# SDG NARRATIVE

**LAB NAME: Alliance Technical Group, LLC**
**CASE: 51951**
**SDG: A44T8**
**CONTRACT: 68HERH20D0011**
**LAB CODE: ACE**
**LAB ORDER ID: Q1192**
**MODIFICATION REF. NUMBER: NA**

| Sample ID | EPA Sample ID | Test | pH |
|---|---|---|---|
| Q1192-01 | A44T8 | | 1.0 |
| Q1192-02MS | A44T8MS | | 1.0 |
| Q1192-03MSD | A44T8MSD | | 1.0 |
| Q1192-04 | A44T9 | | 1.0 |
| Q1192-05 | A44W0 | | 1.0 |
| Q1192-06 | A44W1 | | 1.0 |
| Q1192-07 | A44W2 | | 1.0 |
| Q1192-08 | A44W3 | | 1.0 |
| Q1192-09 | A44W9 | | 1.0 |
| Q1192-11 | A44X6 | | |
| Q1192-11DL | A44X6DL | TVOA | |
| Q1192-12 | A44X7 | | |
| Q1192-12DL | A44X7DL | SVOA | |

11 Water samples were delivered to the laboratory intact on 01/25/2025.

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

The temperature of the samples was measured using an I R Gun. The samples temperature was 1.3 degree Celsius for the samples received on 01/25/2025.

**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,
A44W3 [1,1,2,2-Tetrachloroethane-d2 - 126%, 2-Hexanone-d5 - 132%],
As per method, up to three surrogates are allowed to fail. No corrective action was taken.

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 {A44T8MS} recovery met the requirements for all compounds.
The MSD {A44T8MSD} recovery met the requirements for all compounds.
The MSD {A44T8MSD} RPD met the requirements for all compounds.
The Initial Calibration met the requirements.
The Continuing Calibration met the requirements.
The Blank analysis did not indicate the presence of lab contamination.
The storage blank analysis did not indicate the presence of lab contamination.

Sample A44X6 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 **A44T9** for **Acetone**:

Ax= 9618
Is = 125
RRF= 0.034
DF= 1
Ais= 107998
Vo. = 25

Concentration in ug/L = $\frac{(9618)\,(125)\,(1)}{(107998)(0.034)(25)}$

Reported Result = 13.1 ug/L

Final Reported Result = 13 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

**Semivolatiles:**

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.

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 01/29/2025, The analysis of SVOC-SFAM 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 MS {A44T8MS} recovery met the requirements for all compounds.
The MSD {A44T8MSD} recovery met the requirements for all compounds.
The MSD {A44T8MSD} RPD met the requirements for all compounds.
The Blank Spike for {PB166340BS} recoveries met the requirements for all compounds.
The Blank Spike for {PB166341BS} 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.

Samples A44X7 was diluted due to high concentrations.

**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 = Volume of extract collected after GPC cleanup.

**Example calculation of A44X7 for Naphthalene:**

Ax = 12873711
Ais = 1850431
Is = 20
DF = 1
Vo = 1000
Vi = 1
Vt = 1000
RRF = 1.071
GPC = 1

Concentration ug/L = $\frac{(12873711)\,(20)\,(1000)\,(1)\,(1)}{(1850431)\,(1.071)\,(1000)\,(1)}$

= 130 ug/L

RRF Calculation of standard 20 ppb for **Naphthalene** with N instrument for method 01/30/2025.

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

= 461206/396712 X 20/20

= 1.163 (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.