SDG NARRATIVE

LAB NAME: Alliance Technical Group, LLC
CASE: 51948
SDG: C0B00
CONTRACT: 68HERH20D0011
LAB CODE: ACE
LAB ORDER ID: Q1088
MODIFICATION REF. NUMBER: NA

Sample ID	EPA Sample ID	pH
Q1088-01	C0B00	
Q1088-02	C0B06	
Q1088-03	C0B07	
Q1088-04	C0B01	
Q1088-05MS	C0B01MS	
Q1088-06MSD	C0B01MSD	
Q1088-07	C0B02	
Q1088-08	C0AZ9	
Q1088-09	C0AM2	
Q1088-10	C0B09	
Q1088-11	C0B10	
Q1088-12	C0B04	
Q1088-13	C0AL9	
Q1088-14	C0B11	

06 Water samples were delivered to the laboratory intact on 01/15/2025.
05 Water samples were delivered to the laboratory intact on 01/16/2025.
03 Water samples were delivered to the laboratory intact on 01/17/2025.

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

The temperature of the samples was measured using an I R Gun. The samples temperature was 3.0, 2.7, 2.2, 2.5, 2.8, degree Celsius for the samples received on 01/15/2025, 2.6, 2.4, 2.3, 2.8, 2.5, degree Celsius for the samples received on 01/16/2025, 2.3, 2.3, 2.0, degree Celsius for the samples received on 01/17/2025,

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 01/16/2025, and 01/17/2025, 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 except for
C0B06 [2-Nitrophenol-d4 - 134%,],
C0B02 [2-Nitrophenol-d4 - 154%, Benzo(a)pyrene-d12 - 135%, Pyrene-d10 - 136%],
C0AZ9 [2-Nitrophenol-d4 - 188%, Benzo(a)pyrene-d12 - 141%, Fluorene-d10 - 127%, Pyrene-d10 - 145%,],
C0AM2 [2-Nitrophenol-d4 - 158%, Pyrene-d10 - 138%,],
C0B09 [2-Nitrophenol-d4 - 146%,],
C0B10 [2-Nitrophenol-d4 - 133%],
C0B04 [2-Nitrophenol-d4 - 142%,],
C0AL9 [2-Nitrophenol-d4 - 158%,],
C0B11 [2-Nitrophenol-d4 - 146% and].As per method four surrogates are allowed to fail. Therefore no further corrective action was taken.

The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The Blank Spike for {PB166103BS} recoveries met the requirements for all compounds.
The Blank Spike for {PB166106BS} recoveries met the requirements for all compounds.
The Blank Spike for (PB166118BS} recoveries met the requirements for all compounds.
The Blank Spike for (PB166120BS} 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 (SSTD020768) with File ID BP023634.D met the requirement except for 2-Nitrophenol (26.7%), As per method up to four target analytes and DMCs with maximum %D requirements of less than 40.0% may fail to meet the maximum %D criteria listed in Exhibit D – SVOA, Table 5, but these compounds must still meet the maximum %D requirement of 40.0%. No further corrective action was taken.

The Continuous Calibration (SSTD020770) with File ID BP023651.D met the requirement except for 2-Nitrophenol-d4 (31.5%), As per method up to four target analytes and DMCs with maximum %D requirements of less than 40.0% may fail to meet the maximum %D criteria listed in Exhibit D – SVOA, Table 5, but these compounds must still meet the maximum %D requirement of 40.0%. No further corrective action was taken.

The Continuous Calibration (SSTD020771) with File ID BP023662.D met the requirement except for 2-Nitrophenol-d4 (33.3%), As per method up to four target analytes and DMCs with maximum %D requirements of less than 40.0% may fail to meet the maximum %D criteria listed in Exhibit D – SVOA, Table 5, but these compounds must still meet the maximum %D requirement of 40.0%. No further corrective action was taken.

The Continuous Calibration (SSTD020772) with File ID BP023675.D met the requirement except for 2-Nitrophenol-d4 (31.6%), As per method up to four target analytes and DMCs with maximum %D requirements of less than 40.0% may fail to meet the maximum %D criteria listed in Exhibit D – SVOA, Table 5, but these compounds must still meet the maximum %D requirement of 40.0%. No further corrective action was taken.

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.

No positive target compounds were detected in the samples.

RRF Calculation of standard 20 ppb for **Naphthalene** with **P** instrument for method 01/14/2025.

