



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ELEMENT MATERIALS TECHNOLOGY CANADA INC.

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CHEMICAL

Valid To: January 31, 2026

Certificate Number: 6206.04

In recognition of the successful completion of the A2LA evaluation process accreditation is granted to this laboratory to perform the following chemical tests identified on the analytes noted below:

**Soil:**

| <b><u>Analytes</u></b>                                                                                                                                                                                                                                      | <b><u>Test Method(s)</u></b> | <b><u>Reference Method(s)</u></b>                                                                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Barium in Soil by ICP-MS<br>Extractable Barium                                                                                                                                                                                                              | TM DW 007-93                 | Alberta Environment Soil<br>Remediation Guidelines for Barite<br>(Modified)<br><br>B.C. Environmental Lab Manual<br>Soluble Barium by Calcium Chloride<br>Extraction – Prescriptive |
| BTEX/VPH – Soil, Water and Solids<br>by GC FID/MSD<br>Benzene<br>Ethylbenzene<br>m/p - Xylene<br>Methyl tert butyl ether (MTBE)<br>O - Xylene<br>Styrene<br>Toluene<br>Volatile Hydrocarbons (C6-C10)<br>Volatile Petroleum Hydrocarbons<br>(C6-C10 - BTEX) | TM BTX 005-93                | B.C. Environmental Lab Manual,<br>Volatile Hydrocarbons in Solids<br>(Modified)                                                                                                     |
| Extractable Petroleum Hydrocarbons<br>in Soil and Water by GC FID<br>EPH 10-19<br>EPH 19-32                                                                                                                                                                 | TM EPH 004-93                | BC Environmental Lab Manual,<br>Extractable Petroleum Hydrocarbons<br>in Solids (Modified)                                                                                          |
| Metals in Solids by ICP-MS<br>Aluminum<br>Antimony<br>Arsenic<br>Barium<br>Beryllium                                                                                                                                                                        | TM MET 001-93                | B.C. Environmental Lab Manual<br>Strong Acid Leachable Metals<br>(SALM) in Soil – Prescriptive                                                                                      |

| <b>Analytes</b>                                                                                                                                                                                                                                                                   | <b>Test Method(s)</b> | <b>Reference Method(s)</b>                                                                                                                                                        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Metals in Solids by ICP-MS (cont.)<br>Boron<br>Cadmium<br>Chromium<br>Cobalt<br>Copper<br>Hot Water Soluble Boron<br>Iron<br>Lead<br>Lithium<br>Manganese<br>Mercury<br>Molybdenum<br>Nickel<br>Selenium<br>Silver<br>Strontium<br>Thallium<br>Tin<br>Uranium<br>Vanadium<br>Zinc | TM MET 001-93         | B.C. Environmental Lab Manual<br>Strong Acid Leachable Metals<br>(SALM) in Soil – Prescriptive<br><br>B.C. Environmental Lab Manual<br>Boron, Hot Water Soluble<br>(Prescriptive) |
| Non-metals in Water Soil and Solids<br>by Colorimetric Discrete Analyzer<br>Ammonia<br>Chloride<br>Nitrate + Nitrite                                                                                                                                                              | TM INORG 002-93       | 4500-Cl E, B.C. Environmental Lab<br>Manual (Modified)<br><br>APHA 4500-NH3 G, Unity Science<br>AMM-002-A (Modified)<br><br>EPA 353.2 (Modified)                                  |
| Non-metals in Water Soil and Solids<br>by Spectrophotometer<br>Ammonia<br>Chloride                                                                                                                                                                                                | TM INORG 001-93       | APHA 4500-Cl E (Modified)<br><br>HACH Method 1003<br>10031(Modified)                                                                                                              |
| pH and Electrical Conductivity in<br>Extracts<br>EC<br>pH                                                                                                                                                                                                                         | TM INORG 003-93       | B.C. Environmental Lab Manual<br>MSS 4.12, MSS 4.13, MSS 3.11<br>(Modified)                                                                                                       |
| Polycyclic Aromatic Hydrocarbons in<br>Soil and Water by GC MSD<br>1-Methylnaphthalene<br>2-Methylnaphthalene<br>Acenaphthene<br>Acenaphthene<br>Acenaphthylene<br>Acenaphthylene<br>Anthracene<br>Benzo (a) anthracene<br>Benzo (a) pyrene<br>Benzo (b) fluoranthene             | TM PAH 004-93         | B.C. Environmental Lab Manual,<br>PAH Solids (Modified)                                                                                                                           |

