



# CERTIFICATE OF ACCREDITATION

## ANSI National Accreditation Board

11617 Coldwater Road, Fort Wayne, IN 46845 USA

This is to certify that

### Enthalpy Analytical, LLC

2714 Exchange Drive  
Wilmington, NC 28405

has been assessed by ANAB and meets the requirements of international standard

## ISO/IEC 17025:2017

and the

### U.S. Department of Defense (DoD) Quality Systems Manual for Environmental Laboratories (DoD QSM V5.3)

while demonstrating technical competence in the field of

## TESTING

Refer to the accompanying Scope of Accreditation for information regarding the types of activities to which this accreditation applies

ADE-2835

Certificate Number

  
ANAB Approval

Certificate Valid Through: 01/15/2022  
Version No. 001 Issued: 01/15/2020



This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

**SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017 AND U.S. DEPARTMENT OF DEFENSE (DOD) QUALITY SYSTEMS MANUAL FOR ENVIRONMENTAL LABORATORIES (DOD QSM V5.3)**

**Enthalpy Analytical, LLC**

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Wilmington, NC 28405  
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**TESTING**

Valid to: **January 15, 2022**

Certificate Number: **ADE-2835**

**Environmental**

<b>Non-Potable Water</b>		
<b>Technology</b>	<b>Method</b>	<b>Analyte</b>
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFBA (Perfluorobutanoic acid)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFPeA (Perfluoropentanoic acid)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFBS (Perfluorobutanesulfonic acid)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFHxA (Perfluorohexanoic acid)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFHpA (Perfluoroheptanoic acid)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFHxS (Perfluorohexanesulfonic acid)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	6:2-FTS (6:2 Fluorotelomer sulfonate)



Non-Potable Water		
Technology	Method	Analyte
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFOA (Perfluorooctanoic acid)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFHpS (Perfluoroheptanesulfonate)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFOS (Perfluorooctanesulfonic acid)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFNA (Perfluorononanoic acid)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFDA (Perfluorodecanoic acid)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	8:2-FTS (8:2 Fluorotelomer sulfonate)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFOSA (Perfluorooctane sulfonamide)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFDS (Perfluorodecanesulfonate)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFUdA (Perfluoroundecanoic acid)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFDoA Perfluorododecanoic acid
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFTTrDA (Perfluorotridecanoic acid)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFTeDA (Perfluorotetradecanoic acid)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	EtFOSAA (N-ethyl perfluorooctanesulfonamidoacetic acid)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	MeFOSAA (N-methyl perfluorooctanesulfonamidoacetic acid)



Non-Potable Water		
Technology	Method	Analyte
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	4:2 FTS (4:2 Fluorotelomer sulfonate)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFPeS (Perfluoropentane sulfonic acid)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFNS (Perfluorononane sulfonic acid)
HRGC/MS	EPA 8290A / EPA1613B	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)
HRGC/MS	EPA 8290A / EPA1613B	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)
HRGC/MS	EPA 8290A / EPA1613B	1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)
HRGC/MS	EPA 8290A / EPA1613B	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)
HRGC/MS	EPA 8290A / EPA1613B	1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)
HRGC/MS	EPA 8290A / EPA1613B	1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-Hxcdf)
HRGC/MS	EPA 8290A / EPA1613B	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-Hxcd)
HRGC/MS	EPA 8290A / EPA1613B	1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-Hxcdf)
HRGC/MS	EPA 8290A / EPA1613B	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-Hxcd)
HRGC/MS	EPA 8290A / EPA1613B	1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-Hxcdf)
HRGC/MS	EPA 8290A / EPA1613B	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-Hxcd)
HRGC/MS	EPA 8290A / EPA1613B	1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-Pecdf)
HRGC/MS	EPA 8290A / EPA1613B	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-Pecdd)
HRGC/MS	EPA 8290A / EPA1613B	2,3,4,6,7,8-Hexachlorodibenzofuran
HRGC/MS	EPA 8290A / EPA1613B	2,3,4,7,8-Pentachlorodibenzofuran
HRGC/MS	EPA 8290A / EPA1613B	2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD)
HRGC/MS	EPA 8290A / EPA1613B	2,3,7,8-Tetrachlorodibenzofuran
HRGC/MS	EPA 8290A / EPA1613B	Total Hpcdd
HRGC/MS	EPA 8290A / EPA1613B	Total Hpcdf
HRGC/MS	EPA 8290A / EPA1613B	Total Hxcd
HRGC/MS	EPA 8290A / EPA1613B	Total Hxcdf



