



The American Association for Laboratory Accreditation

World Class Accreditation

Accredited DoD ELAP Laboratory

A2LA has accredited

ESS LABORATORY – DIVISION OF THIELSCH ENGINEERING

Cranston, RI

for technical competence in the field of

Environmental Testing

In recognition of the successful completion of the A2LA evaluation process that includes an assessment of the laboratory's compliance with ISO/IEC 17025:2005, the 2003 NELAC Chapter 5 Standard, and the requirements of the Department of Defense Environmental Laboratory Accreditation Program (DoD ELAP) as detailed in the DoD Quality Systems Manual for Environmental Laboratories (QSM v4.1); accreditation is granted to this laboratory to perform recognized EPA methods as defined on the associated A2LA Environmental Scope of Accreditation. This accreditation demonstrates technical competence for this defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).



Presented this 12th day of November 2009.

A handwritten signature in black ink, appearing to read "Peter M. Meyer".

President & CEO
For the Accreditation Council
Certificate Number 2864.01
Valid to June 30, 2011

For the tests or types of tests to which this accreditation applies, please refer to the laboratory's Environmental Scope of Accreditation.



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

ESS LABORATORY - DIVISION OF THIELSCH ENGINEERING
 185 Frances Avenue
 Cranston, RI 02910
 Jim Badger Phone: 401-461-7181

ENVIRONMENTAL

Valid To: June 30, 2011

Certificate Number: 2864.01

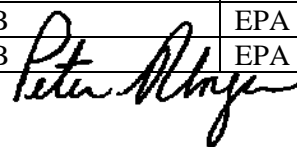
In recognition of the successful completion of the A2LA evaluation process, (including an assessment of the laboratory's compliance with ISO IEC 17025:2005, the 2003 NELAC Chapter 5 Standard, and the requirements of the DoD Environmental Laboratory Accreditation Program (DoD ELAP) as detailed in the DoD Quality Systems Manual for Environmental Laboratories (DoD QSM v4.1)) accreditation is granted to this laboratory to perform recognized EPA methods using the following testing technologies and in the analyte categories identified below.

Testing Technologies

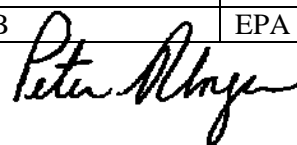
Atomic Absorption/ICP-AES Spectrometry, Atomic Absorption Spectroscopy - Furnace (AAS-Furnace), Gas Chromatography, Gas Chromatography/ Mass Spectrometry, CVAA Spectrometry, Ion Chromatography, Misc.- Electronic Probes (pH), Hazardous Waste Characteristics Tests, Spectrophotometry (Visible), Titrimetry, Turbidimetric.

<u>Parameter/Analyte</u>	<u>Potable Water</u>	<u>Nonpotable Water</u>	<u>Solid/Hazardous Waste</u>
Metals			
Aluminum	-----	EPA 6010B	EPA 6010B
Antimony	-----	EPA 6010B / 7040; SM3113B	EPA 6010B / 7041
Arsenic	-----	EPA 7060A / 6010B; SM3113B	EPA 7060A / 6010B
Barium	-----	EPA 6010B	EPA 6010B
Beryllium	-----	EPA 6010B	EPA 6010B
Boron	-----	EPA 6010B	EPA 6010B
Cadmium	-----	EPA 6010B; SM3113B	EPA 6010B
Calcium	-----	EPA 6010B	EPA 6010B
Chromium	-----	EPA 6010B	EPA 6010B
Cobalt	-----	EPA 6010B	EPA 6010B
Copper	-----	EPA 6010B; SM3113B	EPA 6010B
Iron	-----	EPA 6010B	EPA 6010B
Lead	-----	EPA 6010B / 7421; SM3113B	EPA 6010B

