SDG NARRATIVE

LAB NAME: Alliance Technical Group, LLC
CASE: 51847
SDG: E28R5
CONTRACT: 68HERH20D0011
LAB CODE: ACE
LAB ORDER ID: P5232
MODIFICATION REF. NUMBER: NA

Sample ID	EPA Sample ID	Test	pH
P5232-01	E28R5		
P5232-01RE	E28R5RE	VOA	
P5232-02	E28R6		
P5232-02DL	E28R6DL	SVOA_SIM	
P5232-03	E28R7		
P5232-04	E28R8		
P5232-04RE	E28R8RE	VOA	
P5232-05	E28R9		
P5232-05DL	E28R9DL	SVOA_SIM	
P5232-06	E28S0		
P5232-06RE	E28S0RE	VOA	
P5232-07	E28S1		
P5232-07DL	E28S1DL	SVOA_SIM	
P5232-08	E28S2		
P5232-08DL	E28S2DL	SVOA_SIM	
P5232-08RE	E28S2RE	VOA	
P5232-09	E28S3		
P5232-09DL	E28S3DL	Aroclor	
P5232-10	E28S4		
P5232-10DL	E28S4DL	SVOA_SIM	
P5232-10ME	E28S4ME	VOA	
P5232-10RE	E28S4RE	VOA	
P5232-11	E28S5		
P5232-11DL	E28S5DL	SVOA_SIM, Aroclor	
P5232-12	E28S6		
P5232-12DL	E28S6DL	SVOA_SIM, Aroclor	
P5232-13	E28S7		
P5232-13DL	E28S7DL	SVOA_SIM, Aroclor	

P5232-14	E28S8		
P5232-14DL	E28S8DL	Aroclor	
P5232-15	E28S9		
P5232-16	E28T0		
P5232-17	E28T1		
P5232-17DL	E28T1DL	SVOA_SIM	
P5232-17ME	E28T1ME	VOA	
P5232-17RE	E28T1RE	VOA	
P5232-18	E28T2		
P5232-19	E28T3		
P5232-19DL	E28T3DL	SVOA_SIM	
P5232-19ME	E28T3ME	VOA	
P5232-19RE	E28T3RE	VOA	
P5232-21MS	E28S7MS		
P5232-22MSD	E28S7MSD		

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

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

The temperature of the samples was measured using an I R Gun. The samples temperature was 2.3, 2.1, 2.0 degree Celsius for the samples received on 12/10/2024.

Shipping Discrepancies and/or QC issues:

Issue 01: "Lab has received soil samples for VOA analysis. Lab has performed few samples reanalysis for low level VOA analysis and closing CCV has more than two analytes outside the QC limits. Since, these were the re-analysis therefore Lab will report both original and re-analysis with closing CCV failure in final electronic deliverables.

QSS INPUT: The laboratory is expected to comply with the SOW requirements specified in Exhibit D, Sections 9.5.6 and 11.4.

Resolution 01: "The client accepts the lab's proposal of reporting both sets of data."