Non-Potable Water		
Technology	Method	Analyte
HRGC/MS	EPA 8290A / EPA1613B	Total Pecdd
HRGC/MS	EPA 8290A / EPA1613B	Total Pecdf
HRGC/MS	EPA 8290A / EPA1613B	Total TCDD
HRGC/MS	EPA 8290A / EPA1613B	Total TCDF
Preparation	Method	Type
Aqueous Extraction	SOP EU-046	Extraction/Preparation of Dioxins and Furans

Solid and Chemical Materials		
Technology	Method	Analyte
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFBA (Perfluorobutanoic acid)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFPeA (Perfluoropentanoic acid)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFBS (Perfluorobutanesulfonic acid)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFHxA (Perfluorohexanoic acid)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFHpA (Perfluoroheptanoic acid)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFHxS (Perfluorohexanesulfonic acid)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	6:2-FTS (6:2 Fluorotelomer sulfonate)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFOA (Perfluorooctanoic acid)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFHpS (Perfluoroheptanesulfonate)



Solid and Chemical Materials		
Technology	Method	Analyte
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFOS (Perfluorooctanesulfonic acid)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFNA (Perfluorononanoic acid)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFDA (Perfluorodecanoic acid)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	8:2-FTS (8:2 Fluorotelomer sulfonate)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFOSA (Perfluorooctane sulfonamide)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFDS (Perfluorodecanesulfonate)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFUdA (Perfluoroundecanoic acid)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFDoA Perfluorododecanoic acid
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFTTrDA (Perfluorotridecanoic acid)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFTeDA (Perfluorotetradecanoic acid)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	EtFOSAA (N-ethyl perfluorooctanesulfonamidoacetic acid)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	MeFOSAA (N-methyl perfluorooctanesulfonamidoacetic acid)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	4:2 FTS (4:2 Fluorotelomer sulfonate)
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFPeS (Perfluoropentane sulfonic acid)





Solid and Chemical Materials		
Technology	Method	Analyte
LC/MS/MS	SOP EU-047/PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	PFNS (Perfluorononane sulfonic acid)
HRGC/MS	EPA 8290A / EPA 1613B	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)
HRGC/MS	EPA 8290A / EPA 1613B	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)
HRGC/MS	EPA 8290A / EPA 1613B	1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)
HRGC/MS	EPA 8290A / EPA 1613B	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)
HRGC/MS	EPA 8290A / EPA 1613B	1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)
HRGC/MS	EPA 8290A / EPA 1613B	1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-Hxcdf)
HRGC/MS	EPA 8290A / EPA 1613B	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-Hxcdd)
HRGC/MS	EPA 8290A / EPA 1613B	1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-Hxcdf)
HRGC/MS	EPA 8290A / EPA 1613B	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-Hxcdd)
HRGC/MS	EPA 8290A / EPA 1613B	1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-Hxcdf)
HRGC/MS	EPA 8290A / EPA 1613B	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-Hxcdd)
HRGC/MS	EPA 8290A / EPA 1613B	1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-Pecdf)
HRGC/MS	EPA 8290A / EPA 1613B	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-Pecdd)
HRGC/MS	EPA 8290A / EPA 1613B	2,3,4,6,7,8-Hexachlorodibenzofuran
HRGC/MS	EPA 8290A / EPA 1613B	2,3,4,7,8-Pentachlorodibenzofuran
HRGC/MS	EPA 8290A / EPA 1613B	2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD)
HRGC/MS	EPA 8290A / EPA 1613B	2,3,7,8-Tetrachlorodibenzofuran
HRGC/MS	EPA 8290A / EPA 1613B	Total Hpcdd
HRGC/MS	EPA 8290A / EPA 1613B	Total Hpcdf
HRGC/MS	EPA 8290A / EPA 1613B	Total Hxcdd
HRGC/MS	EPA 8290A / EPA 1613B	Total Hxcdf
HRGC/MS	EPA 8290A / EPA 1613B	Total Pecdd
HRGC/MS	EPA 8290A / EPA 1613B	Total Pecdf
HRGC/MS	EPA 8290A / EPA 1613B	Total TCDD
HRGC/MS	EPA 8290A / EPA 1613B	Total TCDF



