



## SDG NARRATIVE

**LAB NAME:** Alliance Technical Group, LLC

**CASE:** 51830

**SDG:** F7H01

**CONTRACT:** 68HERH20D0011

**LAB CODE:** ACE

**LAB ORDER ID:** P4592

**MODIFICATION REF. NUMBER:** NA

Sample ID	EPA Sample ID	Test	pH
P4592-01	F7H01		
P4592-02	F7H02		
P4592-03	F7H03		
P4592-04	F7H04		
P4592-04DL	F7H04DL	SVOA_SIM	
P4592-05	F7H05		
P4592-06	F7H06		
P4592-07	F7H07		
P4592-08	F7H08		
P4592-09	F7H09		
P4592-10	F7H18		
P4592-11	F7H19		
P4592-12	F7H20		
P4592-13	F7H51		

12 Soil samples were delivered to the laboratory intact on 10/28/2024.

01 Water sample was delivered to the laboratory intact on 10/28/2024.

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

The temperature of the samples was measured using an I R Gun. The samples temperature was 2.2 degree Celsius for the samples received on 10/28/2024.

### **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 for water sample was extracted by Method SFAM01.1 on 10/29/2024 and for soil sample was extracted by Method SFAM01.1 on 10/29/2024, The analysis of SVO-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 {PB164506BS} recoveries met the requirements for all compounds.

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<sub>x</sub> = Area of the characteristic ion for the compound to be measured.

A<sub>is</sub> = Area of the characteristic ion for the internal standard.

I<sub>s</sub> = Amount of internal standard injected in ng.

V<sub>o</sub> = Volume of water extracted in mL.

V<sub>i</sub> = Volume of extract injected in uL.

V<sub>t</sub> = 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<sub>out</sub> = Volume of extract collected after GPC cleanup.

### Concentration of SOIL Sample:

Concentration ug/Kg,

$$(\text{dry weight basis}) = \frac{(A_x) (I_s) (V_t) (DF) (GPC)}{(A_{is}) (RRF) (V_i) (W_t) (D)}$$

Where,

A<sub>x</sub> = Area of the characteristic ion for the compound to be measured.

A<sub>is</sub> = Area of the characteristic ion for the internal standard.

I<sub>s</sub> = Amount of internal standard injected in ng.

V<sub>i</sub> = Volume of extract injected in microliters (uL)

V<sub>t</sub> = Volume of concentrated extract in microliters (uL)

W<sub>t</sub> = Weight of the original sample extracted in g

D<sub>f</sub> = Dilution factor

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

GPC = V<sub>in</sub> = GPC factor (If no GPC is performed, GPC=1)

V<sub>out</sub> = Volume of extract collected after GPC cleanup.

D = 100 - %moisture

$$\frac{\text{-----}}{100}$$

#### Example calculation of F7H04 for Naphthalene:

A<sub>x</sub> = 83162

A<sub>is</sub> = 342986

I<sub>s</sub> = 20

V<sub>i</sub> = 1

V<sub>t</sub> = 500

W<sub>t</sub> = 30.1

D<sub>f</sub> = 1

RRF = 1.065

GPC = 2

D = 0.874

Concentration

$$(\text{dry weight basis}) \text{ ug/Kg} = \frac{(83162) (20) (500) (1) (2)}{(342986) (1.065) (1) (30.1) (0.874)}$$

$$= 170 \text{ ug/Kg}$$

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 and for Soil 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 {PB164507BS} recoveries met the requirements for all compounds.

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.

Samples F7H04 was diluted due to high concentrations.

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<sub>x</sub> = Area of the characteristic ion for the compound to be measured.

A<sub>is</sub> = Area of the characteristic ion for the internal standard.

I<sub>s</sub> = Amount of internal standard injected in ng.

V<sub>o</sub> = Volume of water extracted in mL.

V<sub>i</sub> = Volume of extract injected in uL.

V<sub>t</sub> = 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)

### Concentration of SOIL Sample:

Concentration ug/Kg,

$$(\text{dry weight basis}) = \frac{(A_x) (I_s) (V_t) (DF) (GPC)}{(A_{is}) (RRF) (V_i) (W_t) (D)}$$

Where,

A<sub>x</sub> = Area of the characteristic ion for the compound to be measured.

A<sub>is</sub> = Area of the characteristic ion for the internal standard.

I<sub>s</sub> = Amount of internal standard injected in ng.

V<sub>i</sub> = Volume of extract injected in microliters (uL)

V<sub>t</sub> = Volume of concentrated extract in microliters (uL)

W<sub>t</sub> = Weight of the original sample extracted in g

D<sub>f</sub> = Dilution factor

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<sub>out</sub> = Volume of extract collected after GPC cleanup.

$$D = \frac{100 - \% \text{moisture}}{100}$$

### Example calculation of F7H04 for Pyrene:

$$A_x = 1752701$$

$$A_{is} = 16878$$

$$I_s = 0.4$$

$$V_i = 1$$

$$V_t = 500$$

$$W_t = 30.1$$

$$D_f = 1$$

$$RRF = 1.480$$

$$GPC = 2$$

$$D = 0.874$$

Concentration

$$(\text{dry weight basis}) \text{ ug/Kg} = \frac{(1752701) (0.4) (500) (1) (2)}{(16878) (1.480) (1) (30.1) (0.874)}$$

$$= 1100 \text{ ug/Kg}$$



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

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

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

$$= 1.038 \text{ (Reported RRF)}$$

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.