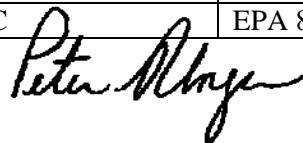
Parameter/Analyte	Potable Water	Nonpotable Water	Solid/Hazardous Waste
Magnesium	-----	EPA 6010B	EPA 6010B
Manganese	-----	EPA 6010B	EPA 6010B
Mercury	-----	EPA 7470A	EPA 7471A
Molybdenum	-----	EPA 6010B	EPA 6010B
Nickel	-----	EPA 6010B	EPA 6010B
Potassium	-----	EPA 6010B	EPA 6010B
Selenium	-----	EPA 6010B / 7740; SM3 113B	EPA 6010B / 7740
Silicon	-----	EPA 6010B	EPA 6010B
Silver	-----	EPA 6010B / SM 3113B	EPA 6010B
Sodium	-----	EPA 6010B	EPA 6010B
Strontium	-----	EPA 6010B	EPA 6010B
Thallium	-----	EPA 6010B / 7841; SM 3113B	EPA 6010B / 7841
Tin	-----	EPA 6010B	EPA 6010B
Titanium	-----	EPA 6010B	EPA 6010B
Vanadium	-----	EPA 6010B	EPA 6010B
Zinc	-----	EPA 6010B	EPA 6010B
Metals Prep Methods	-----	EPA 3005	EPA 3050
Hexavalent Chromium	-----	EPA 7196	EPA 7196
Nutrients			
Ammonia (as N)	-----	SM 4500-NH3 D,E; EPA 350.1	-----
Kjeldahl Nitrogen	-----	SM 4500-NH3 D,E; EPA 351.2	-----
Wet Chemistry			
Chloride	-----	EPA 300.0 / 9250	EPA 9056 / 9250
Cyanide	-----	EPA 9010 / 9012	EPA 9010 / 9012
Cyanide	-----	EPA 9010 / 9014; SM 4500-CN C,E	EPA 9010 / 9014
Fluoride	-----	EPA 300.0	EPA 9056
Nitrate (as N)	-----	EPA 300.0 / 353.2	EPA 9056
Nitrite (as N)	-----	EPA 300.0 / 353.2	EPA 9056
Orthophosphate (as P)	-----	EPA 300.0 / 365.1	EPA 9056
pH	-----	EPA 9040 / 9041; SM 4500-H ⁺ B	EPA 9041 / 9045
Oil and Grease	-----	EPA 1664	EPA 9071
Specific conductance	-----	EPA 120.1	EPA 9050
Sulfate	-----	EPA 300.0	EPA 9056
Sulfate	-----	EPA 9038	EPA 9038
Phenols	-----	EPA 9065	EPA 9065
Alkalinity	-----	SM 2320B	-----
Purgeable Organics (volatiles)			
Acetone	EPA 524.2	EPA 8260B	EPA 8260B
Acrylonitrile	EPA 524.2	EPA 8260B	EPA 8260B
Acrolein	EPA 524.2	EPA 8260B	EPA 8260B
Benzene	EPA 524.2	EPA 8260B	EPA 8260B
Bromobenzene	EPA 524.2	EPA 8260B	EPA 8260B
Bromochloromethane	EPA 524.2	EPA 8260B	EPA 8260B
Bromodichloromethane	EPA 524.2	EPA 8260B	EPA 8260B