Solid and Chemical Materials		
Preparation	Method	Type
Soxhlet Extraction	SOP EU-046	Extraction/Preparation of Dioxins and Furans

Drinking Water		
Technology	Method	Analyte
LC/MS/MS	EPA 537	NEtFOSAA (N-ethyl perfluorooctanesulfonamidoacetic acid)
LC/MS/MS	EPA 537	NMeFOSAA (N-methyl perfluorooctanesulfonamidoacetic acid)
LC/MS/MS	EPA 537	PFBS (Perfluorobutanesulfonic acid)
LC/MS/MS	EPA 537	PFDA (Perfluorodecanoic acid)
LC/MS/MS	EPA 537	PFDoA (Perfluorododecanoic acid)
LC/MS/MS	EPA 537	PFHpA (Perfluoroheptanoic acid)
LC/MS/MS	EPA 537	PFHxS (Perfluorohexanesulfonic acid)
LC/MS/MS	EPA 537	PFHxA (Perfluorohexanoic acid)
LC/MS/MS	EPA 537	PFNA (Perfluorononanoic acid)
LC/MS/MS	EPA 537	PFOS (Perfluorooctanesulfonic acid)
LC/MS/MS	EPA 537	PFOA (Perfluorooctanoic acid)
LC/MS/MS	EPA 537	PFTA (Perfluorotetradecanoic acid)
LC/MS/MS	EPA 537	PFTrDA (Perfluorotridecanoic acid)
LC/MS/MS	EPA 537	PFUnA (Perfluoroundecanoic acid)

Air and Emissions		
Technology	Method	Analyte
HRGC/MS	EPA 23	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)
HRGC/MS	EPA 23	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)
HRGC/MS	EPA 23	1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)
HRGC/MS	EPA 23	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)
HRGC/MS	EPA 23	1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)
HRGC/MS	EPA 23	1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-Hxcdf)



<b>Air and Emissions</b>		
<b>Technology</b>	<b>Method</b>	<b>Analyte</b>
HRGC/MS	EPA 23	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-Hxcdd)
HRGC/MS	EPA 23	1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-Hxcdf)
HRGC/MS	EPA 23	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-Hxcdd)
HRGC/MS	EPA 23	1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-Hxcdf)
HRGC/MS	EPA 23	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-Hxcdd)
HRGC/MS	EPA 23	1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-Pecdf)
HRGC/MS	EPA 23	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-Pecdd)
HRGC/MS	EPA 23	2,3,4,6,7,8-Hexachlorodibenzofuran
HRGC/MS	EPA 23	2,3,4,7,8-Pentachlorodibenzofuran
HRGC/MS	EPA 23	2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD)
HRGC/MS	EPA 23	2,3,7,8-Tetrachlorodibenzofuran
HRGC/MS	EPA 23	Total Hpcdd
HRGC/MS	EPA 23	Total Hpcdf
HRGC/MS	EPA 23	Total Hxcdd
HRGC/MS	EPA 23	Total Hxcdf
HRGC/MS	EPA 23	Total Pecdd
HRGC/MS	EPA 23	Total Pecdf
HRGC/MS	EPA 23	Total TCDD
HRGC/MS	EPA 23	Total TCDF
<b>Preparation</b>	<b>Method</b>	<b>Type</b>
Soxhlet Extraction	SOP EU-046	Extraction/Preparation of Dioxins and Furans

Note:

1. This scope is formatted as part of a single document including Certificate of Accreditation No ADE-2835.



Vice President