# SDG NARRATIVE

**LAB NAME: Alliance Technical Group, LLC**
**CASE: 51828**
**SDG:  C0AE4**
**CONTRACT: 68HERH20D0011**
**LAB CODE: ACE**
**LAB ORDER ID: P4717**
**MODIFICATION REF. NUMBER: NA**

| Sample ID | EPA Sample ID | pH |
|-----------|---------------|-----|
| P4717-01 | C0AE4 | |
| P4717-02 | C0AE5 | |
| P4717-03 | C0AE6 | |
| P4717-04 | C0AE7 | |
| P4717-05 | C0AE8 | |
| P4717-06 | C0AE9 | |
| P4717-07 | C0AF0 | |
| P4717-08 | C0AF1 | |
| P4717-09 | C0AF2 | |
| P4717-10 | C0AF3 | |

10 Water samples were delivered to the laboratory intact on 11/05/2024.

Test requested on the Chain of Custody was 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 3.4, 5.2 degree Celsius for the samples received on 11/05/2024.

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

Issue 1: Sample C0AF3 is listed on the COC as a laboratory QC sample, but laboratory QC is not scheduled for this Case.

Resolution 1: Per Region 3, the laboratory will note the issue in the SDG Narrative and proceed without laboratory QC as scheduled.

Issue 2: Sample C0AF3 was received with two ambers broken. There is no evidence of cross contamination and there is sufficient volume for analysis.

Resolution 2: Per SFAM0.1.1 Exhibit A, Section 5.4.2, the laboratory will note the issue in the

SDG Narrative and proceed with the analysis of the samples.

**Semivolatiles:**

The samples were analyzed on instrument BNA_G 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.

The samples were analyzed on instrument BNA_M 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.

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 11/05/2024 and 11/06/2024, 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 {PB164734BS} recoveries met the requirements for all compounds.
The Blank Spike for {PB164736BS} recoveries met the requirements for all compounds.
The Blank Spike for {PB164740BS} 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 = $\underline{Vin}$ = GPC factor (If no GPC is performed, GPC=1)
Vout = Volume of extract collected after GPC cleanup.

**Example calculation of C0AE4 for 1,4-Dioxane:**

Ax = 4821
Ais = 124255
Is = 20
DF = 1
Vo = 1000
Vi = 1
Vt = 1000
RRF = 0.545
GPC = 1

$$\text{Concentration ug/L} = \frac{(4821)\ (20)\ (1000)\ (1)\ (1)}{(124255)\ (0.545)\ (1000)\ (1)}$$

$$= 1.4\ \text{ug/L}$$

RRF Calculation of standard 20 ppb for **1,4-Dioxane** with G instrument for method 11/06/2024.

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

   = 13189/53454 X 20/8

   = 0.617 (Reported RRF)

**Semivolatiles SIM:**

The samples were analyzed on instrument BNA_M  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.

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 sample for Water sample was extracted by Method SFAM01.1 on 11/05/2024 and 11/06/2024. The analysis of SVOCMS Group3 was based on method SFAM01.1_SVOC.

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 {PB164735BS} recoveries met the requirements for all compounds.

The Blank Spike for {PB164737BS} recoveries met the requirements for all compounds.
The Blank Spike for {PB164741BS} 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 requirements.
The Continuous Calibration met requirements.

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

**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 = $\frac{Vin}{Vout}$ = GPC factor (If no GPC is performed, GPC=1)

**Example calculation of C0AE4 for 1,4-Dioxane:**

Ax = 4035
Ais = 3212
Is = 0.4
DF = 1
Vo = 1000
Vi = 1
Vt = 1000
RRF = 0.417
GPC = 1

$$\text{Concentration ug/L} = \frac{(4035)\ (0.4)\ (1000)\ (1)\ (1)}{(3212)\ (0.417)\ (1000)\ (1)}$$

$$= 1.2\ \text{ug/L}$$

RRF Calculation of standard 0.4 ppb for **1,4-dioxane** with M instrument for method 11/06/2024.

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

$$= 2152/3648 \text{ X } 0.4/0.4$$

$$= 0.590 \text{ (Reported RRF)}$$

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.