



SDG NARRATIVE

LAB NAME: Alliance Technical Group, LLC

CASE: 51716

SDG: C0PI1

CONTRACT: 68HERH20D0011

LAB CODE: ACE

LAB ORDER ID: P4583

MODIFICATION REF. NUMBER: NA

Sample ID	EPA Sample ID	pH
P4583-01	C0PI5	
P4583-02	C0PI1	

02 Water samples were delivered to the laboratory intact on 10/26/2024.

Test requested on the Chain of Custody was Semi volatile Organic, Semi volatile Organic-SIM and Pesticide by Method SFAM01.1.

The temperature of the samples was measured using an I R Gun. The samples temperature was 2.1, 2.0 degree Celsius for the samples received on 10/26/2024.

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 10/29/2024, 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 except criteria.

The Internal Standards Areas met the acceptable requirements.

The Retention Times were acceptable for all samples.

The Blank Spike for {PB164516BS} 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 (SSTD020692) with File ID BP022768.D met the requirements except for Hexachlorocyclopentadiene (-41.2%), under this Continuous Calibration none of the samples were analyzed, therefore no further corrective action was required.

Concentration of Water Sample:

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

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 Naphthalene with P instrument for method 10/07/2024.

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

$$= 326983/315808 \times 20/20$$

$$= 1.035 \text{ (Reported RRF)}$$

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.

Semis volatile Organic sample for Water sample was extracted by Method SFAM01.1 on 10/29/2024. The analysis of SVOC-SIM-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 Blank Spike for {PB164517BS} 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

\overline{RRF} = Mean Relative Response Factor determined from the initial calibration standard.

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

Example calculation of C0PI1 for Naphthalene:

$$A_x = 851$$

$$A_{is} = 12949$$

$$I_s = 0.4$$

$$DF = 1$$

$$V_o = 990$$

$$V_i = 1$$

$$V_t = 1000$$

$$RRF = 1.045$$

$$GPC = 1$$

$$\text{Concentration ug/L} = \frac{(851) (0.4) (1000) (1) (1)}{(12949) (1.045) (990) (1)}$$

$$= 0.030 \text{ ug/L}$$

RRF Calculation of standard 0.4 ppb for **Naphthalene** with M instrument for method 10/31/2024.

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

$$= 11982/11544 \times 0.4/0.4$$

= 1.038 (Reported RRF)

Pesticides:

The analyses for Pesticides were performed on instrument ECD_D. The front column is ZB-Multi-Residue-2 which is 30 meters, 0.32 mm ID, 0.2 um df. The rear column ZB-Multi-Residue-1 which is 30 meters, 0.32 mm ID, 0.50 um df.

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 PLCS are referenced as IBLK(1)/IBLK(2) and PLCS01(1) / PLCS01(2) respectively.

Pesticide sample was extracted by method SFAM01.1 on 10/29/2024 and analyzed on 10/29/2024. The sample was extracted and analyzed within contractual holding time.

The Surrogate recoveries met the acceptable criteria.

The Blank analysis did not indicate the presence of lab contamination.

Blank and Laboratory Control Sample met the requirements.

Retention Times met the requirements.

Florisil check met the requirements.

Resolution Check met the requirements.

The Retention Times were acceptable for all samples.

The Initial Calibration met the requirements.

The Individual Mix A met the requirements.

The Individual Mix B met the requirements.

The PEM met the requirement.

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

Calculation for the Concentration in Water Samples

$$\text{Concentration ug/L} = \frac{(A_x) (V_t) (DF) (GPC)}{(CF) (V_o) (V_i)}$$

Where,

A_x = Response (peak area or height) of the compound to be measured.

CF = Mean Calibration Factor from the initial calibration (area/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

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

V_{in} = Volume of extract loaded onto GPC column.

V_{out} = Volume of extract collected after GPC cleanup.

Example of Endosulfan I calculation

Calibration Factor Calculation Endosulfan I in the first column

Calibration factor (CF) = $\frac{\text{peak area}}{\text{Mass injected in ng}}$

$$= \frac{9516108}{5\text{ng}}$$

$$= 1903220$$

Mean Calibration Factor = average of 5 point calibration factor

$$= 2025530$$

No target **Pesticides** 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.