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CASE NARRATIVE

First Environment, Inc.

Project Name: USACE018-44 DOD

Project # N/A

Order ID # Q2820

Test Name: SVOC-TCL BNA -20

A. Number of Samples and Date of Receipt:

24 Solid samples were received on 08/08/2025.

B. Parameters

According to the Chain of Custody document, the following analyses were requested: SVOC-TCL BNA -20. This data package contains results for SVOC-TCL BNA -20.

C. Analytical Techniques:

The samples were analyzed on instrument BNA_F using GC Column DB-UI 8270D which is 20 meters, 0.18 mm ID, 0.36 um df. The samples were analyzed on instrument BNA_P using GC Column ZB-SemiVolatiles Guardian which is 30 meters, 0.25 mm ID, 0.5 um df, Catalog # 7HG-G027-17-GGA. The analysis of SVOC-TCL BNA -20 was based on method 8270E and extraction was done based on method 3541.

D. QA/ QC Samples:

The Holding Times were met for all analysis.

The Surrogate recoveries were met for all analysis except for

82H-W [Terphenyl-d14 - 46%],

82H-N [Terphenyl-d14 - 46%],

SOIL-DUP-1 [Terphenyl-d14 - 52%],

518R-E [Terphenyl-d14 - 46%],

705R-S [Terphenyl-d14 - 47%],

10PC-W [Terphenyl-d14 - 50%],

10P-E [Terphenyl-d14 - 51%],

10P-N [Terphenyl-d14 - 45%],

88H-EMS [Terphenyl-d14 - 46%],

88H-EMSD [Terphenyl-d14 - 49%],

88H-N [Terphenyl-d14 - 48%],

22M-E [Terphenyl-d14 - 38%] and

22M-S [Terphenyl-d14 - 38%], as per method one acid and one base surrogate allow to fail therefore no corrective action taken, while for

518R-S [2-Fluorobiphenyl - 43%, Terphenyl-d14 - 38%],

518R-SRE [2-Fluorobiphenyl - 42%, Terphenyl-d14 - 36%],

82H-S [2-Fluorobiphenyl - 43%, Terphenyl-d14 - 42%],

82H-SRE [2-Fluorobiphenyl - 42%, Terphenyl-d14 - 42%],

88H-W [2-Fluorobiphenyl - 41%, Terphenyl-d14 - 41%],

88H-WRE [2-Fluorobiphenyl - 41%, Terphenyl-d14 - 42%],
88H-S [2,4,6-Tribromophenol - 37%, 2-Fluorobiphenyl - 31%, Nitrobenzene-d5 - 34%,
Terphenyl-d14 - 30%],
88H-SRE [2,4,6-Tribromophenol - 38%, 2-Fluorobiphenyl - 30%, Nitrobenzene-d5 -
34%, Terphenyl-d14 - 30%],
22M-N [2-Fluorobiphenyl - 40%, Terphenyl-d14 - 39%],
22M-NRE [2-Fluorobiphenyl - 40%, Terphenyl-d14 - 41%],
22M-W [2-Fluorobiphenyl - 42%, Terphenyl-d14 - 38%], and
22M-WRE [2-Fluorobiphenyl - 41%, Terphenyl-d14 - 40%], samples were reanalyzed to
confirm the failure and reported.

The Internal Standards Areas were met for all analysis.

The Retention Times were met for all analysis.

The MS {Q2830-05MS} with File ID: BF143367.D recoveries met the requirements for
all compounds except for bis(2-Ethylhexyl)phthalate[140%],
Butylbenzylphthalate[150%] and Di-n-butylphthalate[133%] due to matrix interference.

The MSD {Q2830-05MSD} with File ID: BF143368.D recoveries met the requirements
for all compounds except for 2,3,4,6-Tetrachlorophenol[133%], 2,6-
Dinitrotoluene[125%], 4,6-Dinitro-2-methylphenol[133%], 4-Nitroaniline[125%], bis(2-
Ethylhexyl)phthalate[157%], Butylbenzylphthalate[192%], Caprolactam[125%] and Di-
n-butylphthalate[142%] due to matrix interference.

