SDG NARRATIVE

LAB NAME: Alliance Technical Group, LLC
CASE: 51933
SDG: E2AN9
CONTRACT: 68HERH20D0011
LAB CODE: ACE
LAB ORDER ID: P5226
MODIFICATION REF. NUMBER: 3064.0

Sample ID	EPA Sample ID	Test	pH
P5226-01	E2AN9		
P5226-01ME	E2AN9ME	VOA	
P5226-01RE	E2AN9RE	VOA	
P5226-02	E2AP0		
P5226-02ME	E2AP0ME	VOA	
P5226-02RE	E2AP0RE	VOA	
P5226-03	E2AP1		
P5226-03ME	E2AP1ME	VOA	
P5226-03RE	E2AP1RE	VOA	
P5226-04	E2AP2		
P5226-05	E2AP3		
P5226-05ME	E2AP3ME	VOA	
P5226-05RE	E2AP3RE	VOA	
P5226-06	E2AP4		
P5226-07	E2AP5		
P5226-07DL	E2AP5DL	SVOA_SIM	
P5226-07ME	E2AP5ME	VOA	
P5226-07RE	E2AP5RE	VOA	
P5226-08	E2AP6		
P5226-08ME	E2AP6ME	VOA	
P5226-08RE	E2AP6RE	VOA	
P5226-09	E2AP7		
P5226-09ME	E2AP7ME	VOA	
P5226-09RE	E2AP7RE	VOA	
P5226-11	E2AN6		
P5226-11DL	E2AN6DL	SVOA_SIM	
P5226-11ME	E2AN6ME	VOA	
P5226-11RE	E2AN6RE	VOA	

P5226-12	E2AQ4		
P5226-13	E2AQ5		
P5226-14	E2AQ6		
P5226-15	E2AQ7		
P5226-16	E2AQ8		
P5226-17	E2AR3		
P5226-17ME	E2AR3ME	VOA	
P5226-18	E2AR4		
P5226-19	E2AQ4		
P5226-20	E2AQ6		
P5226-21	E2AQ7		
P5226-22	E2AQ8		
P5226-23	E2AR3		
P5226-24	E2AR4		
P5226-25MS	E2AR4MS		
P5226-26MSD	E2AR4MSD		

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

Test requested on the Chain of Custody was Volatile Organic, Semivolatile Organic, Semivolatile Organic SIM, Pesticides and Aroclor by Method SFAM01.1.

The temperature of the samples was measured using an I R Gun. The samples temperature was 1.9, 2.3 degree Celsius for the samples received on 12/10/2024, 2.0, 2.4 degree Celsius for the samples received on 12/12/2024.

Shipping Discrepancies and/or QC issues:

Issue 01: “Lab has received soil samples for VOA analysis. Lab has analyzed undiluted Low Level VOA analysis for the samples of this SDG and due to instrument error, closing CCV was not analyzed. Some of the samples had internal and/or surrogate recoveries outside the QC limits. As a corrective action, lab has re-analyzed all the samples affected by the closing CCV. In re-analysis, most of the samples are acceptable except the samples E2AN9, E2AP0, E2AP1, E2AP3, E2AP5, E2AP6, E2AP7, E2AN6 therefore, Lab has analyzed medium level VOA analysis as further corrective action for these samples. For sample E2AN6, initial analysis had Acetone detected high and in re-analysis, sample did not purged well and also having poor surrogate recoveries therefore Lab has analyzed medium level analysis which confirms the Acetone concentration with the initial analysis. Lab would like to confirm that should Lab report all three results in final electronic deliverables?

Resolution 01: “Per the client: Please, report and narrate in case narrative.”

Issue 02: SDGs E2AN9 and E2AP0 for soil samples require Laboratory QC but no sample was designated on the COC. The laboratory selected sample E2AR4 for Laboratory QC of PEST, ARO, SVOA, 1,4-Dioxane SIM, and SVOA SIM analysis and confirmed these samples are not blank, rinsate or PT samples.

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.

Issue 03: There is no extra volume for soil VOA Laboratory QC regarding SDGs E2AN9 and E2AP0, and the laboratory would like to proceed without Laboratory QC for soil VOA analysis.

Resolution 03: Per Region 5, the laboratory will note the issue in the SDG Narrative and proceed without Laboratory QC.