Parameter/Analyte	Potable Water	Nonpotable Water	Solid/Hazardous Waste
Bromoform	EPA 524.2	EPA 8260B	EPA 8260B
Bromomethane	EPA 524.2	EPA 8260B	EPA 8260B
2-Butanone (MEK)	EPA 524.2	EPA 8260B	EPA 8260B
Carbon disulfide	EPA 524.2	EPA 8260B	EPA 8260B
Carbon tetrachloride	EPA 524.2	EPA 8260B	EPA 8260B
Chlorobenzene	EPA 524.2	EPA 8260B	EPA 8260B
Chloroethane	EPA 524.2	EPA 8260B	EPA 8260B
2-Chloroethyl vinyl ether	EPA 524.2	EPA 8260B	EPA 8260B
2-Chlorotoluene	EPA 524.2	EPA 8260B	EPA 8260B
4-Chlorotoluene	EPA 524.2	EPA 8260B	EPA 8260B
Chloroform	EPA 524.2	EPA 8260B	EPA 8260B
Chloromethane	EPA 524.2	EPA 8260B	EPA 8260B
Dibromochloromethane	EPA 524.2	EPA 8260B	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)	EPA 504.1	EPA 8011 / 8260B	EPA 8260B
1,2-Dibromoethane (EDB)	EPA 504.1	EPA 8011 / 8260B	EPA 8260B
Dibromomethane	EPA 524.2	EPA 8260B	EPA 8260B
1,2-Dichlorobenzene	EPA 524.2	EPA 8260B	EPA 8260B
1,3-Dichlorobenzene	EPA 524.2	EPA 8260B	EPA 8260B
1,4-Dichlorobenzene	EPA 524.2	EPA 8260B	EPA 8260B
Dichlorodifluoromethane	EPA 524.2	EPA 8260B	EPA 8260B
1,1-Dichloroethane	EPA 524.2	EPA 8260B	EPA 8260B
1,2-Dichloroethane	EPA 524.2	EPA 8260B	EPA 8260B
1,1-Dichloroethene	EPA 524.2	EPA 8260B	EPA 8260B
1,1-Dichloropropene	EPA 524.2	EPA 8260B	EPA 8260B
1,2-Dichloropropane	EPA 524.2	EPA 8260B	EPA 8260B
1,3-Dichloropropane	EPA 524.2	EPA 8260B	EPA 8260B
2,2-Dichloropropane	EPA 524.2	EPA 8260B	EPA 8260B
cis-1,2-Dichloroethene	EPA 524.2	EPA 8260B	EPA 8260B
trans-1,2-Dichloroethene	EPA 524.2	EPA 8260B	EPA 8260B
1,2-Dichloropropane	EPA 524.2	EPA 8260B	EPA 8260B
cis-1,3-Dichloropropene	EPA 524.2	EPA 8260B	EPA 8260B
trans-1,3-Dichloropropene	EPA 524.2	EPA 8260B	EPA 8260B
Ethyl benzene	EPA 524.2	EPA 8260B	EPA 8260B
Hexachlorobutadiene	EPA 524.2	EPA 8260B	EPA 8260B
2-Hexanone	EPA 524.2	EPA 8260B	EPA 8260B
Isopropylbenzene	EPA 524.2	EPA 8260B	EPA 8260B
m,p-Xylene	EPA 524.2	EPA 8260B	EPA 8260B
Methyl-t-butyl ether	EPA 524.2	EPA 8260B	EPA 8260B
Methylene chloride	EPA 524.2	EPA 8260B	EPA 8260B
4-Methyl-2-pentanone	EPA 524.2	EPA 8260B	EPA 8260B
Naphthalene	EPA 524.2	EPA 8260B	EPA 8260B
n-Butylbenzene	EPA 524.2	EPA 8260B	EPA 8260B
n-Propylbenzene	EPA 524.2	EPA 8260B	EPA 8260B
o-Xylene	EPA 524.2	EPA 8260B	EPA 8260B
p-isopropyltoluene	EPA 524.2	EPA 8260B	EPA 8260B
sec-butylbenzene	EPA 524.2	EPA 8260B	EPA 8260B
Styrene	EPA 524.2	EPA 8260B	EPA 8260B
tert-Butylbenzene	EPA 524.2	EPA 8260B	EPA 8260B
1,1,1,2-Tetrachloroethane	EPA 524.2	EPA 8260B	EPA 8260B
1,1,2,2-Tetrachloroethane	EPA 524.2	EPA 8260B	EPA 8260B
Tetrachloroethene	EPA 524.2	EPA 8260B	EPA 8260B



