SDG NARRATIVE

LAB NAME: Alliance Technical Group, LLC
CASE: 51837
SDG: BG3P6
CONTRACT: 68HERH20D0011
LAB CODE: ACE
LAB ORDER ID: P4885
MODIFICATION REF. NUMBER: NA

Sample ID	EPA Sample ID	Test	pH
P4885-01	BG3P6		1.0
P4885-01DL	BG3P6DL	Trace-VOA	1.0
P4885-02	BG3P7		1.0
P4885-02DL	BG3P7DL	Trace-VOA	1.0
P4885-03	BG3P8		1.0
P4885-04	BG3P9		1.0
P4885-05	BG3Q1		1.0
P4885-05DL	BG3Q1DL	Trace-VOA	1.0
P4885-06	BG3Q2		1.0
P4885-06DL	BG3Q2DL	Trace-VOA	1.0
P4885-07	BG3Q3		1.0
P4885-07DL	BG3Q3DL	Trace-VOA	1.0
P4885-08	BG3Q4		1.0
P4885-08DL	BG3Q4DL	Trace-VOA	1.0
P4885-09	BG3Q5		1.0
P4885-09DL	BG3Q5DL	Trace-VOA	1.0
P4885-10	BG3Q6		1.0
P4885-10DL	BG3Q6DL	Trace-VOA	1.0
P4885-11	BG3Q7		1.0
P4885-12	BG3Q8		1.0
P4885-12DL	BG3Q8DL	Trace-VOA	1.0
P4885-13	BG3Q9		1.0
P4885-14	BG3R0		1.0
P4885-15	BG3R1		1.0
P4885-16	BG3R2		1.0

16 Water samples were delivered to the laboratory intact on 11/15/2024.

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

The temperature of the samples was measured using an I R Gun. The samples temperature was 1.9, 2.4 degree Celsius for the samples received on 11/15/2024.

Shipping Discrepancies and/or QC issues:

Issue 01: Samples BG3R1, BG3R2, BG434 and BG435 are missing the collection time on the COCs and the sample containers.

Resolution 01: Per Region 2, the revised COCs with the missing collection times included are attached. Please note the issue in the SDG Narrative and proceed with the analysis of the samples.

Issue 02: "Lab is sending this email with regards to case 51837.

This is an ongoing case where Lab has received samples for TVOA analysis and samples are found positive with high concentration of target analytes as required dilution analysis. Lab has analyzed samples BG3K1, BG3K2, BG3K3, BG3L5 & BG3L6 in a continuous analytical sequence. All samples are required dilution to bring target analytes within calibration range. In this case, instrument blank was not analyzed in between the samples due to continuous analytical sequence therefore lab would like to confirm that lab will report undiluted TVOA analysis without instrument blank in between the samples and further dilution analysis in final electronic deliverables. Please note that there is not any other Lab QC failure associated to this analysis.

Lab has analyzed samples BG3J1 & BG3J2 in a continuous analytical sequence. All samples are required dilution to bring target analytes within calibration range. In this case, instrument blank was not analyzed in between the samples due to continuous analytical sequence therefore lab would like to confirm that lab will report undiluted TVOA analysis without instrument blank in between the samples and further dilution analysis in final electronic deliverables. Please note that there is not any other Lab QC failure associated to this analysis.

Lab has analyzed samples BG3Q1, BG3Q2, BG3Q3, BG3Q4, BG3Q5, BG3Q6, BG3Q8 & BG3P7 in a continuous analytical sequence. All samples are required dilution to bring target analytes within calibration range. In this case, instrument blank was not analyzed in between the samples due to continuous analytical sequence therefore lab would like to confirm that lab will report undiluted TVOA analysis without instrument blank in between the samples and further dilution analysis in final electronic deliverables. Please note that there is not any other Lab QC failure associated to this analysis.

Resolution 02: "Please advise the laboratory to proceed and detail the deviations from SOW directions in their SDG narrative. Laboratory should insert instrument blanks if screening indicates so. Thanks."

