SDG NARRATIVE

LAB NAME: Alliance Technical Group, LLC
CASE: 51972
SDG: DCZT0
CONTRACT: 68HERH20D0011
LAB CODE: ACE
LAB ORDER ID: Q1274
MODIFICATION REF. NUMBER: 3216.1

Sample ID	EPA Sample ID	Test	pH
Q1274-01	DCZT0		
Q1274-02MS	DCZT0MS		
Q1274-03MSD	DCZT0MSD		
Q1274-04	DCZT1		
Q1274-05	DCZT2		
Q1274-05DL	DCZT2DL	PEST	
Q1274-06	DCZT3		

06 Soil samples were delivered to the laboratory intact on 02/03/2025.

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

The temperature of the samples was measured using an I R Gun. The samples temperature was 2.2 degree Celsius for the samples received on 02/03/2025.

Shipping Discrepancies and/or QC issues:

LAB: “Lab has received soil samples for SVOA analysis. Lab has analyzed undiluted SVOA analysis for the samples DCZT0 (MS/MSD), DCZT1 & DCZT3. Samples have very high matrix interference as you can see attached quant reports for your reference. Due to matrix interference, more than four surrogates are outside the QC limits therefore lab would like to confirm that lab will report undiluted SVOA analysis with surrogate failure for final electronic deliverables.

Please see attachment for your reference.”

REGION: “The Region concurs with the lab’s decision to report undiluted SVOA analysis with surrogate failure for final electronic deliverables.”

Semivolatiles:

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 02/07/2025, The analysis of SVO-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
DCZT0 [2,4-Dichlorophenol-d3 - 1%, 2-Chlorophenol-d4 - 5%, 2-Nitrophenol-d4 - 3%, 4,6-Dinitro-2-methylphenol-d2 - 0%, 4-Nitrophenol-d4 - 7%],
DCZT0MS [2,4-Dichlorophenol-d3 - 4%, 2-Chlorophenol-d4 - 6%, 2-Nitrophenol-d4 - 3%, 4,6-Dinitro-2-methylphenol-d2 - 2%, 4-Nitrophenol-d4 - 8%],
DCZT0MSD [2,4-Dichlorophenol-d3 - 4%, 2-Chlorophenol-d4 - 7%, 2-Nitrophenol-d4 - 4%, 4,6-Dinitro-2-methylphenol-d2 - 2%],
DCZT1 [2,4-Dichlorophenol-d3 - 1%, 2-Chlorophenol-d4 - 2%, 2-Nitrophenol-d4 - 4%, 4,6-Dinitro-2-methylphenol-d2 - 1%, 4-Nitrophenol-d4 - 8%],
DCZT2 [2,4-Dichlorophenol-d3 - 2%, 2-Chlorophenol-d4 - 4%, 2-Nitrophenol-d4 - 5%, 4,6-Dinitro-2-methylphenol-d2 - 2%],
DCZT3 [2,4-Dichlorophenol-d3 - 9%, 2-Chlorophenol-d4 - 13%, 2-Nitrophenol-d4 - 5%, 4,6-Dinitro-2-methylphenol-d2 - 0% and 4-Nitrophenol-d4 - 1%]. Samples have very high matrix interference. Due to matrix interference, more than four surrogates are outside the QC limits therefore lab would like to confirm that lab has reported undiluted SVOA analysis with surrogate failure for final electronic deliverables. Please see email communication after SDG narrative.

The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The MS {DCZT0MS} recovery met the requirements for all compounds.
The MSD {DCZT0MSD} recovery met the requirements for all compounds.
The MSD {DCZT0MSD} RPD met the requirements for all compounds.
The Blank Spike for {PB16622BS} 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.

The Sample DCZT0, DCZT1 and DCZT3 have the concentration of target compound below method detection limits; therefore it is not reported as Hit in Form1.

AS per 3216.1 MA requirement “The Laboratory shall proceed to the Semivolatiles SIM procedure for any sample that has target analyte Pentachlorophenol (PCP) reported as undetected or detected at a concentration below the sample CRQL (with a Lab Qualifier of “U” or “J”) in the full scan analysis.”, so sample DCZT0, DCZT1, DCZT2 and DCZT3 not analyzed for SIM.

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 DCZT0 for Isophorone:

Ax = 307974
Ais = 2106686
Is = 20
Vi = 1
Vt = 500
Wt = 30.1
Df = 1
RRF = 0.701
GPC = 2
D= 0.927

Concentration

$$\text{(dry weight basis) ug/Kg} = \frac{(307974)\,(20)\,(500)\,(1)\,(2)}{(2106686)\,(0.701)\,(1)\,(30.1)\,(0.927)}$$

= 150 ug/Kg

RRF Calculation of standard 20 ppb for Naphthalene with P instrument for method 01/29/2025.

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

= 2498726/2130098 X 20/20

= 1.173 (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), MS(1)/MS(2), MSD(1)/MSD(2) and PLCS01(1) / PLCS01(2) respectively.

Pesticide sample was extracted by method SFAM01.1 on 02/07/2025 and analyzed on 02/11, and 02/12/2025. 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
DCZT0 [Decachlorobiphenyl(2)-21%],
DCZT0MS [Decachlorobiphenyl(2)- 24%],
DCZT0MSD [Decachlorobiphenyl(2)- 17%],
DCZT1 [Decachlorobiphenyl(2)- 14%],
DCZT2 [Decachlorobiphenyl(2) - 8%],
DCZT2DL [Decachlorobiphenyl(2)- 16%],
DCZT3 [Decachlorobiphenyl(1) - 14%, Decachlorobiphenyl(2) - 7%],
The SOW allows one surrogate to fail to meet the criteria per column. ((Please See Section 11.3.6 of Exhibit D Pesticide Analysis).

DCZT0MS met the requirements.
DCZT0MSD 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 DCZT2 was diluted due to high concentrations.

Samples DCZT0, DCZT0MS, DCZT0MSD DCZT1, DCZT2, DCZT2DL and DCZT3 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

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

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).

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

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

DF = Dilution Factor.

Example of 4,4'-DDE calculation
Calibration Factor Calculation 4,4'-DDE in the second column

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

$$= \frac{177629779}{10\text{ng}}$$

$$= 17763000$$

Mean Calibration Factor = average of 5 point calibration factor

= 16378700

Sample **DCZT0**
Ax = 187918523
CF = 16378700
Ws =30.0
Vi = 1.0
Vt = 5000
DF = 1.0
GPC = 2.0
D = 0.927

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

$$= \frac{(187918523)\,(5000)\,(1.0)\,(2.0)}{(16378700)(1.0)(30.0)(0.927)}$$

$$= 4.12$$

Reported Results = 4.1 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.