17-GGA.

Semis volatile Organic sample for water sample was extracted by Method SFAM01.1 on 01/15/2025, The analysis of SVOCMS Group4 was based on method SFAM01.1_SVOC. The Holding Times were met for all analysis.

The Surrogate recoveries met the acceptable except criteria.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The Blank Spike for {PB166062BS} recoveries met the requirements for all compounds.
The Blank analysis did not indicate the presence of lab contamination.
The Tuning criteria met the requirements.
The Initial Calibration met the requirements..
The Continuous Calibration met the requirements.

Concentration of Water Sample:

$$\text{Concentration ug/L} = \frac{(Ax)\,(Is)\,(Vt)\,(DF)\,(GPC)}{(Ais)\,(\overline{RRF})\,(Vo)\,(Vi)}$$

Where,
Ax = Area of the characteristic ion for the compound to be measured.
Ais = Area of the characteristic ion for the internal standard.
Is = Amount of internal standard injected in ng.
Vo = Volume of water extracted in mL.
Vi = Volume of extract injected in uL.
Vt = Volume of the concentrated extract in uL
RRF = Mean Relative Response Factor determined from the initial calibration standard.
GPC = $\frac{Vin}{}$ = GPC factor (If no GPC is performed, GPC=1)
Vout = Volume of extract collected after GPC cleanup.

Example calculation of C0B99 for 1,4-Dioxane:

Ax = 17644
Ais = 318086
Is = 20
DF = 1
Vo = 1000
Vi = 1
Vt = 1000
RRF = 0.574
GPC = 1

Concentration ug/L = $\frac{(17644)\ (20)\ (1000)\ (1)\ (1)}{(318086)\ (0.574)\ (1000)\ (1)}$

= 1.9 ug/L

RRF Calculation of standard 20 ppb for **1,4-Dioxane** with P instrument for method 01/14/2025.

RRF= Area of compound / Area of Internal Standard X Conc. of Internal Standard / Conc. of Compound

= 125580/513940 X 20/8

= 0.611 (Reported RRF)

Semivolatiles SIM:

The samples were analyzed on instrument BNA_N using GC Column ZB-GR Semi Volatiles Guardian which is 30 meters, 0.25 mm ID, 0.5 um df, Catalog # 7HG-G027-17-GGA.

Semis volatile Organic samples for Water were extracted by Method SFAM01.1 on 01/15/2025. The analysis of SVOCMS Group3 was based on method SFAM01.1_SIM.

The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The Blank Spike for {PB166063BS} recoveries met the requirements for all compounds.
The Blank analysis did not indicate the presence of lab contamination.
The Tuning criteria met requirements.
The Initial Calibration met the requirements.
The Continues Calibration met the requirements.

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

Concentration of Water Sample:

Concentration ug/L = $\frac{(Ax)\ (Is)\ (Vt)\ (DF)\ (GPC)}{(Ais)\ (\overline{RRF})\ (Vo)\ (Vi)}$

Where,

Ax = Area of the characteristic ion for the compound to be measured.
Ais = Area of the characteristic ion for the internal standard.
Is = Amount of internal standard injected in ng.
Vo = Volume of water extracted in mL.
Vi = Volume of extract injected in uL.
Vt = Volume of the concentrated extract in uL
RRF = Mean Relative Response Factor determined from the initial calibration standard.
GPC = Vin = GPC factor (If no GPC is performed, GPC=1)
Vout

Example calculation of **C0B99** for **1,4-Dioxane:**

Ax = 4411
Ais = 2504
Is = 0.4
DF = 1
Vo = 1000
Vi = 1
Vt = 1000
RRF = 0.439
GPC = 1

$$\text{Concentration ug/L} = \frac{(4411)\,(0.4)\,(1000)\,(1)\,(1)}{(2504)\,(0.439)\,(1000)\,(1)}$$

$$= 1.6 \text{ ug/L}$$

RRF Calculation of standard 0.4 ppb **1,4-Dioxane** with instrument N for method 12/31/2024.

RRF = Area of compound / X Conc. of Internal Standard /

Area of Internal Standard Conc. of Compound

= 747/1741 X 0.4/0.4

= 0.429 (Reported RRF)

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.