SDG NARRATIVE

LAB NAME: Alliance Technical Group, LLC
CASE: 51782
SDG: GCP76
CONTRACT: 68HERH20D0011
LAB CODE: ACE
LAB ORDER ID: P4746
MODIFICATION REF. NUMBER: NA

Sample ID	EPA Sample ID	pH
P4746-01	GCP76	
P4746-02	GCP77	
P4746-03	GCP78	
P4746-04	GCP79	
P4746-05	GCP80	
P4746-06	GCP81	
P4746-07	GCP82	
P4746-08	GCP83	
P4746-09MS	GCP83MS	
P4746-10MSD	GCP83MSD	
P4746-11	GCP84	
P4746-12	GCP85	
P4746-13	GCP86	
P4746-15	GCP88	
P4746-16	GCP89	
P4746-17	GCP90	
P4746-18	GCP91	
P4746-19	GCP92	
P4746-20	GCP93	
P4746-21	GCP94	
P4746-22	GCP95	

21 Water samples were delivered to the laboratory intact on 11/07/2024.

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

The temperature of the samples was measured using an I R Gun. The samples temperature was 2.0, 1.9, 2.4, 2.1, 2.7, 2.1 degree Celsius for the samples received on 11/07/2024.

Shipping Discrepancies and/or QC issues:

Issue 01: The laboratory received sample GCP87 broken and there is no volume left to perform the analysis. The laboratory would like to know how to proceed.

Resolution 01: Per Region 7, the laboratory should note the issue in the SDG Narrative and proceed with the analysis of the samples.

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 11/08/2024, The analysis of SVOCMS Group4 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 MS {GCP83MS} recovery met the requirements for all compounds.
The MSD {GCP83MSD} recovery met the requirements for all compounds.
The RPD {GCP83MSD} RPD met the requirements for all compounds
The Blank Spike for {PB164808BS} recoveries met the requirements for all compounds.
The Blank Spike for {PB164811BS} recoveries met the requirements for all compounds.
The Blank Spike for {PB164813BS} recoveries met the requirements for all compounds.
The Blank Spike for {PB164815BS} recoveries met the requirements for all compounds.
The Blank Spike for {PB164817BS} 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.

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 = Volume of extract collected after GPC cleanup.

Example calculation of GCP95 for 1,4-Dioxane:

Ax = 4695
Ais = 42970
Is = 20
DF = 1
Vo = 1000
Vi = 1
Vt = 1000
RRF = 0.481
GPC = 1

$$\text{Concentration ug/L} = \frac{(4695)\,(20)\,(1000)\,(1)\,(1)}{(42970)\,(0.481)\,(1000)\,(1)}$$

$$= 4.5 \text{ ug/L}$$

RRF Calculation of standard 20 ppb for **1,4-Dioxane** with P instrument for method 11/09/2024.

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

$$= 10486/53999 \times 20/8$$

$$= 0.485 \text{ (Reported RRF)}$$

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 11/08/2024. 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 MS {GCP83MS} recovery met the requirements for all compounds.
The MSD {GCP83MSD} recovery met the requirements for all compounds.

The RPD {GCP83MSD} RPD met the requirements for all compounds
The Blank Spike for {PB164809BS} recoveries met the requirements for all compounds.
The Blank Spike for {PB164812BS} recoveries met the requirements for all compounds.
The Blank Spike for {PB164814BS} recoveries met the requirements for all compounds.
The Blank Spike for {PB164816BS} recoveries met the requirements for all compounds.
The Blank Spike for {PB164818BS} 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.

AS per SOW Exhibit D section 10.4.1"SIM analysis is not required for the target analyte 1,4-Dioxane when it is detected at or above the sample-adjusted Contract Required Quantitation Limit (CRQL) in the full scan analysis"., So sample GCP95 not analyzed for SIM.

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 GCP76 for 1,4-Dioxane:

Ax = 616
Ais = 2530
Is = 0.4
DF = 1
Vo = 1000
Vi = 1
Vt = 1000
RRF = 0.417

GPC = 1

Concentration ug/L = $\frac{(616)\ (0.4)\ (1000)\ (1)\ (1)}{(2530)\ (0.417)\ (1000)\ (1)}$

= 0.23 ug/L

RRF Calculation of standard 0.4 ppb for **1,4-dioxane** with N instrument for method 11/09/2024.

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

= 652/1555 X 0.4/0.4

= 0.419 (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.