Low Volatiles:

The analysis performed on instrument MSVOA_D were done using GC column RTX-VMS which is 20 meters, 0.18 mm id, 1.0 um df, Restek Cat. #49914. The Trap was supplied by SUPELCO, K (VOACARB 3000) , TEKMAR LSC-2000 Concentrator.

The analysis performed on instrument MSVOA_W were done using GC column RXI-624SIL MS 30m 0.25mm 1.4 um. Cat#13868.

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 VOC-SFAM was based on method SFAM01.1_LOW.

The Holding Times were met for all analysis.

The Surrogate recoveries met the acceptable criteria except for ,
E2AN9 [1,2-Dichlorobenzene-d4 - 51%, 1,2-Dichloroethane-d4 - 138%, 2-Butanone-d5 - 0%, 2-Hexanone-d5 - 0%],
E2AN9ME [1,2-Dichloroethane-d4 - 67%],
E2AN9RE [1,1,2,2-Tetrachloroethane-d2 - 134%, 1,2-Dichloropropane-d6 - 121%],
E2AP0 [1,2-Dichlorobenzene-d4 - 74%],
E2AP0RE [1,2-Dichlorobenzene-d4 - 67%],
E2AP1RE [1,1,2,2-Tetrachloroethane-d2 - 131%, 2-Butanone-d5 - 138%, 2-Hexanone-d5 - 179%],
E2AP2 [1,2-Dichlorobenzene-d4 - 70%],
E2AP3 [1,2-Dichlorobenzene-d4 - 74%, 1,2-Dichloroethane-d4 - 65%],
E2AP3RE [1,2-Dichlorobenzene-d4 - 65%, 2-Hexanone-d5 - 137%],

E2AP4 [1,2-Dichlorobenzene-d4 - 70%],
E2AP5 [1,2-Dichlorobenzene-d4 - 74%],
E2AP5ME [1,2-Dichloroethane-d4 - 64%, 1,2-Dichloropropane-d6 - 70%],
E2AP5RE [1,1,2,2-Tetrachloroethane-d2 - 170%, 1,2-Dichloroethane-d4 - 143%, 1,2-Dichloropropane-d6 - 243%, 2-Butanone-d5 - 200%, 2-Hexanone-d5 - 464%, Benzene-d6 - 220%, trans-1,3-Dichloropropene-d4 - 209%],
E2AP6ME [1,2-Dichloroethane-d4 - 68%],
E2AP6RE [1,1,2,2-Tetrachloroethane-d2 - 123%, 1,2-Dichlorobenzene-d4 - 68%, 2-Butanone-d5 - 149%, 2-Hexanone-d5 - 193%],
E2AP7 [1,2-Dichlorobenzene-d4 - 72%, 1,2-Dichloroethane-d4 - 66%],
E2AP7ME [1,1-Dichloroethene-d2 - 45%, 1,2-Dichloroethane-d4 - 64%],
E2AP7RE [1,1,2,2-Tetrachloroethane-d2 - 132%, 1,2-Dichlorobenzene-d4 - 75%, 1,2-Dichloropropane-d6 - 136%, 2-Butanone-d5 - 139%, 2-Hexanone-d5 - 199%],
E2AN6RE [1,2-Dichlorobenzene-d4 - 73%, 2-Butanone-d5 - 4%, 2-Hexanone-d5 - 1%, trans-1,3-Dichloropropene-d4 - 8%],
E2AQ4 [2-Hexanone-d5 - 148%],
E2AQ5 [1,2-Dichlorobenzene-d4 - 75%],
E2AQ6 [1,2-Dichlorobenzene-d4 - 74%, 2-Hexanone-d5 - 139%],
E2AQ8 [1,2-Dichlorobenzene-d4 - 67%],
E2AR3 [1,2-Dichlorobenzene-d4 - 75%],
As per method, up to three surrogates are allowed to fail. No corrective action was taken except for Sample E2AN9 failed for more than three surrogates, as corrective action this sample was reanalyzed.
For Samples E2AP5RE, E2AP6RE, E2AP7RE and E2AN6RE First analysis was Internal Standard recoveries failed, as corrective action this sample was reanalyzed, however reanalyzed was fail for Surrogate and both run are reported.
For sample E2AN6, initial analysis had Acetone detected high and required dilution and in re-analysis, sample having poor surrogate recoveries therefore Lab has analyzed medium level analysis,and all run are Reported, Please see EPA communication after SDG Narrative.