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

= 2687055/ 2194626 X 20/20

= 1.224 (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 01/16/2025 and 01/17/2025. 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 {PB166105BS} recoveries met the requirements for all compounds.
The Blank Spike for {PB166107BS} recoveries met the requirements for all compounds.
The Blank Spike for {PB166119BS} recoveries met the requirements for all compounds.
The Blank Spike for {PB166121BS} 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:

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

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 = $\frac{Vin}{Vout}$ = GPC factor (If no GPC is performed, GPC=1)

Example calculation of C0B10 for 1,4-Dioxane:

Ax = 418
Ais = 2759
Is = 0.4
DF = 1
Vo = 990
Vi = 1
Vt = 1000
RRF = 0.439
GPC = 1

Concentration ug/L = $\frac{(418)\ (0.4)\ (1000)\ (1)\ (1)}{(2759)\ (0.439)\ (990)\ (1)}$

= 0.14 ug/L

RRF Calculation of standard 0.4 ppb for **1,4-Dioxane** with N instrument for method 12/31/2024.

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

= 747/1741 X 0.4/0.4

= 0.429 (Reported RRF)

Pesticides:

The analyses for Pesticides were performed on instrument ECD_D. The front column is ZB-Multi-Residue-1 which is 30 meters, 0.32 mm ID, 0.50 um df. The rear column ZB-Multi-Residue-2 which is 30 meters, 0.32 mm ID, 0.25 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 were both columns are reported. Form 1s for the IBLK and PLCS are referenced as IBLK(1)/IBLK(2), MS(1)/MS(2), MSD(1)/MSD(2) and PLCS01(1) / PLCS01(2) respectively.

Pesticide sample was extracted by method SFAM01.1 on 01/20/2025 and analyzed on 01/20/2025. The sample was extracted and analyzed within contractual holding time.

The Surrogate recoveries met the acceptable criteria except for
C0B06 [Decachlorobiphenyl(1)- 26%,Decachlorobiphenyl(2) - 25%,],
The SOW allows one surrogate to fail to meet the criteria per column. ((Please See Section 11.3.6 of Exhibit D Pesticide Analysis).

C0B01MS met the requirements.
C0B01MSD met the requirements.
The RPD met the requirements

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.

Samples C0AM2, C0AZ9, C0B00, C0B01 and C0B09 failed to meet the %D for the results between the two columns Criteria.

Sample C0B01 have the concentration of target compound - 4,4'-DDT,
Sample C0AL9 have the concentration of target compound - gamma-BHC (Lindane), Heptachlor epoxide, Endrin,
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.

Calculation for the 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

$$GPC = \frac{Vin}{Vout} = \text{GPC factor (If no GPC is performed, GPC=1)}$$

Vin = Volume of extract loaded onto GPC column.

Vout = Volume of extract collected after GPC cleanup.

Example of 4,4'-DDE calculation

Calibration Factor Calculation 4,4'-DDE in the second column

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

$= \frac{177629779}{10\text{ng}}$

$= 17763000$

Mean Calibration Factor = average of 5 point calibration factor

$= 16378700$

Sample **C0B01**
Ax = 23852858
CF = 16378700
Ws = 1000
Vi = 1
Vt = 10000
DF = 1
GPC = 1

Concentration ug/L (Dry weight basis) = $\frac{(Ax)\ (Vt)\ (DF)\ (GPC)}{(CF)\ (Vi)\ (Ws)}$

$= \frac{(23852858)\ (10000)\ (1.0)\ (1.0)}{(16378700)(1.0)(1000)}$

$= 0.0145$

Reported Results (ug/L) = 0.015

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 were both columns are reported. Form 1s for the IBLK and ALCS are referenced as IBLK(1)/IBLK(2) ,MS(1)/MS(2), MSD(1)/MSD(2) and ALCS01(1)/ALCS01(2) respectively.

Aroclor sample was extracted by Method SFAM01.1 on 01/20/2025 and analyzed on 01/20/2025 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.
C0B01MS met the requirements.
C0B01MSD met the requirements.
The RPD met the requirements.
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 = $\frac{Vin}{Vout}$ = 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

$$\text{Calibration factor Peak 1 100ppb ISTD Column1} = \frac{\text{peak area}}{\text{Mass injected ng}}$$

$$= \frac{4732373}{0.100}$$

= 47323730 calibration factor for Peak 1 100ppb

Average of 5 peaks = 41448588

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.