Parameter/Analyte	Potable Water	Nonpotable Water	Solid/Hazardous Waste
Tetrahydrofuran	EPA 524.2	EPA 8260B	EPA 8260B
Toluene	EPA 524.2	EPA 8260B	EPA 8260B
1,1,1-Trichloroethane	EPA 524.2	EPA 8260B	EPA 8260B
1,1,2-Trichloroethane	EPA 524.2	EPA 8260B	EPA 8260B
Trichloroethene	EPA 524.2	EPA 8260B	EPA 8260B
1,2,3-Trichlorobenzene	EPA 524.2	EPA 8260B	EPA 8260B
1,2,3-Trichloropropane	EPA 524.2	EPA 8260B	EPA 8260B
1,2,4-Trichlorobenzene	EPA 524.2	EPA 8260B	EPA 8260B
1,2,4-Trimethylbenzene	EPA 524.2	EPA 8260B	EPA 8260B
1,3,5-Trimethylbenzene	EPA 524.2	EPA 8260B	EPA 8260B
Trichlorofluoromethane	EPA 524.2	EPA 8260B	EPA 8260B
Vinyl chloride	EPA 524.2	EPA 8260B	EPA 8260B
Xylenes, total	EPA 524.2	EPA 8260B	EPA 8260B
Gasoline Range Organics	-----	EPA 8015	EPA 8015
VOA Prep Methods	-----	EPA 5030	EPA 5035
<u>Extractable Organics</u>			
<u>(semivolatiles)</u>			
2-Methylnaphthalene	-----	EPA 8270C	EPA 8270C
Acenaphthene	-----	EPA 8270C	EPA 8270C
Acenaphthylene	-----	EPA 8270C	EPA 8270C
Aniline	-----	EPA 8270C	EPA 8270C
Anthracene	-----	EPA 8270C	EPA 8270C
Benzidine	-----	EPA 8270C	EPA 8270C
Benzoic acid	-----	EPA 8270C	EPA 8270C
Benzo (a) anthracene	-----	EPA 8270C	EPA 8270C
Benzo (b) fluoranthene	-----	EPA 8270C	EPA 8270C
Benzo (k) fluoranthene	-----	EPA 8270C	EPA 8270C
Benzo (g,h,i) perylene	-----	EPA 8270C	EPA 8270C
Benzo (a) pyrene	-----	EPA 8270C	EPA 8270C
Benzyl alcohol	-----	EPA 8270C	EPA 8270C
Bis (2-chloroethoxy) methane	-----	EPA 8270C	EPA 8270C
Bis (2-chloroethoxy) ether	-----	EPA 8270C	EPA 8270C
Bis (2-chloroethyl) ether	-----	EPA 8270C	EPA 8270C
Bis (2-chloroisopropyl) ether	-----	EPA 8270C	EPA 8270C
Bis (2-ethylhexyl) phthalate	-----	EPA 8270C	EPA 8270C
4-Bromophenylphenyl ether	-----	EPA 8270C	EPA 8270C
Butyl benzyl phthalate	-----	EPA 8270C	EPA 8270C
Carbazole	-----	EPA 8270C	EPA 8270C
4-Chloroaniline	-----	EPA 8270C	EPA 8270C
4-Chloro-3-methylphenol	-----	EPA 8270C	EPA 8270C
2-Chloronaphthalene	-----	EPA 8270C	EPA 8270C
2-Chlorophenol	-----	EPA 8270C	EPA 8270C
2-Methylphenol	-----	EPA 8270C	EPA 8270C
4-Chlorophenyl phenyl ether	-----	EPA 8270C	EPA 8270C
Chrysene	-----	EPA 8270C	EPA 8270C
Cresols (methyl phenols)	-----	EPA 8270C	EPA 8270C
Dibenzo (a,h) anthracene	-----	EPA 8270C	EPA 8270C
Dibenzofuran	-----	EPA 8270C	EPA 8270C
1,2-Dichlorobenzene	-----	EPA 8270C	EPA 8270C
1,3-Dichlorobenzene	-----	EPA 8270C	EPA 8270C
1,4-Dichlorobenzene	-----	EPA 8270C	EPA 8270C



