

SDG NARRATIVE

LAB NAME: Alliance Technical Group, LLC CASE: 51837 SDG: BG3Z7 CONTRACT: 68HERH20D0011 LAB CODE: ACE LAB ORDER ID: P4903 MODIFICATION REF. NUMBER: NA

Sample ID	EPA Sample ID	Test	pН
P4903-01	BG3Z7		1.0
P4903-02	BG3Z8		1.0
P4903-02DL	BG3Z8DL	TVOA	1.0
P4903-03	BG3Z9		1.0
P4903-03DL	BG3Z9DL	TVOA	1.0
P4903-04	BG400		1.0
P4903-04DL	BG400DL	TVOA	1.0
P4903-05	BG401		1.0
P4903-05DL	BG401DL	TVOA	1.0
P4903-06	BG402		1.0
P4903-06DL	BG402DL	TVOA	1.0
P4903-07	BG403		1.0
P4903-08	BG404		1.0
P4903-08DL	BG404DL	TVOA	1.0
P4903-09	BG405		1.0
P4903-09DL	BG405DL	TVOA	1.0
P4903-10	BG408		1.0
P4903-10DL	BG408DL	TVOA	1.0
P4903-11	BG409		1.0
P4903-12	BG410		1.0
P4903-13	BG430		1.0
P4903-14	BG431		1.0
P4903-15	BG434		1.0
P4903-16	BG435		1.0
P4903-17	BG436		1.0
P4903-17DL	BG436DL	TVOA	1.0
P4903-18	BG437		1.0
P4903-18DL	BG437DL	TVOA	1.0

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P4903-19BG4381.0P4903-19DLBG438DLTVOA1.0

19 Water samples were delivered to the laboratory intact on 11/18/2024.

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 5.3, 5.1 degree Celsius for the samples received on 11/18/2024.

Shipping Discrepancies and/or QC issues:

Issue 01: "This is an ongoing case where Lab is analyzing the samples for TVOA analysis. For these samples, Lab can't use the received sample for screening otherwise Lab will not have enough sample volume to perform the re-analysis and dilution analysis if required. Lab has analyzed samples BG401, BG402, BG403, BG404, BG405, BG408 for TVOA analysis. 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. Please note that when samples do not required dilution then lab always re-analyze the sample to confirm the detected analytes concentrations.

Lab has analyzed sample BG423 & BG402 for TVOA analysis. Sample found positive with high concentration of target analytes and required dilution as you can see attached quant reports. Due to matrix interference, sample has more than three surrogates are outside the QC limits and all other surrogates are withing the QC limits which confirms the matrix interference. In this case, Lab will report undiluted TVOA analysis with surrogates outside the limits and further dilution for final electronic deliverables.

Resolution 01: Please advise the laboratory to proceed and detail their rationale for any deviation from SOW direction in their SDG narrative. Thanks.

Issue 02: Regarding sample BG437, the laboratory received only one broken amber for this sample and there is no volume remaining for analysis. The laboratory would like to know how to proceed.

Resolution 02: Per Region 2, there will be no replacement for sample BG437. Please note the issue in the SDG Narrative and proceed with the analysis of the samples.

Issue 03: Samples BG3R1, BG3R2, BG434 and BG435 are missing the collection time on the COCs and the sample containers.



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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 Holding Times were met for all analysis.