The Internal Standards Areas met the acceptable requirements except for E2AN9, E2AN9RE, E2AP0, E2AP0RE, E2AP1, E2AP1RE, E2AP3RE, E2AP5, E2AP5RE, E2AP6RE, E2AP7RE, E2AN6, E2AN6RE. Samples E2AN9, E2AP0, E2AP1, E2AP5 and E2AN6 which failed for Internal Standards. as corrective action samples were reanalyzed and analyzed Medium Level all analysis reported.
Lab has received soil samples for VOA analysis. Lab has analyzed undiluted Low Level VOA analysis for the samples of this SDG and due to instrument error, closing CCV was not analyzed. As a corrective action, lab has re-analyzed and E2AP3RE, E2AP5RE, E2AP6RE, E2AP7RE all the samples had Internal standard Recovery outside the Qc limits and further Corrective action lab has analyzed medium level analysis and all run are Reported in Final hard Copy, Please see EPA communication after SDG Narrative.

Instrument Performance Check met requirements.
The Retention Times were met for all samples.
The Tuning criteria met requirements.

The initial Calibration met the requirements for all compounds.

The Continuing Calibration (VSTD025590) file ID VW031281.D met the requirements except for 1,1,2,2-Tetrachloroethane (27.1%). 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 Calibration (VSTD025601) file ID VW031437.D met the requirements except for 1,1,2,2-Tetrachloroethane-d2 (25.4%) and 1,1,2,2-Tetrachloroethane (32.0%). 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 indicated presence of Chloroform[4.0ug/Kg] FileID: VD080167.D (VBLK831) {VD1213SBL01} due to possible lab contamination. As per method, less than the 2 times respective CRQL is allowed to fail for Chloroform. Therefore no further corrective action was taken.

The Storage blank analysis did not indicated the presence of lab Contamination.

Samples E2AP1, E2AP1RE, E2AP7RE, E2AN6 and E2AR3 were diluted due to high concentrations.

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

Calculation:

Low/Med Level Soil/Sediment Calculation

Concentration in ug/Kg dry Weight basis) = $\frac{(A_x)(I_s)(D_f)}{(Ais)(RRF)(Ws)(D)}$ ____

Where,
Ax = Area for the compound to be measured
Ais = Area for the specific internal standard
Is = Amount of internal standard added in Nano grams (ng)
RRF = Relative response factor of the calibration standard.
Df = Dilution factor
Ws= Weight of sample

D= $\frac{100 - \%moisture}{100}$

Medium-Level Soil/Sediment Concentration

$$\text{Concentration}(\mu g/Kg) = \frac{(Ax)(Iis)(AVt)(1000)(DF)}{(Ais)\overline{RRF})(Va)(Ws)(S)}$$

Where

Ax = Area for the compound to be measured

Ais = Area for the specific internal standard

Is = Amount of internal standard added in nanograms (ng)

S = % Solids/100

$\overline{RRF}$ = Mean Relative Response Factor from the ambient temperature purge of the initial calibration standard

AV_t = Adjusted total volume of the methanol extract plus soil water in mL determined by: $AV_t = V_t + \{W_s - [W_s(S)]$.
Where Vt = total volume of methanol extract in mL. This volume is typically 5.0 mL, even though only 0.1 mL is transferred to the vial in Section 10.2.3.6. The quantity derived from {Ws - [Ws(S)]} is the soil water volume and is expressed in mL.

Va = Volume of the aliquot of the sample methanol extract (i.e., sample extract not including the methanol added to equal 100 µL), in µL added to reagent water for purging

Ws = Weight of soil/sediment extracted, in g

DF = Dilution Factor. The DF for analysis of soil/sediment sample extracts for volatiles by the medium-level method is defined as the ratio of the volume (µL) taken from the extract used to make the dilution plus the clean solvent added for the dilution (µL), to the volume taken from the extract used to make the dilution. For example, if 10 µL of the extract was taken and added to 90 µL of clean solvent, then ration would be (10 µL + 90 µL/10 µL)= a DF of 10.

