SDG NARRATIVE

LAB NAME: Alliance Technical Group, LLC
CASE: 51952
SDG: A6302
CONTRACT: 68HERH20D0011
LAB CODE: ACE
CHEMTECH PROJECT: Q1224
MODIFICATION REF. NUMBER: NA

Sample ID	EPA Sample ID	Test
Q1224-01	A6301	
Q1224-02	A6302	
Q1224-02DL	A6302DL	SVOC-SIM
Q1224-03	A6303	
Q1224-04	A6304	
Q1224-04DL	A6304DL	SVOC-SIM
Q1224-05	A6305	
Q1224-05DL	A6305DL	SVOC-SIM
Q1224-06MS	A6305MS	
Q1224-07MSD	A6305MSD	
Q1224-08	A6306	
Q1224-08DL	A6306DL	SVOC-SIM
Q1224-09	A6307	
Q1224-09DL	A6307DL	SVOC-SIM
Q1224-10	A6308	
Q1224-10DL	A6308DL	SVOC-SIM
Q1224-11	A6309	
Q1224-11DL	A6309DL	SVOC-SIM
Q1224-12	A6310	
Q1224-13	A6320	
Q1224-14	A6321	
Q1224-15	A6322	
Q1224-16	A6323	
Q1224-17	A6324	

16 Soil samples were delivered to the laboratory intact on 01/30/2025 and 1 water sample were delivered to the laboratory intact on 01/30/2025.

The 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 2.3 and 2.4 degrees Celsius for the samples received on 01/30/2025.

Shipping Discrepancies and/or QC issues:

Issue 1: The laboratory received sediment samples on 1/30/2025. The laboratory began SVOA analysis upon receipt and found that Samples A6301, A6302, A6305, A6307, A6322, A6323, and A6324 contain less than 30% solids. Because PRs are scheduled, the laboratory proceeded with analysis using 30g of sample volume. Please note that the samples do not have any standing water, and the sample matrix is very light textured soil. Please confirm that the laboratory should proceed with reporting the results for these samples.

Resolution 1: Per Region 1, the laboratory should proceed with reporting the results for these samples. Please note the issue in the SDG narrative and proceed with analysis of the samples.

Issue 2: Lab has received soil samples for SVOA-PAH full scan and SIM-PAH analysis. Lab has analyzed undiluted SIM-PAH analysis for the samples A6302 & A6309. Samples found positive with high concentrations of target analytes and required dilution to bring target analytes within calibration range. Due to matrix interference, samples have one of the surrogates recovery biased low as you can see attached forms for your reference. In this case, Lab will report undiluted SIM-PAH analysis with surrogate failure and further dilution for final electronic deliverables.

Resolution 2: This issue is notified to EPA region.

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 01/31/2025, for soil sample was extracted by Method SFAM01.1 on 01/30/2025, The analysis of SVO-PAH-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 {A6305MS} recovery met the requirements for all compounds.
The MSD {A6305MSD} recovery met the requirements for all compounds.

The MSD {A6305MSD} RPD met the requirements for all compounds.
The Blank Spike for {PB166390BS} recoveries met the requirements for all compounds.
The Blank Spike for {PB166453BS} 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.

The Sample A6303, A6304 and A6306 have the concentration of target compound below method detection limits; therefore, it is not reported as Hit in Form1.

Concentration of Water Sample:

$$\text{Concentration ug/L} = \frac{(Ax)\,(Is)\,(Vt)\,(DF)\,(GPC)}{(Ais)\,(\overline{RRF})\,(Vo)\,(Vi)}$$

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 = $\frac{Vin}{}$ = GPC factor (If no GPC is performed, GPC=1)
Vout = Volume of extract collected after GPC cleanup.

Concentration of SOIL Sample:

Concentration ug/Kg,

$$\text{(dry weight basis)} = \frac{(Ax)\,(Is)\,(Vt)\,(DF)\,(GPC)}{(Ais)\,(RRF)\,(Vi)\,(Wt)\,(D)}$$

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.
Vi = Volume of extract injected in microliters (uL)
Vt = Volume of concentrated extract in microliters (uL)
Wt = Weight of the original sample extracted in g
Df = Dilution factor
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.

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

Example calculation of A6302 for Pyrene:

Ax = 383162
Ais = 2320240
Is = 20
Vi = 1
Vt = 500
Wt = 30.1
Df = 1
RRF = 1.291
GPC = 2
D= 0.238

Concentration

$$\text{(dry weight basis) ug/Kg} = \frac{(383162)\,(20)\,(500)\,(1)\,(2)}{(2320240)\,(1.291)\,(1)\,(30.1)\,(0.238)}$$

= 360 ug/Kg

RRF Calculation of standard 20 ppb for Naphthalene with P instrument for method 01/29/2025.

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

= 2498726/2130098 X 20/20

= 1.173 (Reported RRF)

Semivolatiles SIM:

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.

Semis volatile Organic sample for Water sample was extracted by Method SFAM01.1 on 01/31/2025 and for Soil sample was extracted by Method SFAM01.1 on 01/30/2025. 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 except for,
A6302 [Fluoranthene-d10 - 16%],
A6302DL [Fluoranthene-d10 - 16%],
A6309 [Fluoranthene-d10 - 23%] and
A6309DL [Fluoranthene-d10 - 20%].Please see email communication after SDG narrative.

The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The MS {A6305MS} recovery met the requirements for all compounds.
The MSD {A6305MSD} recovery met the requirements for all compounds.
The MSD {A6305MSD} RPD met the requirements for all compounds.
The Blank Spike for {PB166391BS} recoveries met the requirements for all compounds.
The Blank Spike for {PB166454BS} 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 A6302, A6304, A6305, A6306, A6307, A6308 and A6309 were diluted due to high concentrations.

Samples A6309DL reported with compounds exceeding calibration range. This sample is not further diluted because this sample compounds results are greater than highest calibration range of SIM but less than Total SVOC CRQL.

The Sample A6303, A6304 and A6306 have the concentration of target compound below method detection limits; therefore it is not reported as Hit in Form1.

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

Concentration of Water Sample:

$$\text{Concentration ug/L} = \frac{(Ax)\,(Is)\,(Vt)\,(DF)\,(GPC)}{(Ais)\,(\overline{RRF})\,(Vo)\,(Vi)}$$

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

Concentration of SOIL Sample:

Concentration ug/Kg,

$$\text{(dry weight basis)} = \frac{(Ax)\,(Is)\,(Vt)\,(DF)\,(GPC)}{(Ais)\,(\overline{RRF})\,(Vi)\,(Wt)\,(D)}$$

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.
Vi = Volume of extract injected in microliters (uL)
Vt = Volume of concentrated extract in microliters (uL)
Wt = Weight of the original sample extracted in g
Df = Dilution factor
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.
D= 100 - %moisture
100

Example calculation of A6301 for Pyrene:

Ax = 16857
Ais = 11880
Is = 0.4
Vi = 1
Vt = 500
Wt = 30.1
Df = 1
RRF = 1.587
GPC = 2
D= 0.264

Concentration

$$\text{(dry weight basis) ug/Kg} = \frac{(16857)\,(0.4)\,(500)\,(1)\,(2)}{(11880)\,(1.587)\,(1)\,(30.1)\,(0.264)}$$

= 45 ug/Kg

RRF Calculation of standard 0.4 ppb for Naphthalene with N instrument for method 01/21/2025.

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

= 5142/4615 X 0.4/0.4

= 1.114 (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.