# SDG NARRATIVE

**LAB NAME: CHEMTECH CONSULTING GROUP**
**CASE: 49735**
**SDG: GBD34**
**CONTRACT: 68HERH20D0011**
**LAB CODE: CHM**
**CHEMTECH PROJECT: N1621**
**MODIFICATION REF. NUMBER: NA**

| Sample ID | EPA Sample ID | pH |
|---|---|---|
| N1621-01 | GBD34 | 6.0 |
| N1621-02MS | GBD34MS | 6.0 |
| N1621-03MSD | GBD34MSD | 6.0 |

3 Soil samples were delivered to the laboratory intact on 02/19/2022.

Test requested on the Chain of Custody was TCLP-Volatile Organic and TCLP-Semivolatile Organic by Method SFAM01.1.

Sample Tags were not received with the samples.

The temperature of the samples was measured using an I R Gun. The samples temperature was 2.1 degree Celsius for the samples received on 02/19/2022.

**Shipping Discrepancies and/or QC issues:**
**Issue 1:** Sample tags were not received with samples at the laboratory. Sample tag numbers may or may not be listed on the TR/COC.

**Resolutions 1:** The laboratory will note the samples with the missing tags in the SDG Narrative and proceed with the analysis of the samples. The resolution will be applied to all samples received for this Case.

**Low Volatiles (TCLP VOA):**
The analysis performed on instrument MSVOA_U were done using GC column DB-624UI 20m 0.18mm 1.0 um. Cat#121-1324UI The Trap was supplied by OI Analytical, OI #10 Trap, OI Eclipse 4660 Concentrator.
The analysis of TCLP VOA was based on method SFAM01.1_Low.

Holding Times were met requirement.
The Surrogate recoveries met the acceptable criteria except for
GBD34 [1,1-Dichloroethene-d2 - 54% and Toluene-d8 - 77%].As per method, up to two surrogates are allowed to fail. No corrective action was taken.

The Internal Standards Areas met the acceptable requirements.
Instrument Performance Check met requirements.

The GBD34MS recoveries met the requirements for all compounds.
The GBD34MSD recoveries met the acceptable requirements.
The RPD met criteria.
The Retention Times met requirements.
The Tuning criteria met requirements.

The Initial Calibration met the requirements.
The Continuing Calibration met the requirements.
The Continuing Calibration (VSTD050170) file ID VU047231.D met the requirements except for Vinyl Chloride-d3 (-30.7%). As per method, up to two targets analyte in opening and closing CCV are allowed to exceed the %D values. Therefore no further corrective action was taken.

The Blank analysis did not indicate the presence of lab contamination.
The storage Blank analysis did not indicate the presence of lab contamination.

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

**Calculation:**
**Low/Med Water Level Calculation**

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

Where,
Ax = Area of the characteristic ion (EICP) for the compound to be measured.
Ais = Area of the characteristic ion (EICP) for the internal standard.
Amount of internal standard added in ng.
RRF = Mean Relative Response Factor from the initial calibration standard.
Vo = Total volume of water purged, in mL.
DF = Dilution Factor

**No hit Detected in TCLP Volatile Samples.**

Relative Response Factor = **Vinyl chloride**: RUN **VU021022** for **5.0** ppb

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

$$RRF = \frac{31040}{591173} \times \frac{50}{5.0}$$

RRF= 0.525

**TCLP 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 analysis of TCLP BNA Group1 was based on method SFAM01.1. Semi volatile Organic samples were extracted by Method SFAM01.1 on 02/22/2022. Samples were received on 02/19/2022.

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
GBD34 [Pyridine-d5 - 18%],
GBD34MS [Pyridine-d5 - 12%],
GBD34MSD [Pyridine-d5 - 12%].The %R for Pyridine-d5 is advisory.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The Blank analysis did not indicate the presence of lab contamination.
The MS {GBD34MS} recoveries met the requirements for all compounds.
The MSD {GBD34MSD} recoveries met the acceptable requirements.
The RPD met criteria.
The Initial Calibration met the requirements.
The Continuous Calibration met the requirements.
The Tuning criteria met requirements.

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

$\overline{RRF}$ = Mean Relative Response Factor determined from the initial calibration standard.
GPC = $\frac{Vin}{Vout}$ = GPC factor (If no GPC is performed, GPC=1)

**No positive target compounds were detected in the TCLP samples.**

RRF Calculation of standard 20 ppb for **Pyridine** with instrument G for method 02/22/2022.

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

= 40532/25910 X 20/20

= 1.564 (Reported RRF)

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.