

**SDG NARRATIVE****LAB NAME: Alliance Technical Group, LLC****CASE: 51736****SDG: A4E96****CONTRACT: 68HERH20D0011****LAB CODE: ACE****LAB ORDER ID: P4436****MODIFICATION REF. NUMBER: NA**

Sample ID	EPA Sample ID	Test	pH
P4436-01	A4E96		
P4436-01DL	A4E96DL	VOA	
P4436-02	A4E97		
P4436-02DL	A4E97DL	SVOA	
P4436-04	A4F46		
P4436-05	A4F47		
P4436-06	A4F48		
P4436-07	A4F49		
P4436-08	A4F52		
P4436-09	A4F53		
P4436-10	A4FE9		5.0
P4436-12	A4F36		
P4436-13	A4F37		
P4436-14	A4F38		
P4436-15	A4F39		
P4436-16	A4F40		
P4436-17MS	A4F40MS		
P4436-18MSD	A4F40MSD		
P4436-19	A4F41		
P4436-20	A4FF0		5.0

02 Soil samples were delivered to the laboratory intact on 10/18/2024.

06 Soil samples were delivered to the laboratory intact on 10/22/2024.

01 Water sample was delivered to the laboratory intact on 10/22/2024.

08 Soil samples were delivered to the laboratory intact on 10/23/2024.

01 Water sample was delivered to the laboratory intact on 10/23/2024.

Test requested on the Chain of Custody was 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 2.1 degree Celsius for the samples received on 10/18/2024, 5.9 degree Celsius for the samples received on 10/22/2024, 2.7 degree Celsius for the samples received on 10/23/2024.

Discrepancies with tags, jars, and/or COC

Issue 01: “Lab has received trip blank samples without any preservation therefore, Lab would like to confirm that these trip blanks have pH more than 2 due to samples were not preserved.”

Resolution 01: “Confirmed. Please have the lab proceed with analysis of these trip blanks.”

Low Volatiles:

The analysis performed on instrument MSVOA_U were done using GC column RXI-624SIL MS 30m 0.18mm 1.4 um. Cat#13868.

The analysis performed on instrument MSVOA_W were done using GC column RXI-624SIL MS 30m 0.18mm 1.4 um. Cat#13868.

The analysis performed on instrument MSVOA_X were done using GC column RXI-624SIL MS 30m 0.18mm 1.4 um. Cat#13868.

The analysis of VOC-SFAM was based on method SFAM01.1_LOW.

The Holding Times were met for all analysis.

The Surrogate recoveries met the acceptable criteria except for

A4E96 [1,2-Dichlorobenzene-d4 - 74%],

A4E96DL [1,1,2,2-Tetrachloroethane-d2 - 122%],

A4F46 [1,1-Dichloroethene-d2 - 42%, 1,2-Dichlorobenzene-d4 - 75%],

A4F47 [1,1-Dichloroethene-d2 - 44%, 1,2-Dichlorobenzene-d4 - 72%],

A4F49 [1,1-Dichloroethene-d2 - 41%, 1,2-Dichlorobenzene-d4 - 74%],

A4F52 [1,1-Dichloroethene-d2 - 41%],

A4F36 [1,1-Dichloroethene-d2 - 42%],

A4F37 [2-Hexanone-d5 - 141%] and

A4FF0 [1,1-Dichloroethene-d2 - 40%, Chloroethane-d5 - 46%].

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 were met for all samples.

The Tuning criteria met requirements.

The MS {A4F40MS} recovery met the requirements for all compounds.

The MSD {A4F40MSD} recovery met the requirements for all compounds.

The RPD {A4F40MSD} RPD met the requirements for all compounds.

The Initial Calibration met the requirements.

The Continuing Calibration (VSTD025533) file ID VW030717.D met the requirements except for 1,1-Dichloroethene-d2 (-28.7%). 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 did not indicate the presence of lab contamination.

Sample A4E96 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

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

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

Low/Med Level Soil/Sediment Calculation

$$\text{Concentration in ug/Kg dry Weight basis) = } \frac{(A_x)(I_s)(Df)}{(A_{is})(RRF)(W_s)(D)}$$

Where,

A_x = Area for the compound to be measured

A_{is} = Area for the specific internal standard

I_s = Amount of internal standard added in Nano grams (ng)

RRF = Relative response factor of the calibration standard.

Df = Dilution factor

W_s = Weight of sample



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

Example Calculation for sample: **A4E96** for **Methylene chloride**:

$$A_x = 332320$$

$$I_s = 250$$

$$RRF = 0.378$$

$$DF = 1$$

$$A_{is} = 257832$$

$$W_s = 5.00$$

$$D = 1$$

$$\text{Concentration in ug/KG} = \frac{(332320) (250) (1)}{(257832) (0.378) (5.00) (1)}$$

$$= 170.48 \text{ ug/Kg}$$

Final Reported Results = 170 ug/Kg

Relative Response Factor = **Dichlorodifluoromethane**: RUN **VW100924** for **2.5** ppb

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

$$RRF = \frac{11869}{356470} \times \frac{25}{2.5}$$

$$RRF = 0.333$$

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 soil sample was extracted by Method SFAM01.1 on 10/23/2024, 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 criteria.

The Internal Standards Areas met the acceptable requirements.

The Retention Times were acceptable for all samples.

The MS {A4F40MS} recovery met the requirements for all compounds.

The MSD {A4F40MSD} recovery met the requirements for all compounds.

The RPD {A4F40MSD} RPD met the requirements for all compounds
The Blank Spike for {PB164359BS} 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.

Sample A4E97 was diluted due to high concentration.

The Sample A4F37, A4F46, A4F48, A4F52 and A4F53 have the concentration of target compound below method detection limits; therefore it is not reported as Hit in Form1.

Concentration of SOIL Sample:

Concentration ug/Kg,

$$(\text{dry weight basis}) = \frac{(A_x) (I_s) (V_t) (D_F) (G_P C)}{(A_{is}) (R_R F) (V_i) (W_t) (D)}$$

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_i = Volume of extract injected in microliters (uL)

V_t = Volume of concentrated extract in microliters (uL)

W_t = Weight of the original sample extracted in g

D_f = Dilution factor

$R_R F$ = Mean Relative Response Factor determined from the initial calibration standard.

$G_P C = V_{in} = G_P C$ factor (If no GPC is performed, $G_P C=1$)

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

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

Example calculation of A4E97 for Phenol:

$$A_x = 240592$$

$$A_{is} = 91448$$

$$I_s = 20$$

$$V_i = 1$$

$$V_t = 500$$

$$W_t = 30.0$$

$$D_f = 1$$

$$R_R F = 1.752$$



GPC = 2

D= 1

Concentration

$$\text{(dry weight basis) ug/Kg} = \frac{(240592) (20) (500) (1) (2)}{(91448) (1.752) (1) (30.0) (1)}$$

$$= 1000 \text{ ug/Kg}$$

RRF Calculation of standard 20 ppb for Naphthalene with P instrument for method 10/07/2024.

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

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

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

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.