

SDG NARRATIVE

LAB NAME: Alliance Technical Group, LLC CASE: 51847 SDG: E2927 CONTRACT: 68HERH20D0011 LAB CODE: ACE LAB ORDER ID # P5353 MODIFICATION REF. NUMBER: NA

Sample	EPA Sample	
ID	ID	рΗ
P5353-01	E2927	1.0
P5353-02	E2929	1.0
P5353-03	E2928	1.0
P5353-04	E2930	1.0

04 Water samples were delivered to the laboratory intact on 12/19/2024.

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

The temperature of the samples was measured using an I R Gun. The samples temperature was 2.5, 2.4 degree Celsius for the samples received on 012/19/2024.

Shipping Discrepancies and/or QC issues:

Issue 1: SDG E2927 requires Laboratory QC for water samples, but a sample was not designated on the COC. The laboratory would like to proceed without Laboratory QC to keep holding time.

Resolution 1: Per Region 5, the laboratory will note the issue in the SDG Narrative and proceed without Laboratory QC.

Trace Volatiles:



2 of 9 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. Holding Times were met requirement.

The Surrogate recoveries met the acceptable criteria. The Internal Standards Areas met the acceptable requirements. Instrument Performance Check met requirements. The Retention Times met requirements. The Tuning criteria met requirements.

The initial Calibration criteria met requirements.

The Continuing Calibration (VSTD005081) file ID VU062512.D met the requirements except for 1,2-Dichloropropane-d6 (-24.1%). 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 End Calibration (VSTD005083) file ID VU062558.D met the requirements except for Trichloroethene (1224.4%). 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 (VSTD005087) file ID VU062588.D met the requirements except for Dibromochloromethane (23.2%). 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.

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

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 **E2927** for Acetone:

Ax= 11697 Is = 125 RRF= 0.044 DF= 1 Ais= 94113 Vo. = 25 Concentration in ug/L = (11697)(125)(1)(94113)(0.044)(25)

Reported Result = 14.12 ug/L

Final Reported Result = 14 ug/L

Relative Response Factor = Dichlorodifluoromethane: RUN VU120924 for 0.5 ppb

 $RRF = \underline{Area of compound}_{Area of Internal Standard} X \underline{Conc. of Internal Standard}_{Conc. of Compound} RRF = \underline{5191}_{109257} X \underline{5.0}_{0.5}$

RRF= 0.475

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 12/23/2024, 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, E2928 [Anthracene-d10 - 131%]. As per method four surrogates are allowed to fail. Therefore no further corrective action was taken.

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The Internal Standards Areas met the acceptable requirements.

The Retention Times were acceptable for all samples.

The Blank Spike for {PB165811BS} 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 (SSTD020579) with File ID BG063791.D met the requirement except for Di-n-butylphthalate (25.1%), 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:

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 Naphthalene with G instrument for method 12/11/2024.

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

= 652991/591107 X 20/20

= 1.105 (Reported RRF)

Semivolatiles SIM:

The samples were analyzed on instrument BNA_M 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.



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Semis volatile Organic sample for Water sample was extracted by Method SFAM01.1 on 12/23/2024. 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.

The Internal Standards Areas met the acceptable requirements.

The Retention Times were acceptable for all samples.

The Blank Spike for {PB165813BS} 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:

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

Example calculation of E2927 for Naphthalene:

Ax = 642Ais = 11047Is = 0.4DF = 1Vo = 1000Vi = 1Vt = 1000RRF = 1.001GPC = 1

Concentration ug/L = (642)(0.4)(1000)(1)(1)



(11047) (1.001) (1000) (1)

= 0.020 ug/L

RRF Calculation of standard 0.4 ppb for 1,4-Dioxane with M instrument for method 12/18/2024.

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

= 16284/14312 X 0.4/0.4

= 1.138 (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) and PLCS01(1) / PLCS01(2) respectively.

Pesticide sample was extracted by method SFAM01.1 on 12/23/2024 and analyzed on 12/23/2024. The sample was extracted and analyzed within contractual holding time.

The Surrogate recoveries met the acceptable criteria. 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 Individual Mix B met the requirements. The PEM met the requirement.

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

Calculation for the Concentration in Water Samples

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

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(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 = Vin = GPC factor (If no GPC is performed, GPC=1) Vout Vin = Volume of extract loaded onto GPC column.

Vout = Volume of extract collected after GPC cleanup.

Example of Endosulfan I calculation Calibration Factor Calculation Endosulfan I in the first column

Calibration factor (CF) = <u>peak area</u> Mass injected in ng

$$=\frac{16723609}{5ng}$$

Mean Calibration Factor = average of 5 point calibration factor

= 3340570

No target Pesticides were detected in the samples.

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 μ m; 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) and ALCS01(1)/ALCS01(2) respectively.

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Aroclor sample was extracted by Method SFAM01.1 on 12/23/2024 and analyzed on 12/23/2024 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.

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:

Concentration ug/L = (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 = Vin = GPC factor (If no GPC is performed, GPC=1) Vout

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

Calibration factor Peak 1 100ppb ISTD= <u>peak area</u> Column1 Mass injected ng

= 47014170 calibration factor for Peak 1 100ppb



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Average of 5 peaks = 40163217

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.