Trace Volatiles:

The analysis performed on instrument MSVOA_U were done using GC column DB-624UI 20m 0.18mm 1.0 um. Cat#121-1324UI.

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

The Surrogate recoveries met the acceptable criteria except for,
BG3P6 [1,2-Dichlorobenzene-d4 - 74%],
BG3P7DL [1,1-Dichloroethene-d2 - 126%, 1,2-Dichloropropane-d6 - 143%, Benzene-d6 - 139%],
BG3P8 [1,1-Dichloroethene-d2 - 135%],
BG3P9 [1,1-Dichloroethene-d2 - 133%],
BG3Q1 [Benzene-d6 - 69%, Toluene-d8 - 66%],
BG3Q2 [Benzene-d6 - 58%],
BG3Q2DL [Benzene-d6 - 130%],
BG3Q3DL [Chloroethane-d5 - 55%],
BG3Q4DL [1,1-Dichloroethene-d2 - 126%],
BG3Q5 [Benzene-d6 - 67%, Toluene-d8 - 63%],
BG3Q5DL [1,1-Dichloroethene-d2 - 127%],
BG3Q6DL [1,1-Dichloroethene-d2 - 131%],
BG3Q7 [1,1-Dichloroethene-d2 - 134%, Toluene-d8 - 149%],
BG3Q8DL [1,2-Dichloropropane-d6 - 144%, Benzene-d6 - 141%, Vinyl Chloride-d3 - 131%],
BG3Q9 [1,1-Dichloroethene-d2 - 133%],
BG3R0 [1,1-Dichloroethene-d2 - 135%],
BG3R1 [Benzene-d6 - 65%, Toluene-d8 - 61%],
BG3R2 [Benzene-d6 - 65% and Toluene-d8 - 61%],
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 met requirements.
The Tuning criteria met requirements.

The %RSD met requirement for initial Calibration except for 1,1,2,2-Tetrachloroethane (20.9%) for the initial calibration dated 11/20/2024 with U instrument, As per method, the %RSD up to two Compounds are allowed to fail to meet the minimum criteria as long as the compound meets the maximum of 40% RSD. No further corrective action was taken.

The Continuing Calibration (VSTD005156) file ID VU061933.D met the requirements except for 1,2-Dichloropropane-d6 (24.6%). 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 analysis did not indicate the presence of lab contamination.

Samples BG3P6, BG3P7, BG3Q1, BG3Q2, BG3Q3, BG3Q4, BG3Q5, BG3Q6 and BG3Q8 were diluted due to high concentrations.

The Samples BG3Q1, BG3Q2, BG3Q3, BG3Q4, BG3Q5, BG3Q6, BG3Q7, BG3Q8, BG3Q9, BG3R0 and BG3P7 were analyzed back to back in an continuous analytical sequence and samples found positive with high concentration of target analytes are detected and required dilution. However, instrument blanks were not analyzed in between them per SOW due to samples are analyzed in continuous analytical sequence, so Lab has reported both the analysis as undiluted analysis without instrument blanks and further dilution analysis. Please see EPA communication after SDG Narrative.

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

Calculation:

Low/Med Water Level Calculation

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

Where,
Ax = Area of the characteristic ion (EICP) for the compound to be measured.
Ais = 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.
Vo = Total volume of water purged, in mL.
DF = Dilution Factor

Example calculation of **BG3P6** for **Methylene chloride**:

Ax= 18022
Is = 125
RRF= 0.348
DF= 1
Ais= 163442
Vo. = 25

$$\text{Concentration in ug/L} = \frac{(18022)\,(125)\,(1)}{(163442)(0.348)(25)}$$

Reported Result = 1.58 ug/L

Final Reported Result = 1.6 ug/L

Relative Response Factor = **Dichlorodifluoromethane**: RUN **VU111324** for **0.5** ppb

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

RRF= 6608 X 5.0
195642 0.5

RRF= 0.338

Semivolatiles:

The samples were analyzed on instrument BNA_G 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 11/19/2024, 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 Blank Spike for {PB165114BS} 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.

No positive target compounds were detected in the samples.

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

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

= 26160/102084 X 20/8

= 0.641 (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.