

**SDG NARRATIVE****LAB NAME: Alliance Technical Group, LLC****CASE: 51901****SDG: C0AS8****CONTRACT: 68HERH20D0011****LAB CODE: ACE****CHEMTECH PROJECT: P5235****MODIFICATION REF. NUMBER: NA**

Sample ID	EPA Sample ID	pH
P5235-01	C0AS8	5.0
P5235-02	C0AT0	5.0
P5235-03	C0AT1	5.0
P5235-04	C0AT2	5.0
P5235-05	C0AT3	5.0
P5235-06	C0AT5	5.0
P5235-07	C0AT6	5.0
P5235-08	C0AT7	5.0
P5235-09	C0AT8	5.0
P5235-10	C0AW0	5.0
P5235-11	C0AW1	5.0
P5235-12	C0AW2	5.0
P5235-13	C0AX5	5.0
P5235-14	C0AX6	5.0
P5235-16	C0AS9	5.0
P5235-17	C0AT4	5.0
P5235-18	C0AT9	5.0
P5235-22MS	C0AT9MS	
P5235-23MSD	C0AT9MSD	

14 Soil samples were delivered to the laboratory intact on 12/10/2024.

05 Soil samples were delivered to the laboratory intact on 12/12/2024.

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

The temperature of the samples was measured using an I R Gun. The samples temperature was 2.8, 2.4 degree Celsius for the samples received on 12/10/2024, 2.1 degree Celsius for the samples received on 12/12/2024.

Shipping Discrepancies and/or QC issues:

Issue 01: The COCs received at the laboratory do not include the CLP Case number.

Resolution 01: Per Region 3, the revised COCs with the Case number included are attached. Please note the issue in the SDG Narrative and proceed with the analysis of the samples.

Issue 02: SDG C0AS8 for TCLP PEST analysis requires Laboratory QC, but no sample was designated on the COC. The laboratory selected Sample C0AT9 and confirmed it is not a blank, rinsate or PT sample.

Resolution 02: Per SFAM01.1 Exhibit A, Section 5.5.4.1., the laboratory will note the issue in the SDG Narrative and proceed with the analysis of the samples.

Low Volatiles (TCLP VOA):

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

The analysis of TCLP VOA was based on method SFAM01.1_Low.

Holding Times were met requirement.

The Surrogate recoveries met the acceptable criteria except for,
C0AS8 [Toluene-d8 - 79%],
C0AT0 [Toluene-d8 - 75%],
C0AT1 [Toluene-d8 - 79%],
C0AT2 [Toluene-d8 - 77%],
C0AT6 [Toluene-d8 - 74%],
C0AT7 [Toluene-d8 - 75%],
C0AW0 [Toluene-d8 - 78%],
C0AW1 [Toluene-d8 - 76%],
C0AW2 [Toluene-d8 - 80%],
C0AX5 [Toluene-d8 - 80%],
C0AX6 [Toluene-d8 - 79%],
C0AS9 [Toluene-d8 - 78%],
C0AT4 [Toluene-d8 - 75%],
VLEB643 [Toluene-d8 - 76%], As per method, up to two 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 Initial Calibration met the requirements.

The Continuing Calibration met the requirements.

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

$$\text{Concentration in ug/L} = \frac{(A_x) (I_s) (DF)}{(A_{is}) (RRF) (V_o)}$$

Where,

A_x = Area of the characteristic ion (EICP) for the compound to be measured.

A_{is} = 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.

V_o = Total volume of water purged, in mL.

DF = Dilution Factor

No Positive target compounds were detected in the TCLP Sample.

Relative Response Factor = **Vinyl chloride: RUN VX120524** for **5.0** ppb

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

$$RRF = \frac{9217}{234557} \times \frac{50}{5.0}$$

$$RRF = 0.393$$

TCLP 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.

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.

The analysis of TCLP BNA Group1 was based on method SFAM01.1. Semi volatile Organic samples were extracted by Method SFAM01.1 on 12/16/2024. Samples were received on 12/10/2024 and 12/12/2024. TCLP extraction was done on 12/13/2024.

