



Accredited Laboratory

A2LA has accredited

EMSL ANALYTICAL, INC.

Cinnaminson, NJ

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 17025:2017, the 2016 TNI Environmental Testing Laboratory Standard, and the requirements of the Department of Energy Consolidated Audit Program (DOECAP) as detailed in version 5.4 of the DoD Quality System Manual for Environmental Laboratories (QSM), 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 April 2017).



Presented this 24th day of July 2024.

A blue ink signature of Mr. Trace McInturff, written over a horizontal line.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2845.01
Valid to July 31, 2026

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



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

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ENVIRONMENTAL

Valid To: July 31, 2026

Certificate Number: 2845.01

In recognition of the successful completion of the A2LA evaluation process, (including an assessment of the laboratory's compliance with the 2016 TNI Environmental Testing Laboratory Standard and the requirements of the Department of Energy Consolidated Audit Program (DOECAP) as detailed in version 5.4 of the DoD/DOE Quality Systems Manual for Environmental Laboratories), accreditation is granted to this laboratory to perform recognized EPA methods using the following testing technologies and in the analyte categories identified below:

<u>Test</u>	<u>Test Method(s)</u>	<u>Parameter/Analyte</u>
Aromatic Hydrocarbons	NIOSH 1501 mod.	Benzene Ethylbenzene Toluene o-Xylene p-Xylene m-Xylene
Elements by ICP	NIOSH 7300 NIOSH 7300 mod. NIOSH 7303 NIOSH 7303 mod.	Aluminum (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Beryllium (Be) Bismuth (Bi) Boron (B) Cadmium (Cd) Cerium (Ce) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Lithium (Li) Magnesium (Mg) Manganese (Mn) Molybdenum (Mo) Nickel (Ni) Phosphorous (P) Potassium (K) Selenium (Se)

<u>Test</u>	<u>Test Method(s)</u>	<u>Parameter/Analyte</u>
		Silver (Ag) Sodium (Na) Strontium (Sr) Sulfide (S) Thalium (Tl) Tin (Sn) Titanium (Ti) Vanadium (V) Zinc (Zn) Zircon (Zr)
Hexavalent Chromium	OSHA 215	Hexavalent Chromium
Inorganic Acids	NIOSH 7903	Bromine (Br) Chlorine (Cl) Fluorine (F) Nitrate (NO ₃) Nitrite (NO ₂) Phosphate (PO ₄) Sulfate (SO ₄)
Mercury	NIOSH 6009 mod. OSHA 140 mod.	Mercury
Ozone	OSHA 214	Ozone
Polychlorinated Biphenyls	NIOSH 5503 mod.	Aroclor-1016 Aroclor-1221 Aroclor-1232 Aroclor-1242 Aroclor-1248 Aroclor-1254 Aroclor-1260 Aroclor-1262 Aroclor-1268
Silica, Crystalline	NIOSH 7500 mod. OSHA 142	α-quartz Cristobalite Tridymite



ASBESTOS ANALYSIS

<u>Test</u>	<u>Test Method(s)</u>	<u>Parameter/Analyte</u>
Phase Contrast Microscopy	NIOSH 7400	Asbestos: Actinolite Asbestos: Amosite Asbestos: Anthophyllite Asbestos: Chrysotile Asbestos: Crocidolite Asbestos: Other non-regulated amphibole fibers Asbestos: Tremolite
Polarized Light Microscopy	SAE J2975 EPA 600/R-93/116 NIOSH 9002 ASTM D7521-16	Asbestos: Actinolite Asbestos: Amosite Asbestos: Anthophyllite Asbestos: Chrysotile Asbestos: Crocidolite Asbestos: Other non-regulated amphibole fibers Asbestos: Tremolite
Sample Preparation by Drilling	SAE J2975	Asbestos: Actinolite Asbestos: Amosite Asbestos: Anthophyllite Asbestos: Chrysotile Asbestos: Crocidolite Asbestos: Other non-regulated amphibole fibers Asbestos: Tremolite
Transmission Electron Microscopy – Air	NIOSH 7402	Asbestos: Actinolite Asbestos: Amosite Asbestos: Anthophyllite Asbestos: Chrysotile Asbestos: Crocidolite Asbestos: Other non-regulated amphibole fibers Asbestos: Tremolite
Transmission Electron Microscopy – Air	ISO 10312 (direct method)	Asbestos: Actinolite Asbestos: Amosite Asbestos: Anthophyllite Asbestos: Chrysotile Asbestos: Crocidolite Asbestos: Other non-regulated amphibole fibers Asbestos: Tremolite
Transmission Electron Microscopy – Bulk	ISO 13794 (indirect method)	Asbestos: Actinolite Asbestos: Amosite Asbestos: Anthophyllite Asbestos: Chrysotile Asbestos: Crocidolite Asbestos: Other non-regulated amphibole fibers Asbestos: Tremolite