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 ,
E28R5 [1,1,2,2-Tetrachloroethane-d2 - 40%, 1,1-Dichloroethene-d2 - 42%, 1,2-Dichlorobenzene-d4 - 59%, 1,2-Dichloroethane-d4 - 53%, 1,2-Dichloropropane-d6 - 64%],
E28R5RE [1,1-Dichloroethene-d2 - 111%, Chloroethane-d5 - 181%, Vinyl Chloride-d3 - 208%],
E28R6 [1,1-Dichloroethene-d2 - 40%, 1,2-Dichlorobenzene-d4 - 61%, 1,2-Dichloroethane-d4 - 56%],
E28R7 [1,2-Dichlorobenzene-d4 - 63%, 1,2-Dichloroethane-d4 - 67%, 1,2-Dichloropropane-d6 - 56%],
E28R8 [1,1,2,2-Tetrachloroethane-d2 - 0%, 1,1-Dichloroethene-d2 - 45%, 1,2-Dichlorobenzene-d4 - 61%, 1,2-Dichloroethane-d4 - 58%, 1,2-Dichloropropane-d6 - 57%, Chloroform-d - 3%],
E28R8RE [1,1,2,2-Tetrachloroethane-d2 - 0%, Chloroform-d - 5%, Vinyl Chloride-d3 - 158%],
E28S0 [1,1,2,2-Tetrachloroethane-d2 - 43%, 1,2-Dichlorobenzene-d4 - 66%, 1,2-Dichloroethane-d4 - 65%, 1,2-Dichloropropane-d6 - 61%],
E28S0RE [Chloroethane-d5 - 152%],
E28S1 [1,2-Dichlorobenzene-d4 - 66%],
E28S2 [1,2-Dichlorobenzene-d4 - 65%, 1,2-Dichloroethane-d4 - 70%],
E28S3 [1,2-Dichlorobenzene-d4 - 68%],
E28S4 [1,1-Dichloroethene-d2 - 43%, 1,2-Dichlorobenzene-d4 - 68%, 1,2-Dichloroethane-d4 - 61%],
E28S4RE [1,2-Dichloropropane-d6 - 135%],
E28S6 [1,2-Dichlorobenzene-d4 - 67%],
E28S7 [1,2-Dichlorobenzene-d4 - 73%],
E28S8 [1,2-Dichlorobenzene-d4 - 73%],
E28S9 [1,2-Dichlorobenzene-d4 - 70%],
E28T0 [1,2-Dichlorobenzene-d4 - 68%],
E28T1 [1,2-Dichlorobenzene-d4 - 73%],
E28T1RE [1,1,2,2-Tetrachloroethane-d2 - 133%, 1,2-Dichloropropane-d6 - 154%, Benzene-d6 - 141%], E28T3 [1,2-Dichlorobenzene-d4 - 71%],
E28T3ME [1,1-Dichloroethene-d2 - 44%, 1,2-Dichlorobenzene-d4 - 75%, 1,2-Dichloroethane-d4 - 63%, 1,2-Dichloropropane-d6 - 68%],
E28T3RE [1,2-Dichlorobenzene-d4 - 69%],
As per method, up to three surrogates are allowed to fail. No corrective action was taken except for Samples E28R5, E28S0 and E28R8 failed for more than three surrogates, as corrective action this samples were reanalyzed.

Lab has received soil samples for VOA analysis. Lab has performed samples E28R5RE, E28R8RE, E28S0RE reanalysis for low level VOA analysis and closing CCV has more than two analytes outside the QC limits. Since, these were the re-analysis therefore Lab will report both original and re-analysis with closing CCV failure in final Hard Copy, Please see EPA communication after SDG Narrative.

The Internal Standards Areas met the acceptable requirements except for E28S2, E28S3, E28S4, E28S4RE, E28T0, E28T1, E28T1RE, E28T3 and E28T3RE. Samples E28S4, E28T1 and E28T3 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 performed Sample E28S2RE reanalysis for low level VOA analysis and closing CCV has more than two analytes outside the QC limits. Since, these were the re-analysis therefore Lab will report both original and re-analysis with closing CCV failure 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 MS {E28S7MS} recovery met the requirements for all compounds.
The MSD {E28S7MSD} recovery met the requirements for all compounds.
The RPD {E28S7MSD} RPD met the requirements for all compounds.

The initial Calibration met the requirements for all compounds.

The Initial Calibration Verification (VICV861) file ID VD080127.D met the requirements except for Trichloroethene (-21.2%) andChloroform-d (20.2%) . As per method, up to two target analyte in ICV are allowed to exceed the %D values. Therefore no further corrective action was taken.

The Continuing Calibration (VSTD025930) file ID VD080128.D met the requirements except for Chloromethane (30.8%) . 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 (VSTD025932) file ID VD080143.D met the requirements except for Chloromethane (36.6%) and Vinyl chloride (33.5%). 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 End Continuing Calibration (VSTD025933) file ID VD0801583.D met the requirements except for Chloromethane (89.8%), Vinyl chloride (68.1%) and Chloroethane (65.3%).
Lab has received soil samples for VOA analysis. Lab has performed samples E28R5RE, E28R8RE, E28S0RE and E28S2RE reanalysis for low level VOA analysis and closing CCV has more than two analytes outside the QC limits. Since, these were the re-analysis therefore Lab will report both original and re-analysis with closing CCV failure in final Hard Copy, Please see EPA communication after SDG Narrative.