This standard solution has 3-Methylphenol and 4-Methylphenol at a concentration of 500 ug/mL each whereas all other compounds are present at a concentration of 1000 ug/mL concentration. 3-Methylphenol and 4-Methylphenol co-elute. Since 3-Methylphenol is not a Target Compound to be reported under the SFAM01.1 contract, 4-Methylphenol is reported on the forms using the RRF obtained from the 3+4-Methylphenols peak.

The Holding Times were met for all analysis.

The Surrogate recoveries met the acceptable criteria except for,

C0AS8 [Pyridine-d5 - 16%],

C0AT0 [Pyridine-d5 - 12%],

C0AT3 [Pyridine-d5 - 19%],

C0AT8 [Pyridine-d5 - 16%],

C0AW0 [Pyridine-d5 - 18%],

C0AW1 [Pyridine-d5 - 16%],

C0AW2 [Pyridine-d5 - 17%],

C0AX5 [Pyridine-d5 - 8%] and

C0AX6 [Anthracene-d10 - 132%]. As per method one surrogates are allowed to fail. The %R for Pyridine-d5 is advisory. 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 {PB165651BS} recoveries met the requirements for all compounds.

The Blank Spike for {PB165652BS} recoveries met the requirements for all compounds.

The Blank Spike for {PB165676BS} 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 the requirements.

The Continuous Calibration met the requirements.

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

Concentration of TCLP Sample:

Concentration ug/L = $\frac{(A_x) (I_s) (V_t) (DF) (GPC)}{(A_{is}) (RRF) (V_o) (V_i)}$

Where,

A_x = Area of the characteristic ion for the compound to be measured.

A_{is} = Area of the characteristic ion for the internal standard.

I_s = Amount of internal standard injected in ng.

V_o = Volume of water extracted in mL.

V_i = Volume of extract injected in uL.

V_t = Volume of the concentrated extract in uL

RRF = Mean Relative Response Factor determined from the initial calibration standard.

GPC = $\frac{V_{in}}{V_{out}}$ = GPC factor (If no GPC is performed, GPC=1)

No positive target compounds were detected in the samples.

RRF Calculation of standard 20 ppb for **Pyridine** with instrument G for method 12/11/2024.

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

= 243297/134078 X 20/20

= 1.815 (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 where 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 PLCS01(1)/PLCS01(2) respectively.

TCLP extraction was done on 12/13/2024 and Pesticide sample was extracted by method SFAM01.1 on 12/16/2024 and analyzed on 12/20/2024. The samples were 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.

C0AT9MS met the requirements.

C0AT9MSD met the requirements.

The RPD met the requirements

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 C0AT5 failed to meet the %D for the results between the two columns Criteria.

Samples C0AT9 have the concentration of target compounds - gamma-BHC (Lindane), below Method detection limits therefore it is not reported as hit in Form1.

Calculation for the Concentration in Water Samples

$$\text{Concentration ug/L} = \frac{(A_x) (V_t) (DF) (GPC)}{(CF) (V_o) (V_i)}$$

Where,

A_x = Response (peak area or height) of the compound to be measured.

CF = Mean Calibration Factor from the initial calibration (area/ng).

V_o = Volume of water extracted in mL.

V_i = Volume of extract injected in uL.

V_t = Volume of the concentrated extract in uL

GPC = $\frac{V_{in}}{V_{out}}$ = GPC factor (If no GPC is performed, GPC=1)

V_{in} = Volume of extract loaded onto GPC column.

V_{out} = Volume of extract collected after GPC cleanup.

Example of Methoxychlor calculation

Calibration Factor Calculation Methoxychlor in the first column

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

$$= \frac{74869192}{50\text{ng}}$$

$$= 1497380$$

Mean Calibration Factor = average of 6 point calibration factor

$$= 1468070$$

Sample **C0AT5**

A_x = 1237079

CF = 1468070

W_s = 1000



$$V_i = 1$$

$$V_t = 10000$$

$$DF = 1$$

$$GPC = 1$$

$$\text{Concentration ug/L (Dry weight basis)} = \frac{(A_x) (V_t) (DF) (GPC)}{(CF) (V_i) (Ws)}$$

$$= \frac{(1237079) (10000) (1.0) (1.0)}{(1468070)(1.0)(1000)}$$

$$= 0.0843$$

$$\text{Reported Results (ug/L)} = 0.084$$

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.