Parameter/Analyte	Potable Water	Nonpotable Water	Solid/Hazardous Waste
3,3'-Dichlorobenzidine	-----	EPA 8270C	EPA 8270C
2,4-Dichlorophenol	-----	EPA 8270C	EPA 8270C
Diethyl phthalate	-----	EPA 8270C	EPA 8270C
Di-n-butyl phthalate	-----	EPA 8270C	EPA 8270C
Di-n-octyl phthalate	-----	EPA 8270C	EPA 8270C
2,4-Dimethylphenol	-----	EPA 8270C	EPA 8270C
2,4-Dinitrophenol	-----	EPA 8270C	EPA 8270C
Dimethyl phthalate	-----	EPA 8270C	EPA 8270C
2,4-Dinitrotoluene	-----	EPA 8270C	EPA 8270C
2,6-Dinitrotoluene	-----	EPA 8270C	EPA 8270C
1,2-Diphenylhydrazine	-----	EPA 8270C	EPA 8270C
Fluoranthene	-----	EPA 8270C	EPA 8270C
Fluorene	-----	EPA 8270C	EPA 8270C
Hexachlorobenzene	-----	EPA 8270C	EPA 8270C
Hexachlorobutadiene	-----	EPA 8270C	EPA 8270C
Hexachlorocyclohexane	-----	EPA 8270C	EPA 8270C
Hexachlorocyclopentadiene	-----	EPA 8270C	EPA 8270C
Hexachloroethane	-----	EPA 8270C	EPA 8270C
Indeno (1,2,3-cd) pyrene	-----	EPA 8270C	EPA 8270C
Isophorone	-----	EPA 8270C	EPA 8270C
2-Methyl-4,6-Dinitrophenol	-----	EPA 8270C	EPA 8270C
2-Methylnaphthalene	-----	EPA 8270C	EPA 8270C
2-Methylphenol	-----	EPA 8270C	EPA 8270C
3-Methylphenol/4-Methyl phenol	-----	EPA 8270C	EPA 8270C
Naphthalene	-----	EPA 8270C	EPA 8270C
2-Nitroaniline	-----	EPA 8270C	EPA 8270C
3-Nitroaniline	-----	EPA 8270C	EPA 8270C
4-Nitroaniline	-----	EPA 8270C	EPA 8270C
Nitrobenzene	-----	EPA 8270C	EPA 8270C
2-Nitrophenol	-----	EPA 8270C	EPA 8270C
4-Nitrophenol	-----	EPA 8270C	EPA 8270C
N-Nitrosodimethylamine	-----	EPA 8270C	EPA 8270C
N-Nitrosodi-n-propylamine	-----	EPA 8270C	EPA 8270C
N-Nitrosodiphenylamine	-----	EPA 8270C	EPA 8270C
Pentachlorophenol	-----	EPA 8270C	EPA 8270C
Phenanthrene	-----	EPA 8270C	EPA 8270C
Phenol	-----	EPA 8270C	EPA 8270C
Pyrene	-----	EPA 8270C	EPA 8270C
1,2,4-Trichlorobenzene	-----	EPA 8270C	EPA 8270C
2,4,5-Trichlorophenol	-----	EPA 8270C	EPA 8270C
2,4,6-Trichlorophenol	-----	EPA 8270C	EPA 8270C
SVOA Prep Methods	-----	EPA 3510 / 3520	EPA 3540 / 3541 / 3546 / 3580
Low Level PAHs			
Acenaphthene	-----	EPA 8270-SIM	EPA 8270-SIM
Acenaphthylene	-----	EPA 8270-SIM	EPA 8270-SIM
Anthracene	-----	EPA 8270-SIM	EPA 8270-SIM
Benzo (a) anthracene	-----	EPA 8270-SIM	EPA 8270-SIM
Benzo (a) pyrene	-----	EPA 8270-SIM	EPA 8270-SIM
Benzo (b) fluoranthene	-----	EPA 8270-SIM	EPA 8270-SIM
Benzo (k) fluoranthene	-----	EPA 8270-SIM	EPA 8270-SIM

