



## SDG NARRATIVE

**LAB NAME:** Alliance Technical Group, LLC

**CASE:** 51900

**SDG:** E2946

**CONTRACT:** 68HERH20D0011

**LAB CODE:** ACE

**LAB ORDER ID:** Q1161

**MODIFICATION REF. NUMBER:** NA

Sample ID	EPA Sample ID	pH
Q1161-01	E2946	
Q1161-02	E2947	
Q1161-03MS	E2947MS	
Q1161-04MSD	E2947MSD	

04 Soil samples were delivered to the laboratory intact on 01/22/2025.

Test requested on the Chain of Custody was Pesticides and Aroclor by Method SFAM01.1.

The temperature of the samples was measured using an I R Gun. The samples temperature was 2.1 degree Celsius for the samples received on 01/22/2025.

### Shipping Discrepancies and/or QC issues:

**Issue 1:** The samples for Case 51847 are scheduled with a 21-day TAT, but the COC lists a 14-day TAT.

**Resolution 1:** Per Region 5, the correct Case number is 51900. Please note the issue in the SDG Narrative and proceed with the analysis of the samples.

**Issue 2:** TCLP analyses are listed on the COC but are not scheduled for Case 51847.

**Resolution 2:** Per Region 5, the correct Case number is 51900. Please note the issue in the SDG Narrative and proceed with the analysis of the samples.

**Issue 3:** SDGs E2946, E2947, ME2946 and ME2947 require Laboratory QC for soil samples, but a sample was not designated on the COC. The laboratory selected samples E2947 and ME2947 for Laboratory QC for ARO, PEST, TCLP VOA, TCLP SVOA, ICP-MS, ICP-AES, Hg, TCLP ICP-AES, TCLP Hg analysis. The laboratory confirmed these samples are not blank, rinsate or PT samples.

**Resolution 3:** Per SOW, 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.

**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 PLCS are referenced as IBLK(1)/IBLK(2), MS(1)/MS(2), MSD(1)/MSD(2) and PLCS01(1) / PLCS01(2) respectively.

Pesticide sample was extracted by method SFAM01.1 on 01/24/2025 and analyzed on 01/27/2025. The sample was extracted and analyzed within contractual holding time.

The soil sample was subjected to Florisil and GPC Cleanup.

The Surrogate recoveries met the acceptable criteria except for  
E2946 [Decachlorobiphenyl(1)- 24%, Decachlorobiphenyl(2)- 13%],  
E2947 [Decachlorobiphenyl(2)- 26%],  
E2947MS [Decachlorobiphenyl(2)- 29%],

The SOW allows one surrogate to fail to meet the criteria per column. ((Please See Section 11.3.6 of Exhibit D Pesticide Analysis).

E2947MS met the requirements.

E2947MSD met the requirements.

The RPD met the requirements

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 PEM met the requirement.

Samples E2946 and E2947 failed to meet the %D for the results between the two columns Criteria.

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

### Calculation for the Concentration in Soil Samples

$$\text{Concentration ug/Kg (Dry weight basis)} = \frac{(A_x) (V_t) (D_F) (G_P C)}{(C_F) (V_i) (W_s) (D)}$$

Where,

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

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

$V_t$  = Volume of the concentrated extract in uL

$V_i$  = Volume of extract injected (uL). (If a single injection is made onto two columns, use ½ the volume in the syringe as the volume injected onto each column).

$W_s$  = Weight of sample extracted (g).

$D$  = % dry weight or  $\frac{100 - \% \text{Moisture}}{100}$

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

$D_F$  = Dilution Factor.

### Example of Aldrin calculation

Calibration Factor Calculation Aldrin in the first column

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

$$= \frac{19325474}{5\text{ng}}$$

$$= 3865090$$

Mean Calibration Factor = average of 5 point calibration factor

$$= 4005090$$

Sample **E2946**

$A_x = 27785033$

$C_F = 4005090$

$W_s = 30.1$

$V_i = 1.0$

$V_t = 5000$

$D_F = 1.0$

$G_P C = 2.0$

$D = 0.908$

$$\text{Concentration ug/Kg (Dry weight basis)} = \frac{(A_x) (V_t) (D_F) (G_P C)}{(C_F) (V_i) (W_s) (D)}$$

$$= \frac{(27785033) (5000) (1.0) (2.0)}{(4005090)(1.0)(30.1)(0.908)}$$

$$= 2.53$$

Reported Results = 2.5 ug/kg

### Aroclors:

The analyses were performed on instrument GC ECD\_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 µm; 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 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 ALCS01(1)/ALCS01(2) respectively.

Aroclor sample was extracted by Method SFAM01.1 on 01/24/2025 and analyzed on 01/24/2025. 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.

E2947MS met the requirements.

E2947MSD met the requirements.

The RPD met the requirements.

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 Soil samples:

$$\text{Concentration ug/Kg (Dry weight basis)} = \frac{(Ax) (Vt) (DF) (GPC)}{(CF) (Vi) (Ws) (D)}$$

Where,

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

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

Vt = Volume of the concentrated extract in uL

$V_i$  = Volume of extract injected (uL). (If a single injection is made onto two columns, use 1/2 the volume in the syringe as the volume injected onto each column).

$W_s$  = Weight of sample extracted (g).

$D$  = % dry weight or  $\frac{100 - \% \text{Moisture}}{100}$

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

$DF$  = Dilution Factor

### Example of AR1260 calculation for Peak 1

Calibration factor Peak 1 100ppb ISTD=  $\frac{\text{peak area}}{\text{Mass injected ng}}$   
Column2

$$= \frac{28115599}{0.100}$$

$$= 281155990 \text{ calibration factor for Peak 1 100ppb}$$

$$\text{Average of 5 peaks} = 249242686$$

### Sample E2946

$$A_x = 73246725$$

$$CF = 249242686$$

$$V_t = 10000$$

$$V_i = 1.0$$

$$W_s = 30.1$$

$$D = 0.908$$

$$GPC = 1.0$$

$$DF = 1.0$$

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

$$= \frac{(73246725) (10000) (1.0) (1.0)}{(249242686) (1.0) (30.1) (0.908)}$$

$$\text{Peak 1} = 107.53$$

$$\text{Average of 5 peaks} = 76.63$$

$$\text{Reported results} = 77 \text{ ug/kg}$$



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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.