<u>Test</u>	<u>Test Method(s)</u>	<u>Parameter/Analyte</u>
		Asbestos: Crocidolite Asbestos: Other non-regulated amphibole fibers Asbestos: Tremolite
Transmission Electron Microscopy – Soil	ASTM D7521-16	Asbestos: Actinolite Asbestos: Amosite Asbestos: Anthophyllite Asbestos: Chrysotile Asbestos: Crocidolite Asbestos: Other non-regulated amphibole fibers Asbestos: Tremolite
Transmission Electron Microscopy	EPA 100.2	Asbestos: Actinolite Asbestos: Amosite Asbestos: Anthophyllite Asbestos: Chrysotile Asbestos: Crocidolite Asbestos: Other non-regulated amphibole fibers Asbestos: Tremolite
Fluidized Bed Asbestos Segregator for Soil	ASB-SOP-114 FBAS Soil Preparation Method	Soil Preparation Method

**RADIOCHEMISTRY, CHEMISTRY DRINKING WATER, and
NON-POTABLE**

Parameter/Analyte	Test Method
Gross Alpha/Beta	EPA 900
Radium (Ra-226)	EPA 903
Radium (Ra-228)	EPA 904
Strontium (Sr-89/-90)	EPA 905
Tritium	EPA 906

RADIOCHEMISTRY and CHEMISTRY SOLID MATRIX

Parameter/Analyte	Test Method(s)
Alpha/Beta Scan	EMSL RC-SOP-003, EPA 900 mod.
Nickel (Ni-63)	EMSL RC-SOP-201



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AIR MATRIX		
<u>Test</u>	<u>Test Method</u>	<u>Parameter/Analyte</u>
Combustion-by-Products (Black Carbon/Soot, Char, and Ash) – Identification only	ASTM D6602	Ash Black Carbon/Soot Char
Diesel Particulate Matter (As Elemental Carbon)	NIOSH 5040	Elemental Carbon
Inorganic Fibrous Particles by SEM method	German VDI 3492	Asbestos Fibrous Glass Mineral Wool Refractory Ceramic Fibers
Inorganic Fibrous Particles by SEM method	ISO 14966	Asbestos Fibrous Glass Mineral Wool Refractory Ceramic Fibers

POTABLE, NON-POTABLE, SOLIDS/SOILS MATRIX		
<u>Test</u>	<u>Test Method(s)</u>	<u>Parameter/Analyte</u>
PFAS	EPA 537.1 (WATER only)	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid 4,8-dioxa-3H-perfluorononanoic acid 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid Hexafluoropropylene oxide dimer acid N-ethylperfluorooctanesulfonamidoacetic acid N-methylperfluorooctanesulfonamidoacetic acid Perfluorobutanesulfonic acid Perfluorodecanoic acid Perfluorododecanoic acid Perfluoroheptanoic acid Perfluorohexanesulfonic acid Perfluorohexanoic acid Perfluorononanoic acid Perfluorooctanesulfonic acid (PFOS) Perfluorooctanoic acid (PFOA) Perfluorotetradecanoic acid Perfluorotridecanoic acid Perfluoroundecanoic acid
PFAS	EPA 533 (WATER only)	Perfluorobutanoic acid (PFBA) Perfluoropentanoic acid (PFPeA)

