SDG NARRATIVE

LAB NAME: Alliance Technical Group, LLC
CASE: 51972
SDG: DCZT1
CONTRACT: 68HERH20D0011
LAB CODE: ACE
LAB ORDER ID: Q1275
MODIFICATION REF. NUMBER: NA

Sample ID	EPA Sample ID	Test	pH
Q1275-01	DCZT0		
Q1275-01DL	DCZT0DL	TCLP SVOA	
Q1275-01DL2	DCZT0DL2	TCLP SVOA	
Q1275-02MS	DCZT0MS		
Q1275-03MSD	DCZT0MSD		
Q1275-04	DCZT1		
Q1275-04DL	DCZT1DL	TCLP SVOA	
Q1275-04DL2	DCZT1DL2	TCLP SVOA	
Q1275-05	DCZT2		
Q1275-05DL	DCZT2DL	TCLP SVOA	
Q1275-05DL2	DCZT2DL2	TCLP SVOA	
Q1275-06	DCZT3		
Q1275-06DL	DCZT3DL	TCLP SVOA	
Q1275-06DL2	DCZT3DL2	TCLP SVOA	

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

Test requested on the Chain of Custody was TCLP Semivolatile Organic, TCLP 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.

TCLP 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.

The analysis of TCLP BNA Group1 was based on method SFAM01.1. Semi volatile Organic samples were extracted by Method SFAM01.1 on 02/10/2025. Samples were received on 02/03/2025. TCLP extraction was done on 02/07/2025.

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,
DCZT0DL [2,4-Dichlorophenol-d3 - 620%, 4-Methylphenol-d8 - 407%, Anthracene-d10 - 852%, Nitrobenzene-d5 - 659%, Pyridine-d5 - 220%],
DCZT0DL2 [2,4-Dichlorophenol-d3 - 545%, 4-Methylphenol-d8 - 440%, Anthracene-d10 - 1135%, Nitrobenzene-d5 - 781%],
DCZT1DL [2,4-Dichlorophenol-d3 - 686%, 4-Methylphenol-d8 - 444%, Anthracene-d10 - 969%, Nitrobenzene-d5 - 715%, Pyridine-d5 - 252%],
DCZT1DL2 [2,4-Dichlorophenol-d3 - 599%, 4-Methylphenol-d8 - 450%, Anthracene-d10 - 1144%, Nitrobenzene-d5 - 794%],
DCZT2DL [2,4-Dichlorophenol-d3 - 564%, 4-Methylphenol-d8 - 406%, Anthracene-d10 - 854%, Nitrobenzene-d5 - 649%,Pyridine-d5 - 248%],
DCZT2DL2 [2,4-Dichlorophenol-d3 - 500%, 4-Methylphenol-d8 - 375%, Anthracene-d10 - 1235%, Nitrobenzene-d5 - 750%],
DCZT3DL [2,4-Dichlorophenol-d3 - 483%, 4-Methylphenol-d8 - 325%, Anthracene-d10 - 758%, Nitrobenzene-d5 - 587%, Pyridine-d5 - 4%],
DCZT3DL2 [2,4-Dichlorophenol-d3 - 451%, 4-Methylphenol-d8 - 340%, Anthracene-d10 - 1089%, Nitrobenzene-d5 - 655%, Pyridine-d5 - 11%]. The DMC recovery requirements do not apply to samples that have been diluted.

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 {PB166647BS} recoveries met the requirements for all compounds.
The Blank Spike for {PB165649BS} 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.

Samples DCZT0, DCZT1, DCZT2 and DCZT3 were diluted due to bad matrices.

Samples DCZT2 has 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 TCLP Sample:

$$\text{Concentration ug/L} = \frac{(Ax)\,(Is)\,(Vt)\,(DF)\,(GPC)}{(Ais)\,(\overline{RRF})\,(Vo)\,(Vi)}$$

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.
Vo = Volume of water extracted in mL.
Vi = Volume of extract injected in uL.
Vt = Volume of the concentrated extract in uL
RRF = Mean Relative Response Factor determined from the initial calibration standard.
GPC = $\frac{Vin}{Vout}$ = GPC factor (If no GPC is performed, GPC=1)

Example calculation of DCZT0 for Pentachlorophenol:

Ax = 22112275
Ais = 2203468
Is = 20
DF = 10
Vo = 990
Vi = 1
Vt = 1000
RRF = 0.168
GPC = 1

$$\text{Concentration ug/L} = \frac{(22112275)\,(20)\,(1000)\,(10)\,(1)}{(2203468)\,(0.168)\,(1000)\,(1)}$$

$$= 12000 \text{ ug/L}$$

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

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

= 747459/487689 X 20/20

= 1.533 (Reported RRF)

TCLP 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.

TCLP extraction was done on 02/07/2025 and Pesticide sample was extracted by method SFAM01.1 on 02/10/2025 and analyzed on 02/11/2025. The samples were extracted and analyzed within contractual holding time.

The Surrogate recoveries met the acceptable criteria.
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 DCZT0MS and DCZT0MSD failed to meet the %D for the results between the two columns Criteria.

Calculation for the Concentration in Water Samples

$$\text{Concentration ug/L} = \frac{(Ax)\ (Vt)\ (DF)\ (GPC)}{(CF)\ (Vo)\ (Vi)}$$

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

CF = Mean Calibration Factor from the initial calibration (area/ng).
Vo = Volume of water extracted in mL.
Vi = Volume of extract injected in uL.
Vt = Volume of the concentrated extract in uL

GPC = Vin = GPC factor (If no GPC is performed, GPC=1)
Vout
Vin = Volume of extract loaded onto GPC column.

Vout = Volume of extract collected after GPC cleanup.

Example of Heptachlor calculation
Calibration Factor Calculation Heptachlor in the first column

Calibration factor (CF) = peak area
Mass injected in ng

= 20547498
5ng

= 4109500

Mean Calibration Factor = average of 6 point calibration factor

= 4276200

No target **Pesticides** were detected in the samples.

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.