



SDG NARRATIVE

LAB NAME: Alliance Technical Group, LLC

CASE: 51860

SDG: YE692

CONTRACT: 68HERH20D0011

LAB CODE: ACE

LAB ORDER ID: P5379

MODIFICATION REF. NUMBER: NA

Sample ID	EPA Sample ID	pH
P5379-01	YE692	1.0
P5379-02	YE694	1.0

02 Water samples were delivered to the laboratory intact on 12/20/2024.

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

The temperature of the samples was measured using an I R Gun. The samples temperature was 1.9 degree Celsius for the samples received on 12/20/2024.

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 (VSTD005087) file ID VU062588.D met the requirements except for Dibromochloromethane (23.2%). 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.

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_x = Area of the characteristic ion (EICP) for the compound to be measured.

A_{is} = 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_o = Total volume of water purged, in mL.

DF = Dilution Factor

No positive target compounds were detected in the samples.

Relative Response Factor = **Dichlorodifluoromethane: RUN VU120924** for **0.5** ppb

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

$$RRF = \frac{5191}{109257} \times \frac{5.0}{0.5}$$

$$RRF = 0.475$$

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.

Semis volatile Organic sample for water sample was extracted by Method SFAM01.1 on 12/23/2024, 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 {PB165811BS} 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:

$$\text{Concentration ug/L} = \frac{(A_x) (I_s) (V_t) (DF) (GPC)}{(A_{is}) (\overline{RRF}) (V_o) (V_i)}$$

Where,

- A_x = Area of the characteristic ion for the compound to be measured.
- A_{is} = Area of the characteristic ion for the internal standard.
- I_s = Amount of internal standard injected in ng.
- V_o = Volume of water extracted in mL.
- V_i = Volume of extract injected in uL.
- V_t = Volume of the concentrated extract in uL
- RRF = Mean Relative Response Factor determined from the initial calibration standard.
- GPC = $\frac{V_{in}}{V_{out}}$ = GPC factor (If no GPC is performed, GPC=1)
- V_{out} = Volume of extract collected after GPC cleanup.

No positive target compounds were detected in the samples.

RRF Calculation of standard 20 ppb for **1,4-Dioxane** with G instrument for method 12/11/2024.

$$\begin{aligned} \text{RRF} &= \frac{\text{Area of compound}}{\text{Area of Internal Standard}} \times \frac{\text{Conc. of Internal Standard}}{\text{Conc. of Compound}} \\ &= 36937/134078 \times 20/8 \\ &= 0.689 \text{ (Reported RRF)} \end{aligned}$$

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.

Semis volatile Organic sample for Water sample was extracted by Method SFAM01.1 on 12/23/2024. 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 {PB165813BS} 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:

$$\text{Concentration ug/L} = \frac{(A_x) (I_s) (V_t) (DF) (GPC)}{(A_{is}) (\overline{RRF}) (V_o) (V_i)}$$

Where,

A_x = Area of the characteristic ion for the compound to be measured.

A_{is} = Area of the characteristic ion for the internal standard.

I_s = Amount of internal standard injected in ng.

V_o = Volume of water extracted in mL.

V_i = Volume of extract injected in uL.

V_t = Volume of the concentrated extract in uL

RRF = Mean Relative Response Factor determined from the initial calibration standard.

GPC = $\frac{V_{in}}{V_{out}}$ = GPC factor (If no GPC is performed, GPC=1)

No positive target compounds were detected in the samples.

RRF Calculation of standard 0.4 ppb for **1,4-Dioxane** with M instrument for method 12/18/2024.

$$\begin{aligned} \text{RRF} &= \frac{\text{Area of compound}}{\text{Area of Internal Standard}} \times \frac{\text{Conc. of Internal Standard}}{\text{Conc. of Compound}} \\ &= 3185/4849 \times 0.4/0.4 \\ &= 0.657 \text{ (Reported RRF)} \end{aligned}$$

Aroclors:

The analyses were performed on instrument GCECD_R. The front column is ZB-MR1 which is 30 meters, 0.32 mm ID, 0.5 um df, Catalogue # 7HM-G016-17. The rear column is ZB-MR2 which is 30 meters, 0.32 mm ID, 0.25 µm; Catalogue # 7HM-G017-11.



The sample was analyzed on a single injection dual column system. To distinguish the second column analysis from the first column a -2 suffix was added to the file id on the form 1. These refer to forms where both columns are reported. Form 1s for the IBLK and ALCS are referenced as IBLK(1)/IBLK(2) and ALCS01(1)/ALCS01(2) respectively.

Aroclor sample was extracted by Method SFAM01.1 on 12/23/2024 and analyzed on 12/23/2024. All the samples were subjected to a Sulfuric acid cleanup. The sample was extracted and analyzed within contractual holding time.

- The Surrogate recoveries met the acceptable criteria.
- The Laboratory Control Sample met requirements.
- The Blank analysis did not indicate the presence of lab contamination.
- The Initial Calibration met the requirements.
- The Continuing Calibrations met the requirements.
- The Retention Times were acceptable for all samples.

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

Calculation for Concentration in Water Samples:

$$\text{Concentration ug/L} = \frac{(Ax) (Vt) (DF) (GPC)}{(CF) (Vo) (Vi)}$$

- Where,
- Ax = Response (peak area or height) of the compound to be measured.
- CF = Mean Calibration Factor from the initial calibration (area/ng).
- Vo = Volume of water extracted in mL.
- Vi = Volume of extract injected in uL.
- Vt = Volume of the concentrated extract in uL
- GPC = $\frac{V_{in}}{V_{out}}$ = GPC factor (If no GPC is performed, GPC=1)
- Vin = Volume of extract loaded onto GPC column.
- Vout = Volume of extract collected after GPC cleanup.
- DF = Dilution Factor.

Example of AR1260 calculation for Peak 1

$$\begin{aligned} \text{Calibration factor Peak 1 100ppb ISTD=} & \frac{\text{peak area}}{\text{Mass injected ng}} \\ \text{Column 1} & \\ & = \frac{4701417}{0.100} \end{aligned}$$



= 47014170 calibration factor for Peak 1 100ppb

Average of 5 peaks = 40163217

No target Aroclors were detected in the samples.

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.