<u>Test</u>	<u>Test Method(s)</u>	<u>Parameter/Analyte</u>
		Perfluorohexanoic acid (PFHxA) Perfluoroheptanoic acid (PFHpA) Perfluorooctanoic acid (PFOA) Perfluorononanoic acid (PFNA) Perfluorodecanoic acid (PFDA) Perfluoroundecanoic acid (PFUnA) Perfluorododecanoic acid (PFDoA) Perfluorobutanesulfonic acid (PFBS) Perfluoropentanesulfonic acid (PFPeS) Perfluorohexanesulfonic acid (PFHxS) Perfluoroheptanesulfonic acid (PFHpS) Perfluorooctanesulfonic acid (PFOS) Fluorotelomer sulphonic acid 4:2 (4:2 FTS) Fluorotelomer sulphonic acid 6:2 (6:2 FTS) Fluorotelomer sulphonic acid 8:2 (8:2 FTS) Hexafluoropropylene oxide dimer acid (HFPO-DA) 4,8-dioxa-3H-perfluorononanoic acid (ADONA) Perfluoro-3-methoxypropanoic acid (PFMPA) Perfluoro-4-methoxybutanoic acid (PFMBA) Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) 9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid 11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid Perfluoro(2-ethoxyethane) sulfonic acid (PFEEESA) 3-Perfluoropropyl propanoic acid (3:3 FTCA) 2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA) 3-Perfluoroheptyl propanoic acid (7:3 FTCA)
PFAS	Draft Method EPA 1633	Perfluorobutanoic acid (PFBA) Perfluoropentanoic acid (PFPeA) Perfluorohexanoic acid (PFHxA) Perfluoroheptanoic acid (PFHpA) Perfluorooctanoic acid (PFOA) Perfluorononanoic acid (PFNA) Perfluorodecanoic acid (PFDA) Perfluoroundecanoic acid (PFUnA) Perfluorododecanoic acid (PFDoA) Perfluorotridecanoic acid (PFTrDA) Perfluorotetradecanoic acid (PFTDA) Perfluorobutanesulfonic acid (PFBS) Perfluoropentanesulfonic acid (PFPeS) Perfluorohexanesulfonic acid (PFHxS) Perfluoroheptanesulfonic acid (PFHpS) Perfluorooctanesulfonic acid (PFOS) Perfluorononanesulfonic acid (PFNS)

<u>Test</u>	<u>Test Method(s)</u>	<u>Parameter/Analyte</u>
		Perfluorodecanesulfonic acid (PFDS) Perfluorododecanesulfonic acid (PFDoS) Fluorotelomer sulphonic acid 4:2 (4:2 FTS) Fluorotelomer sulphonic acid 6:2 (6:2 FTS) Fluorotelomer sulphonic acid 8:2 (8:2 FTS) Perfluorooctanesulfonamide (PFOSA) N-methyl perfluorooctanesulfonamide (NMeFOSA) N-ethyl perfluorooctanesulfonamide (NEtFOSA) N-methyl perfluorooctanesulfonamidoacetic acid N-ethyl perfluorooctanesulfonamidoacetic acid N-methyl perfluorooctanesulfonamidoethanol N-ethyl perfluorooctanesulfonamidoethanol Hexafluoropropylene oxide dimer acid (HFPO-DA) 4,8-dioxa-3H-perfluorononanoic acid (ADONA) Perfluoro-3-methoxypropanoic acid (PFMPA) Perfluoro-4-methoxybutanoic acid (PFMBA) Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) 9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid 11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid Perfluoro(2-ethoxyethane) sulfonic acid (PFEEESA) 3-Perfluoropropyl propanoic acid (3:3 FTCA) 2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA) 3-Perfluoroheptyl propanoic acid (7:3 FTCA)
Metals	SW 846 6010D	Aluminum Antimony Arsenic Barium Beryllium Boron Cadmium Calcium Chromium Cobalt Copper Iron Lead Lithium Magnesium Manganese Molybdenum

<u>Test</u>	<u>Test Method(s)</u>	<u>Parameter/Analyte</u>
		Nickel Phosphorus Potassium Selenium Silver Sodium Strontium Thallium Tin Titanium Vanadium Zinc Zirconium
Mercury	SW 846 7470B (NPW) SW 846 7471A (SCN)	Mercury
PCB's	SW 846 8082A	PCB 1016 PCB 1221 PCB 1232 PCB 1242 PCB 1248 PCB 1254 PCB 1260 PCB 1262 PCB 1268
Combustion-by-Products (black carbon/soot, char and ash)	ASTM D6602	Ash Black Carbon/Soot Char
Determination of Asbestos in Technical Products by SEM method	German VDI 3866 Part 5	Asbestos
Separatory Funnel Liquid/Liquid Extractions	EPA 3510C	-----
Microwave Sample Preparation	EPA 3546	-----
Polychlorinated Biphenyls (PCBs)	EPA 8082A	Aroclor-1016 Aroclor-1221 Aroclor-1232 Aroclor-1242 Aroclor-1248 Aroclor-1254 Aroclor-1260 Aroclor-1262 Aroclor-1268
Silica Gel Cleanup	EPA 3630C	-----
Soxhlet Sample Preparation	EPA 3540C	-----
Sulfur Extract Cleanup	EPA 3660B	-----
Sulfuric Acid Cleanup	EPA 3665A	-----