The Surrogate recoveries met the acceptable criteria except for, BG3Z7 [1,1-Dichloroethene-d2 - 133%], BG3Z8 [1,1-Dichloroethene-d2 - 133%, Benzene-d6 - 125%], BG3Z9 [1,1-Dichloroethene-d2 - 138%], BG400 [Benzene-d6 - 143%, Toluene-d8 - 132%], BG400DL [1,1-Dichloroethene-d2 - 128%], BG401 [1,2-Dichloropropane-d6 - 142%, Benzene-d6 - 132%], BG402 [1,1-Dichloroethene-d2 - 137%, 1,2-Dichloropropane-d6 - 142%, Benzene-d6 - 129%, Toluene-d8 - 133%]. BG405 [1,1-Dichloroethene-d2 - 127%], BG405DL [Chloroethane-d5 - 57%], BG408 [1,1-Dichloroethene-d2 - 141%], BG430 [1,1-Dichloroethene-d2 - 128%], BG431 [1,1-Dichloroethene-d2 - 131%], BG434 [1,1-Dichloroethene-d2 - 127%], BG435 [1,1-Dichloroethene-d2 - 127%], BG436 [1,1-Dichloroethene-d2 - 134%, Benzene-d6 - 128%, Toluene-d8 - 136%], BG438DL [Chloroethane-d5 - 61%], As per method, up to three surrogates are allowed to fail. No corrective action was taken except for Lab has analyzed sample BG402 for TVOA analysis. Sample found positive with high concentration of target analytes and required dilution Due to matrix interference, sample has more than three surrogates are outside the QC limits and all other surrogates are within the QC limits which confirms the matrix interference, therefore Lab reported undiluted TVOA analysis with surrogates outside the limits and further dilution for final hard Copy, Please see EPA communication after SDG Narrative.

The Internal Standards Areas met the acceptable requirements.

Instrument Performance Check met requirements.

The Retention Times met requirements.

The Tuning criteria met requirements.



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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 Continuing Calibration (VSTD005161) file ID VU062007.D met the requirements except for Chloroethane-d5 (-35.6%). 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 BG3Z8, BG3Z9, BG400, BG401, BG402, BG404, BG405, BG408, BG436, BG437 and BG438 were diluted due to high concentrations.

The samples BG3Z8, BG3Z9, BG400 and BG401 were analyzed back to back in a continuous analytical sequence and samples had common hit of compound with concentration above calibration levels for Tetrachloroethene. It was reanalyzed at a diluted. As per method, no instrument blank was required and not analyzed.

This is an ongoing case where Lab is analyzing the samples for TVOA analysis. For these samples, Lab can't use the received sample for screening otherwise Lab will not have enough sample volume to perform the re-analysis and dilution analysis if required. Lab has analyzed samples BG401, BG402, BG403, BG404, BG405, BG408 for TVOA analysis. 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 reported undiluted TVOA analysis without instrument blank in between the samples and further dilution analysis in final hard Copy, and there is not any other Lab QC failure associated to this analysis, , Please see EPA communication after SDG Narrative.

The sample BG437 was analyzed following the analysis of BG436. Both samples had common hit of compound with concentration above calibration levels for Tetrachloroethene, It was reanalyzed at a diluted. As per method, no instrument blank was required and not analyzed.

The Continuing Calibration file id (VSTD005159) VU061982.D was analyzed following the analysis of BG404 which had concentration above calibration levels for Tetrachloroethene. A sample was reanalyzed at a diluted. The associate calibration is passing for this compound; therefore no instrument blank was required.



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

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Calculation:

Low/Med Water Level Calculation

Concentration in ug/L = (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 **BG3Z7** for **Methylene chloride**:

Ax= 10066 Is = 125 RRF= 0.403 DF= 1 Ais= 144753 Vo. = 25 Concentration in ug/L = (10066)(125)(1)(144753)(0.403)(25)

Reported Result = 0.86 ug/L

Final Reported Result = 0.86 ug/L

Relative Response Factor = **Dichlorodifluoromethane**: RUN **VU112024** for **0.5** ppb

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

 $RRF = \frac{7631}{174068} X \frac{5.0}{0.5}$

RRF= 0.438



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 {PB165117BS} 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:

Concentration ug/L = (Ax) (Is) (Vt) (DF) (GPC)

(Ais) $(R\overline{RF})$ (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.

 $GPC = \underline{Vin} = GPC$ 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 /	Х	Conc. of Internal Standard /
	Area of Internal Standard	l	Conc. of Compound

= 26160/102084 X 20/8

= 0.641 (Reported RRF)



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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.