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[4.7ug/L] FileID: VD080144.D (VBLK830) {VD1212SBL01} 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.

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

Calculation:

Low/Med Level Soil/Sediment Calculation

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

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

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

Medium-Level Soil/Sediment Concentration

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

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 **E28S4ME** for **Methyl Acetate:**

Ax = 11361

Ais = 284164

Is = 250

S = 82.0/100 = 0.820

$\overline{RRF}$ = 0.404

AV_t = 6.84

Va = 100

Ws = 10.2

DF = 1

Avt = 5 + [10.2 (10.2 X 82.0/100)] = 6.84

$$\text{Concentration}(\mu g/Kg) = \frac{(11361)(250)(6.84)(1000)(1)}{(284164)(0.404)(100)(10.2)(0.820)}$$

Reported results = 202.324 ug/Kg

Final Reported results = 200 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.

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.

Semis volatile Organic for soil sample was extracted by Method SFAM01.1 on 12/11/2024, 12/13/2024 and 12/17/2024, 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,
E28R5 [4,6-Dinitro-2-methylphenol-d2 - 9%],
E28R6 [2-Nitrophenol-d4 - 8%, 4,6-Dinitro-2-methylphenol-d2 - 1%, 4-Nitrophenol-d4 - 9%],
E28R8 [4,6-Dinitro-2-methylphenol-d2 - 4%],
E28S0 [4,6-Dinitro-2-methylphenol-d2 - 7%],
E28S3 [4,6-Dinitro-2-methylphenol-d2 - 3%],
E28S8 [4,6-Dinitro-2-methylphenol-d2 - 9%]. As per method four surrogates are allowed to fail., Therefore no further corrective action was taken.

The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The MS {E28S7MS} recovery met the requirements for all compounds.
The MSD {E28S7MSD} recovery met the requirements for all compounds.
The RPD {E28S7MSD} RPD met the requirements for all compounds
The Blank Spike for {PB165551BS} recoveries met the requirements for all compounds.

The Blank Spike for {PB165644BS} recoveries met the requirements for all compounds.
The Blank Spike for {PB165701BS} 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 opening Continuous Calibration met the requirements.

The End Continuous Calibration (SSTD020567) with File ID BG063691.D met the requirement except for 4,6-Dinitro-2-methylphenol-d2 (-75.7%), Up to six target analytes and DMCs may fail to meet the maximum %D criteria listed in Exhibit D - SVOA, Table 5, for the Continuous Calibration Verification to be considered acceptable. No further corrective action was taken.

The End Continuous Calibration (SSTD020749) with File ID BP023427.D met the requirement except for Hexachlorocyclopentadiene (-52.7%), 2,4-Dinitrophenol (-66.0%), 4,6-Dinitro-2-methylphenol-d2 (-50.3%), Up to six target analytes and DMCs may fail to meet the maximum %D criteria listed in Exhibit D - SVOA, Table 5, for the Continuous Calibration Verification to be considered acceptable. No further corrective action was taken.

PB165551BL analyzed twice in different instrument, first time in BNA_P and Second time in BNA_G. However our sample associated with this BL run in BNA_P, so BNA_G instrument raw data reported as Screening Data in the package.

The E28R6, E28R7, E28R9, E28S3, E8S5, E28S7, E28S8, E28S9 and E28T2 have the concentration of target compound below method detection limits; therefore it is not reported as Hit in Form1.

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 E28R6 for Phenol:

Ax = 31978
Ais = 232112
Is = 20
Vi = 1
Vt = 500
Wt = 30.1
Df = 1
RRF = 1.963
GPC = 2
D= 0.783

Concentration

$$\text{(dry weight basis) ug/Kg} = \frac{(31978)(20)(500)(1)(2)}{(232112)(1.963)(1)(30.1)(0.783)}$$

= 60 ug/Kg

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

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

= 652991/591107 X 20/20

= 1.105 (Reported RRF)

Semivolatiles SIM:

The samples were analyzed on instrument BNA_N 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 Soil sample was extracted by Method SFAM01.1 on 12/11/2024. 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 MS {E28S7MS} recovery met the requirements for all compounds.
The MSD {E28S7MSD} recovery met the requirements for all compounds.
The RPD {E28S7MSD} RPD met the requirements for all compounds
The Blank Spike for {PB165549BS} 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.