<u>Test</u>	<u>Test Method(s)</u>	<u>Parameter/Analyte</u>
Waste Dilution Sample Preparation	EPA 3580A	-----
Semi-Volatiles **WIPES ONLY	SW 846 8270E	Acenaphthene Acenaphthylene Anthracene Benzo (a) anthracene Benzo (a) pyrene Benzo (b) fluoranthene Benzo (ghi) perylene Benzo (k) fluoranthene Bis (2-butoxyethyl) phthalate Bis (2-ethylhexyl) phthalate Bis (2-methoxyethyl) phthalate Bis (4-methylpentyl) phthalate Bisphenyl A Butylbenzylphthalate Chrysene Dibenzo(a,h)anthracene Dicyclohexyl phthalate Diethyl phthalate Dihexyl phthalate Diionyl phthalate Diisobutyl phthalate Diisodecyl phthalate Diisonoyl phthalate Dimethyl phthalate Di-n-butyl phthalate Di-n-octyl phthalate Dipentyl phthalate Fluoranthene Fluorobiphenyl (2) Fluorene Indeno (1,2,3-cd) pyrene Methylnaphthalene (2-) Naphthalene Nitrobenzene Pyrene
Volatiles	SW 846 8260D	Acetone Acetonitrile Acrolein Acrylonitrile Allyl chloride Benzene Bromobenzene Bromochloromethane Bromodichloromethane Bromoform Bromomethane Butadiene (2-chloro-1,3-) Butanone (2-) (Methyl ethyl ketone)



<u>Test</u>	<u>Test Method(s)</u>	<u>Parameter/Analyte</u>
		Butylbenzene (n-) Carbon disulfide Carbon tetrachloride Chlorobenzene Chloroethane Chloroethyl vinyl ether (2-) Chloroform Chloromethane Chlorotoluene (2-) Chlorotoluene (4-) Cyclohexane Cyclohexanone Dibromo-3-chloropropane (1,2-) Dibromochloromethane Dibromoethane (1,2-) (EDB) Dibromomethane Dichloro-2-butene (trans-1,4-) Dichlorobenzene (1,2-) Dichlorobenzene (1,3-) Dichlorobenzene (1,4-) Dichlorodiuoromethane Dichloroethane (1,1-) Dichloroethane (1,2-) Dichloroethene (1,1-) Dichloroethene(cis-1,2-) Dichloroethene (trans-1,2-) Dichloropropane (1,2-) Dichloropropane (1,3-) Dichloropropane (2,2-) Dichloropropene (1,1-) Dichloropropene (cis-1,3-) Dichloropropene (trans-1,3-) Diethyl ether (Ethyl ether) Dioxane (1,4-) Ethyl acetate Ethyl methacrylate Ethylbenzene Ethyl-tert-butyl Ether (ETBE) Heptane (n-) Hexachlorobutadiene (1,3-) Hexachloroethane Hexane (n-) Hexanone (2-) Isa-butyl alcohol Isopropanol Isopropylbenzene Isopropyltoluene (4-) Methylcrotonitrile Methyl acetate



<u>Test</u>	<u>Test Method(s)</u>	<u>Parameter/Analyte</u>
		Methyl acrylate Methyl iodide Methyl methacrylate Methyl tert-butyl ether Methylcyclohexane Methylene chloride (Dichloromethane) Naphthalene Nitrobenzene Nitropropane (2-) Pentachloroethane Pentanone (4-methyl-2-) (MIBK) Propionitrile Propylbenzene (n-) Sec-butylbenzene Styrene tert-Amylmethyl ether (TAME) Tert-butyl alcohol Tert-butylbenzene Tetrachloroethane (1,1,1,2-) Tetrachloroethane (1,1,2,2-) Tetrachloroethene Toluene Trichloro (1,1,2-) Trinuroethane (1,2,2-) Trichlorobenzene (1,2,3-) Trichlorobenzene (1,2,4-) Trichloroethane (1,1,1-) Trichloroethane (1,1,2-) Trichloroethene Trichlorofluoromethane Trichloropropane (1,2,3-) Trimethylbenzene (1,2,4-) Trimethylbenzene (1,3,5-) Vinyl acetate Vinyl chloride Xylene (m-) Xylene (o-) Xylene (p-) Xylenes (total)
Wet Extraction Test (WET) – Soluble Threshold Limit Concentration/Total Threshold Control Limit (STLC-TTLC)	California Code of Regulations, Title 22, Chapter 11, Article 5 Appendix II	-----
Total Organic Carbon in Water and Wastewater; Persulfate Oxidation.	Method SM 5310C	Total Organic Carbon