Peter Meyer

Parameter/Analyte	Potable Water	Nonpotable Water	Solid/Hazardous Waste
Benzo (ghi) perylene	-----	EPA 8270-SIM	EPA 8270-SIM
Chrysene	-----	EPA 8270-SIM	EPA 8270-SIM
Dibenzo (a,h) anthracene	-----	EPA 8270-SIM	EPA 8270-SIM
Fluoroanthene	-----	EPA 8270-SIM	EPA 8270-SIM
Fluorene	-----	EPA 8270-SIM	EPA 8270-SIM
Indeno (1,2,3-cd) pyrene	-----	EPA 8270-SIM	EPA 8270-SIM
Naphthalene	-----	EPA 8270-SIM	EPA 8270-SIM
Phenanthrene	-----	EPA 8270-SIM	EPA 8270-SIM
Pyrene	-----	EPA 8270-SIM	EPA 8270-SIM
Diesel Range Organics	-----	EPA 8015	EPA 8015
SVOA Prep Methods	-----	EPA 3510	EPA 3540 / 3541 / 3546
<u>Pesticides/Herbicides/PCBs</u>			
Aldrin	-----	EPA 8081A	EPA 8081A
alpha-BHC	-----	EPA 8081A	EPA 8081A
beta-BHC	-----	EPA 8081A	EPA 8081A
delta-BHC	-----	EPA 8081A	EPA 8081A
gamma-BHC (Lindane)	-----	EPA 8081A	EPA 8081A
Chlordane (technical)	-----	EPA 8081A	EPA 8081A
4,4'-DDD	-----	EPA 8081A	EPA 8081A
4,4''-DDT	-----	EPA 8081A	EPA 8081A
4,4'-DDE	-----	EPA 8081A	EPA 8081A
Dieldrin	-----	EPA 8081A	EPA 8081A
Endosulfan I (alpha)	-----	EPA 8081A	EPA 8081A
Endosulfan II (beta)	-----	EPA 8081A	EPA 8081A
Endosulfan sulfate	-----	EPA 8081A	EPA 8081A
Endrin	-----	EPA 8081A	EPA 8081A
Endrin aldehyde	-----	EPA 8081A	EPA 8081A
Heptachlor	-----	EPA 8081A	EPA 8081A
Heptachlor epoxide	-----	EPA 8081A	EPA 8081A
Methoxychor	-----	EPA 8081A	EPA 8081A
PCB-1016 (Arochlor)	-----	EPA 8082	EPA 8082
PCB-1221	-----	EPA 8082	EPA 8082
PCB-1232	-----	EPA 8082	EPA 8082
PCB-1242	-----	EPA 8082	EPA 8082
PCB-1248	-----	EPA 8082	EPA 8082
PCB-1254	-----	EPA 8082	EPA 8082
PCB-1260	-----	EPA 8082	EPA 8082
PCB-1262	-----	EPA 8082	EPA 8082
PCB-1268	-----	EPA 8082	EPA 8082
PCB-1262	-----	EPA 8082	EPA 8082
Toxaphene	-----	EPA 8081A	EPA 8081A
2,4-D	-----	EPA 8151M	-----
Silvex	-----	EPA 8151M	-----
Prep Methods	-----	EPA 3510 / 3520	EPA 3540 / 3541 / 3546
Carboprep for Pesticides	-----	50_CARBOPREP	
Sulfuric Acid Permanganate clean up for PCBs	-----	EPA 3665	EPA 3665
Sulfur clean up by copper powder	-----	EPA 3660B	EPA 3660B
Methane, Ethane and Ethene	-----	RSK-175	-----



Parameter/Analyte	Potable Water	Nonpotable Water	Solid/Hazardous Waste
Hazardous Waste Characteristics			
Ignitability	-----		EPA 1010
Paint Filter Liquids Test	-----		EPA 9095A
Toxicity Characteristic Leaching Procedure	-----	EPA 1311	EPA 1311
Synthetic Precipitation Leaching Procedure	-----	EPA 1312	EPA 1312
Corrosivity	-----	EPA 9040/9041	EPA 9041/9045

Accreditation is also granted to this laboratory to perform the following tests on children's toys:

Chemical	
Lead in Paint	16 CFR part 1303 (using ASTM E1613, E1645 and EPA SW 846 6010)
Phthalates	CPSC-CH-C1001-09
Lead in Children's Metal Products (including jewelry)	CPSC-CH-E1001-08