Samples E28R6, E28R9, E28S1, E28S2, E28S4, E28S5, E28S6, E28S7, E28T1 and E28T3 were diluted due to high concentrations.

Samples E28T1DL and E28T3DL were reported with compounds exceeding calibration range. This sample is not further diluted because this sample compounds results are greater than highest calibration range of SIM but less than Total SVOC CRQL.

Samples E28R6, E28S2, E28S3, E28S7, E28T0, E28T1, E28T2 and E28T3 have the concentration of target compound 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.

Concentration of SOIL Sample:

Concentration ug/Kg,

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

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 = $\frac{Vin}{Vout}$ = GPC factor (If no GPC is performed, GPC=1)
Vout = Volume of extract collected after GPC cleanup.

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

Example calculation of E28R5 for Naphthalene:

Ax = 3362
Ais = 10056
Is = 0.4
Vi = 1
Vt = 500
Wt = 30.1
Df = 1
RRF = 0.981
GPC = 2
D= 0.787

Concentration

(dry weight basis) ug/Kg = $\frac{(3362)\ (0.4)\ (500)\ (1)\ (2)}{(10056)\ (0.981)\ (1)\ (30.1)\ (0.787)}$

= 5.7 ug/Kg

RRF Calculation of standard 0.4 ppb for **Naphthalene** with N instrument for method 12/16/2024.

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

= 5971/5515 X 0.4/0.4

= 1.083 (Reported RRF)

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 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 12/11/2024 and analyzed on 12/13, 12/16, 12/17/2024. 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 except for
E28R5 [Decachlorobiphenyl(1) - 206%, Decachlorobiphenyl(2) - 173%],
E28R6 [Decachlorobiphenyl(1) - 235%, Decachlorobiphenyl(2) - 198%],
E28S3 [Decachlorobiphenyl(1) - 26%, Decachlorobiphenyl(2) - 23%],
E28S3DL [Decachlorobiphenyl(1) - 25%, Decachlorobiphenyl(2) - 22%],
E28S4 [Decachlorobiphenyl(1) - 27%, Decachlorobiphenyl(2) - 25%],
E28S5 [Decachlorobiphenyl(1) - 29%, Decachlorobiphenyl(2) - 26%],
E28S5DL [Decachlorobiphenyl(1) - 29%, Decachlorobiphenyl(2) - 26%],
E28S9 [Decachlorobiphenyl(1) - 16%, Decachlorobiphenyl(2) - 15%],
E28T0 [Decachlorobiphenyl(1) - 18%, Decachlorobiphenyl(2) - 16%],
E28T1 [Decachlorobiphenyl(2) - 25%],
E28S7MS [Decachlorobiphenyl(2) - 27%] and
E28S7MSD [Decachlorobiphenyl(2) - 27%].The SOW allows one surrogate to fail to meet the criteria per column. ((Please See Section 11.3.6 of Exhibit D Aroclor Analysis).

E28S7MS met the requirements.
E28S7MSD 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.
Samples E28S3, E28S5, E28S6, E28S7 and E28S8 were diluted due to high concentrations.

Samples E28R5, E28R6, E28R9, E28S0, E28S1, E28S2, E28T1 and E28T3 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 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 $\frac{100 - \%Moisture}{100}$
GPC = $\frac{Vin}{Vout}$ = GPC factor (If no GPC is performed, GPC=1)
DF = Dilution Factor

Example of AR1260 calculation for Peak 1

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

$$= \frac{28412934}{0.100}$$

= 284129340 calibration factor for Peak 1 100ppb

Average of 5 peaks = 253340942

Sample **E28R5**
Ax = 77812271
CF = 253340942
Vt = 10000
Vi = 1.0
Ws = 30.0
D = 0.787
GPC = 1.0
DF = 1.0

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

$$= \frac{(77812271)\,(10000)\,(1.0)\,(1.0)}{(253340942)\,(1.0)\,(30.0)\,(0.787)}$$

Peak 1 = 130.09

Average of 5 peaks = 114.06

Reported results = 110 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.