Example sample **E2AN6ME** for **Acetone:**

Ax	=	31462
Ais	=	207548
Is	=	250
S	=	82.3/100 = 0.823
$\overline{RRF}$	=	0.249
AV_t	=	5.65
Va	=	100
Ws	=	3.69
DF	=	1
Avt	=	5 + [3.69 (3.69 X 82.3/100)] = 5.65

$$\text{Concentration}(\mu g/Kg) = \frac{(31462)(250)(5.65)(1000)(1)}{(207548)(0.249)(100)(3.69)(0.823)}$$

Reported results = 2831.592 ug/Kg

Final Reported results = 2800 ug/Kg

Relative Response Factor = **Dichlorodifluoromethane**: RUN **VX120524** for **5.0** ppb

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

$$RRF = \frac{8793}{234557} \times \frac{50}{5.0}$$

RRF= 0.375

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 for soil sample was extracted by Method SFAM01.1 on 12/16/2024, 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.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The MS {E2AR4MS} recovery met the requirements for all compounds.
The MSD {E2AR4MSD} recovery met the requirements for all compounds.
The RPD {E2AR4MSD} RPD met the requirements for all compounds
The Blank Spike for {PB165662BS} 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 SOIL Sample:

Concentration ug/Kg,

$$\text{(dry weight basis)} = \frac{(Ax)\,(Is)\,(Vt)\,(DF)\,(GPC)}{(Ais)\,(RRF)\,(Vi)\,(Wt)\,(D)}$$

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.
Vi = Volume of extract injected in microliters (uL)
Vt = Volume of concentrated extract in microliters (uL)
Wt = Weight of the original sample extracted in g
Df = Dilution factor
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.

$$D = \frac{100 - \%\text{moisture}}{\quad}$$

100

Example calculation of E2AP0 for Phenol:

Ax = 12530
Ais = 123662
Is = 20
Vi = 1
Vt = 500
Wt = 30.1
Df = 1
RRF = 1.963
GPC = 2
D= 0.905

Concentration

$$\text{(dry weight basis) ug/Kg} = \frac{(12530)\,(20)\,(500)\,(1)\,(2)}{(123662)\,(1.963)\,(1)\,(30.1)\,(0.905)}$$

= 38 ug/Kg

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

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

Semis volatile Organic samples for Soil were extracted by Method SFAM01.1 on 12/16/2024. The analysis of SVOCMS Group2 was based on method SFAM01.1_SIM. using MA 3064.0 See the MA instructions at the end of the Case Narrative.

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 MS {E2AR4MS} recovery met the requirements for all compounds.
The MSD {E2AR4MSD} recovery met the requirements for all compounds.
The RPD {E2AR4MSD} RPD met the requirements for all compounds
The Blank Spike for {PB165663BS} 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 Continues Calibration met the requirements.

Samples E2AP5, E2AN6 were diluted due to high concentrations.

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

Concentration of SOIL Sample:

Concentration ug/Kg,

$$\text{(dry weight basis)} = \frac{(Ax)\,(Is)\,(Vt)\,(DF)\,(GPC)}{(Ais)\,(RRF)\,(Vi)\,(Wt)\,(D)}$$

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.
Vi = Volume of extract injected in microliters (uL)
Vt = Volume of concentrated extract in microliters (uL)
Wt = Weight of the original sample extracted in g
Df = Dilution factor
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.

$$D = \frac{100 - \%\text{moisture}}{100}$$

Example calculation of E2AN6 for Naphthalene:

Ax = 1005
Ais = 18060
Is = 0.4
Vi = 1
Vt = 500

Wt = 30.1
Df = 1
RRF = 1.001
GPC = 2
D= 0.823

Concentration

$$\text{(dry weight basis) ug/Kg} = \frac{(1005)\,(0.4)\,(500)\,(1)\,(2)}{(18060)\,(1.001)\,(1)\,(30.1)\,(0.823)}$$

= 0.89 ug/Kg

RRF Calculation of standard 0.4 ppb **Naphthalene** with instrument M for method 12/18/2024.