The RPD for {Q2830-05MSD} with File ID: BF143368.D met criteria except for 4-
Nitroaniline[22%], 4-Nitrophenol[23%], Butylbenzylphthalate[25%], Caprolactam[22%]
and Pyrene[31%] due to difference in results of MS and MSD.

The Blank Spike for {PB169242BS} with File ID: BP025489.D met requirements for all
compounds except for 1,4-Dioxane[65%] failing biased low therefore no corrective
action taken.

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

The %RSD is greater than 20% for certain compounds in the Initial Calibration (Method
8270-BF081225.M) for 2-Nitrophenol, Hexachlorocyclopentadiene, 2-Nitroaniline, 2,6-
Dinitrotoluene, 4-Nitrophenol, 2,4-Dinitrotoluene, 4,6-Dinitro-2-methylphenol,
Pentachlorophenol, Butylbenzylphthalate, Bis(2-ethylhexylephthalate), Di-n-octyl
phthalate these Compounds are passing on Linear Regression while 2,4-Dinitrophenol is
passing on Quadratic Regression.

The %RSD is greater than 20% in the Initial Calibration (Method 8270-BF082025.M)
for Hexachlorocyclopentadiene, 2,4-Dinitrophenol these Compounds are passing on
Linear regression.

The %RSD is greater than 20% in the Initial Calibration (Method 8270-BP0805.M) for 2-Nitrophenol, 2-Nitroaniline, 2,4-Dinitrotoluene these Compounds are passing on Linear regression, and 2,4-Dinitrophenol, 4,6-Dinitro-2-methylphenol these compounds are passing on Quadratic regression.

The Continuous Calibration File ID BF143365.D met the requirements except for Bis(2-ethylhexyl)phthalate, Butylbenzylphthalate, Di-n-octyl phthalate and Pentachlorophenol are failing high but no positive hit in associate sample therefore no corrective action taken.

The Continuous Calibration File ID BF143539.D met the requirements except for Pentachlorophenol are failing high but no positive hit in associate sample therefore no corrective action taken.

The Continuous Calibration File ID BP025377.D met the requirements except for 2,2-oxybis(1-Chloropropane) is failing marginally low while 2,4-Dinitrophenol, 2,6-Dinitrotoluene, 2-Nitrophenol, 4,6-Dinitro-2-methylphenol, Pentachlorophenol and 2,4,6-Tribromophenol are failing high but no positive hit in associate sample therefore no corrective action taken.

The Continuous Calibration File ID BP025422.D met the requirements except for Benzaldehyde is failing high but no positive hit in associate sample therefore no corrective action taken.

The Continuous Calibration File ID BP025470.D met the requirements except for 2,4-Dinitrophenol, 4,6-Dinitro-2-methylphenol and Hexachlorocyclopentadiene are failing high but no positive hit in associate sample therefore no corrective action taken.

The Continuous Calibration File ID BP025485.D met the requirements except for 2,4-Dinitrophenol is failing high but no positive hit in associate sample therefore no corrective action taken.

The Continuous Calibration File ID BP025487.D met the requirements except for 2,4-Dinitrophenol and 4,6-Dinitro-2-methylphenol are failing high but no positive hit in associate sample therefore no corrective action taken.

The Continuous Calibration File ID BP025528.D met the requirements except for Benzaldehyde is failing high but no positive hit in associate sample therefore no corrective action taken.

The Tuning criteria met requirements.

Samples 10P-S was diluted due to dirty matrix.



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E. Additional Comments:

The Form 6 is not included in the data package because the Initial Calibration was performed using 7 points.

The not QT review data is reported in the Miscellaneous.

The soil samples results are based on a dry weight basis.

Please use %D calculated based on Avg RF and CCRF for all compounds using Average Response Factor when the %RSD value for a compound is <20% for the Initial Calibration curve and use %D calculated based on Amount added and Calculated amount for all compounds using Linear Regression when the %RSD value for a compound is > 20% for the Initial Calibration curve for SW-846 analysis.

F. Manual Integration Comments:

Please refer to the Manual integration Report included with the Run Logs for information on the manual integrations performed.

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_____