

SDG NARRATIVE

LAB NAME: CHEMTECH CONSULTING GROUP CASE: 48510 SDG: ETOL4 CONTRACT: EPW14030 LAB CODE: CHM CHEMTECH PROJECT: K5346 MODIFICATION REF. NUMBER: NA

Sample ID	EPA Sample ID	Test	рН
K5346-01	ETOL4		
K5346-02MS	ETOL4MS		
K5346-03MSD	ETOL4MSD		
K5346-04	ETOL5		
K5346-05	ETOL6		
K5346-06	ETOL7		
K5346-07	ETOL8		
K5346-07DL	ETOL8DL	SVOC	
K5346-08	ETOM1		
K5346-08DL	ETOM1DL	SVOC	
K5346-09	ETOM2		
K5346-10	ETON4		
K5346-11MS	ETON4MS		
K5346-12MSD	ETON4MSD		
K5346-13	ETON5		
K5346-14	ETON6		

9 soil samples were delivered to the laboratory intact on 10/11/2019.

5 water samples were delivered to the laboratory intact on 10/11/2019.

Test requested on the Chain of Custody was Semivolatile, Organic, Semivolatile Organic SIM by Method SOM02.4.

The temperature of the samples was measured using an I R Gun. The samples temperature was 2.3, 2.8 degree Celsius for the samples received on 10/11/2019.

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.

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Resolution 1: In accordance with previous direction from Region 5, the laboratory will note the issue in the SDG Narrative, and proceed with the analysis of the sample. The Resolution will be applied to all samples received for this Case.

Issue 2: The laboratory is scheduled for PAH SIM and SVOA water samples and received three water samples for PAH SIM analysis; however, SVOA analysis is not listed on the COC for these samples. The laboratory would like to confirm that they may also proceed with the scheduled SVOA analysis for these samples as they must perform full scan analysis first before proceeding to SIM.

Resolution 2: In accordance with previous direction from Region 5, the laboratory will note the issue in the SDG Narrative and proceed with the analysis of the samples as indicated on the Scheduling Notification Form. The resolution will be applied to all COCs received for this Case that list information that does not match the Scheduling Notification Form.

Semivolatiles

The samples were analyzed on instrument BNA_M 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 DB-UI Semi Volatiles Guardian which is 20 meters, 0.18 mm ID, 0.36 um df.

Semis volatile Organic samples for Soil was extracted by Method SOM02.4 on 10/15/19 & Water samples were extracted by Method SOM02.4 on 10/16/19.The analysis of SVOC was based on method SOM02.4_SVOC.

The Holding Times were met for all analysis.

The Surrogate recoveries met the acceptable criteria except for ETOL5 [1,4-Dioxane-d8 - 22%, 4,6-Dinitro-2-methylphenol-d2 - 6%, 4-Nitrophenol-d4 - 3%], ETOM1DL [4,6-Dinitro-2-methylphenol-d2 - 5%], ETOM2 [Acenaphthylene-d8 - 122% and Pyrene-d10 - 132%].As per method four surrogates are allowed to fail. No further corrective action was taken.

The ETOL4MS & ETON4MS recoveries met the requirements for all compounds. The ETOL4MSD & ETON4MSD recoveries met the acceptable requirements. The RPD for ETOL4MSD & ETON4MSD met criteria.

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 Initial Calibration met the requirements.

The Continuous Calibration (SSTD02007) compound 2,4-Dinitrophenol is over 50%D but according to SOM02.4, section 9.5.5.5. Compound 2,4-Dinitrophenol in closing CCV RRF %D requirement is advisory. No further corrective action was taken.

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Samples ETOL8, ETOM1 were diluted due to high concentrations.

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

Concentration of Water Sample:

Concentration ug/L = (Ax) (Is) (Vt) (DF) (GPC)

(Ais) (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 = <u>Vin</u> = GPC factor (If no GPC is performed, GPC=1) Vout = Volume of extract collected after GPC cleanup.

Concentration of SOIL Sample:

Concentration ug/Kg, (dry weight basis) = (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.

V_i = Volume of extract injected in microliters (uL)

Vt = Volume of concentrated extract in microliters (uL)

 W_t = Weight of the original sample extracted in g

Df = Dilution factor

RRF = Mean Relative Response Factor determined from the initial calibration standard.

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

Vout = Volume of extract collected after GPC cleanup.

D = % dry weight or <u>100 - % Moisture</u> 100

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Example calculation of ETOL4 for Fluorene:

Ax = 1083514Ais = 122085 Is = 20 Vi = 1 Vt = 500 Wt = 30.1 Df = 1 RRF = 1.525 GPC = 2 D=0.876 Concentration

(dry weight basis) ug/Kg = (1083514) (20) (500) (1) (2)

(1220854) (1.525) (1) (30.1) (0.876)

= 440 ug/Kg

RRF Calculation of standard 20 ppb for Naphthalene with instrument P for method 10/09/19

RRF=	Area of compound /	Х	Conc. of Internal Standard /
	Area of Internal Standard	l	Conc. of Compound

= 696553/492164 X 20/20

= 1.415 (Reported RRF)

Semivolatiles SIM:

The samples were analyzed on instrument BNA_N using GC Column ZB-Semi Volatiles Guardian which is 30 meters, 0.25 mm ID, 0.5 um df, Catalog # 7HG-G027-17-GGA.

Semis volatile Organic samples for water were extracted by Method SOM02.4 on 10/16/19. The analysis of SVOC was based on method SOM02.4_SIM.

The Holding Times were met for all analysis. The Surrogate recoveries met the acceptable. The Internal Standards Areas met the acceptable requirements.

The Retention Times were acceptable for all samples. The ETON4MS recoveries met the requirements for all compounds. The ETON4MSD recoveries met the acceptable requirements. The RPD for ETON4MSD met criteria.

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The Blank analysis did not indicate the presence of lab contamination. The Initial Calibration met the requirements. The Continuous Calibration met requirements. The Tuning criteria met requirements.

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

Concentration of Water Sample:

Concentration ug/L = (Ax) (Is) (Vt) (DF) (GPC)

(Ais) (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 = Vin = GPC factor (If no GPC is performed GPC=1)

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

No positive target compounds were detected in the samples.

RRF Calculation of standard 0.4 ppb for Naphthalene with instrument N for method 10/10/19

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

= 10554/8689 X 0.4/0.4

= 1.215 (Reported RRF)



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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.