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

Area of Internal Standard Conc. of Compound

= 16284/14312 X 0.4/0.4

= 1.138 (Reported RRF)

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 were 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 12/16/2024 and analyzed on 12/16/2024 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.
E2AR4MS met the requirements.
E2AR4MSD 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
Vi = 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).
Ws = Weight of sample extracted (g).

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

$GPC = \frac{Vin}{Vout}$ = GPC factor (If no GPC is performed, GPC=1)

DF = Dilution Factor

Example of AR1260 calculation for Peak 1

$$\text{Calibration factor Peak 1 100ppb ISTD= Column1} \quad \frac{\text{peak area}}{\text{Mass injected ng}}$$

$$= \frac{4689759}{0.100}$$

= 46897590 calibration factor for Peak 1 100ppb

Average of 5 peaks = 41271310

No target **Aroclors** were detected in 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 were 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 12/17/2024 and analyzed on 12/18 and 12/20/2024. 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
E2AN6 [Decachlorobiphenyl(1)- 20%, Decachlorobiphenyl(2)- 21%],
E2AN9 [Decachlorobiphenyl(1)- 27%, Decachlorobiphenyl(2)- 27%],
E2AP0 [Decachlorobiphenyl(1)- 25%, Decachlorobiphenyl(2)- 25%],
E2AP1 [Decachlorobiphenyl(1)- 21%, Decachlorobiphenyl(2)- 21%],
E2AP2 [Decachlorobiphenyl(1)- 24%, Decachlorobiphenyl(2)- 24%],
E2AP4 [Decachlorobiphenyl(1)- 27%, Decachlorobiphenyl(2)- 26%],
E2AP6 [Decachlorobiphenyl(1)- 24%, Decachlorobiphenyl(2)- 23%],
E2AP7 [Decachlorobiphenyl(1)- 29%, Decachlorobiphenyl(2)- 29%],
E2AQ4 [Decachlorobiphenyl(1)- 24%, Decachlorobiphenyl(2)- 25%],
E2AQ5 [Decachlorobiphenyl(1)- 23%, Decachlorobiphenyl(2)- 24%],
E2AQ6 [Decachlorobiphenyl(1)- 22%, Decachlorobiphenyl(2)- 23%],
E2AQ7 [Decachlorobiphenyl(1)- 29%],
E2AQ8 [Decachlorobiphenyl(1)- 26%, Decachlorobiphenyl(2)- 26%],
E2AR4 [Decachlorobiphenyl(1)- 29%, Decachlorobiphenyl(2)- 29%],
E2AR4MS [Decachlorobiphenyl(1)- 28%, Decachlorobiphenyl(2)- 28%],
E2AR4MSD [Decachlorobiphenyl(1)- 28%, Decachlorobiphenyl(2)- 28%],
The SOW allows one surrogate to fail to meet the criteria per column. ((Please See Section 11.3.6 of Exhibit D Pesticide Analysis).

E2AR4MS met the requirements.
E2AR4MSD 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 E2AN6, E2AN9 and E2AP5 failed to meet the %D for the results between the two columns Criteria.

Sample E2AP5 has the concentration of target compound - Endosulfan Sulfate,
Sample E2AP7 has the concentration of target compound - beta-BHC,
Sample E2AR3 has the concentration of target compound - Methoxychlor,
below Method detection limits, therefore it is not reported as hit in Form1.

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

Calculation for the Concentration in Soil Samples

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

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
Vi = 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).
Ws = Weight of sample extracted (g).
D = % dry weight or $\frac{100 - \%\text{Moisture}}{100}$
GPC = $\frac{Vin}{Vout}$ = GPC factor (If no GPC is performed, GPC=1)

DF = Dilution Factor.

Example of Endosulfan I calculation

Calibration Factor Calculation Endosulfan I in the second column

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

$$= \frac{81407216}{}$$

5ng

= 16281400

Mean Calibration Factor = average of 5 point calibration factor

= 14473600

Sample **E2AN6**
Ax = 12046590
CF = 14473600
Ws =30.1
Vi = 1.0
Vt = 5000
DF = 1.0
GPC = 2.0
D = 0.823

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

$$= \frac{(12046950)\,(5000)\,(1.0)\,(2.0)}{(14473600)(1.0)(30.1)(0.823)}$$

$$= 0.336$$

Reported Results = 0.34 ug/kg

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.