



SDG NARRATIVE

LAB NAME: Alliance Technical Group, LLC

CASE: 51860

SDG: YE5X5

CONTRACT: 68HERH20D0011

LAB CODE: ACE

LAB ORDER ID: P5322

MODIFICATION REF. NUMBER: NA

| Sample ID | EPA Sample ID | pH |
|-------------|---------------|----|
| P5322-01 | YE5X5 | |
| P5322-02 | YE5X6 | |
| P5322-02ME | YE5X6ME | |
| P5322-02RE | YE5X6RE | |
| P5322-03MS | YE5X6MS | |
| P5322-04MSD | YE5X6MSD | |
| P5322-05 | YE5X7 | |
| P5322-06 | YE5X8 | |
| P5322-07 | YE5X9 | |
| P5322-08 | YE5Y1 | |
| P5322-09 | YE5Z7 | |
| P5322-10 | YE5Z8 | |
| P5322-11 | YE5Z9 | |
| P5322-12 | YE600 | |
| P5322-12ME | YE600ME | |
| P5322-12RE | YE600RE | |
| P5322-13 | YE601 | |
| P5322-14 | YE695 | |
| P5322-16 | YE630 | |
| P5322-17 | YE631 | |
| P5322-17ME | YE631ME | |
| P5322-18 | YE635 | |
| P5322-19 | YE642 | |
| P5322-20 | YE643 | |
| P5322-21 | YE644 | |
| P5322-22 | YE645 | |
| P5322-23 | YE646 | |

14 Soil samples were delivered to the laboratory intact on 12/18/2024.

08 Soil samples were delivered to the laboratory intact on 12/20/2024.

Test requested on the Chain of Custody was Volatile Organic by Method SFAM01.1.

The temperature of the samples was measured using an I R Gun. The samples temperature was 1.9 degree Celsius for the samples received on 12/18/2024, 2.0, 1.9 degree Celsius for the samples received on 12/20/2024.

Low Volatiles:

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 ,

YE5X5 [1,2-Dichlorobenzene-d4 - 59%, 1,2-Dichloroethane-d4 - 66%, 1,2-Dichloropropane-d6 - 63%],

YE5X6RE [1,1,2,2-Tetrachloroethane-d2 - 45%, 1,1-Dichloroethene-d2 - 42%, 1,2-Dichlorobenzene-d4 - 46%, 1,2-Dichloroethane-d4 - 46%, 1,2-Dichloropropane-d6 - 43%],

YE5X7 [1,2-Dichlorobenzene-d4 - 61%, 1,2-Dichloroethane-d4 - 65%, 1,2-Dichloropropane-d6 - 66%],

YE5X8 [1,2-Dichlorobenzene-d4 - 65%, 1,2-Dichloroethane-d4 - 69%],

YE5X9 [1,2-Dichlorobenzene-d4 - 63%, 1,2-Dichloroethane-d4 - 59%, 1,2-Dichloropropane-d6 - 66%],

YE5Y1 [1,2-Dichlorobenzene-d4 - 62%, 1,2-Dichloroethane-d4 - 67%, 1,2-Dichloropropane-d6 - 66%],

YE5Z7 [1,2-Dichlorobenzene-d4 - 64%, 1,2-Dichloroethane-d4 - 67%, 1,2-Dichloropropane-d6 - 70%],

YE5Z8 [1,2-Dichlorobenzene-d4 - 63%, 1,2-Dichloroethane-d4 - 67%, 1,2-Dichloropropane-d6 - 69%],

YE5Z9 [1,2-Dichlorobenzene-d4 - 66%, 1,2-Dichloroethane-d4 - 69%],

YE600 [1,2-Dichlorobenzene-d4 - 53%, 1,2-Dichloroethane-d4 - 54%, 1,2-Dichloropropane-d6 - 56%],

YE600RE [1,2-Dichlorobenzene-d4 - 47%, 1,2-Dichloroethane-d4 - 50%, 1,2-Dichloropropane-d6 - 47%],

YE601 [1,2-Dichlorobenzene-d4 - 64%, 1,2-Dichloroethane-d4 - 70%],

YE695 [1,2-Dichlorobenzene-d4 - 49%, 1,2-Dichloroethane-d4 - 51%, 1,2-Dichloropropane-d6 - 50%],

YE631ME [1 and 2-Dichloroethane-d4 - 69%],

As per method, up to three surrogates are allowed to fail. No corrective action was taken except for Sample YE5X6RE. 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.

The Internal Standards Areas met the acceptable requirements except for YE5X6, YE5X6RE, YE600, YE600RE. Sample which failed for Internal Standards. as corrective action samples were reanalyzed and analyzed Medium Level all analysis reported.

Instrument Performance Check met requirements.

The Retention Times were met for all samples.

The Tuning criteria met requirements.

The MS {YE5X6MS} recovery met the requirements for all compounds.

The MSD {YE5X6MSD} recovery met the requirements for all compounds.

The RPD {YE5X6MSD} RPD met the requirements for all compounds.

The initial Calibration met the requirements for all compounds.

The Continuing Calibration (VSTD050606) file ID VW031498.D met the requirements except for Chloroethane (27.8%) and trans-1,3-Dichloropropene-d4 (-31.8%). 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 (VSTD025483) file ID VW031541.D met the requirements except for trans-1,3-Dichloropropene-d4 (-29.3%). 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 (VSTD050807) file ID VX044494.D met the requirements except for 1,2-Dichloroethane-d4 (-25.5%). 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 Blank analysis analysis did not indicated the presence of lab Contamination.

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

Sample YE631 was diluted due to high concentration.

The Sample YE631ME 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.

Calculation:

Low/Med Level Soil/Sediment Calculation

$$\text{Concentration in ug/Kg dry Weight basis)} = \frac{(A_x)(I_s)(D_f)}{(A_{is})(RRF)(W_s)(D)} \quad \text{---}$$

Where,

A_x = Area for the compound to be measured

A_{is} = Area for the specific internal standard

I_s = Amount of internal standard added in Nano grams (ng)

RRF = Relative response factor of the calibration standard.

D_f = Dilution factor

W_s = Weight of sample

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

Medium-Level Soil/Sediment Concentration

$$\text{Concentration}(\mu\text{g/Kg}) = \frac{(A_x)(I_{is})(AV_t)(1000)(DF)}{(A_{is})RRF(V_a)(W_s)(S)}$$

Where

A_x = Area for the compound to be measured

A_{is} = Area for the specific internal standard

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

S = % Solids/100

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 V_t = 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 {W_s - [W_s(S)]} is the soil water volume and is expressed in mL.

V_a = 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

W_s = 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 $(10 \mu\text{L} + 90 \mu\text{L}/10 \mu\text{L})=$ a DF of 10.

Example sample **YE631ME** for **o-Xylene**:

$$\begin{aligned} A_x &= 15691 \\ A_{is} &= 206860 \\ I_s &= 250 \\ S &= 74.6/100 = 0.746 \\ \overline{\text{RRF}} &= 0.660 \\ AV_t &= 6.16 \\ V_a &= 100 \\ W_s &= 4.58 \\ DF &= 1 \\ A_{vt} &= 5 + [4.58 (4.58 \times 74.6/100)] = 6.16 \end{aligned}$$

$$\text{Concentration}(\mu\text{g/Kg}) = \frac{(15691)(250)(6.16)(1000)(1)}{(206860)(0.660)(100)(4.58)(0.746)}$$

Reported results = 518.020 ug/Kg

Final Reported results = 520 ug/Kg

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

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

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

$$\text{RRF} = 0.375$$



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.