| <b>Analytes</b>                                                                                                                                                                                                                                                                                                                      | <b>Test Method(s)</b> | <b>Reference Method(s)</b>                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------------------|
| Polycyclic Aromatic Hydrocarbons in Soil and Water by GC MSD (cont.)<br>Benzo (g,h,i) perylene<br>Benzo (j) fluoranthene<br>Benzo (b+j) fluoranthene<br>Benzo (k) fluoranthene<br>Chrysene<br>Dibenzo (a,h) anthracene<br>Fluoranthene<br>Fluorene<br>Indeno (1,2,3-cd) pyrene<br>Naphthalene<br>Phenanthrene<br>Pyrene<br>Quinoline | TM PAH 004-93         | B.C. Environmental Lab Manual, PAH Solids (Modified) |
| Salinity, pH and EC in Water and in Soil & Waste by Saturated Paste<br>Calcium<br>EC<br>Magnesium<br>Percent Saturation<br>pH<br>Potassium<br>SAR<br>Sodium<br>Sulfate                                                                                                                                                               | TM DW 004-93          | SSMA Ch 15, B.C. Environmental Lab Manual (Modified) |

**Waste:**

| <b>Analytes</b>                                                                                                 | <b>Test Method(s)</b> | <b>Reference Method(s)</b>                                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BTEX/VPH – Soil, Water and Solids by GC FID/MSD<br>Benzene<br>Ethylbenzene<br>m/p-xylene<br>o-xylene<br>Toluene | TM BTX 005-93         | B.C. Environmental Lab Manual, Volatile Hydrocarbons in Solids (Modified)<br><br>EPA 1311 Toxicity Characteristic Leachate Procedure<br><br>EPA 1311 Toxicity Characteristic Leachate Procedure (Modified) |
| Bulk Density and Specific Gravity in Drilling Waste and Soil<br>Bulk Density<br>Specific Gravity                | TM DW 001-93          | American Society of Agronomy No.9. Method 13-2, AER Directive 050, SSMA 57.1 (Modified)                                                                                                                    |
| Flash Point in Liquid and Soil by Pensky-Martens Closed Cup Tester<br>Flash Point                               | TM LAND 007-93        | ASTM D93 (Modified)                                                                                                                                                                                        |
| Fluoride in Soil and Solid Waste Extract<br>Fluoride                                                            | TM LAND 003-93        | APHA 4500-F- C                                                                                                                                                                                             |

| <b>Analytes</b>                                                                                                                                                                           | <b>Test Method(s)</b> | <b>Reference Method(s)</b>                                                                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------|
| Metals by ICP-MS as prepared by SWEP<br>Arsenic<br>Barium<br>Boron<br>Cadmium<br>Chromium<br>Copper<br>Lead<br>Mercury<br>Selenium<br>Silver<br>Uranium<br>Zinc                           | TM LAND 012-93        | Environmental Management Act, Hazardous Waste Regulation Reg 63/88 Modified Leachate Extraction Procedure (Modified)      |
| Metals by ICP-MS as Prepared by TCLP in Liquid, Solid and Waste Samples<br>Antimony<br>Arsenic<br>Barium<br>Beryllium<br>Boron<br>Cadmium<br>Chromium<br>Cobalt<br>Copper<br>Iron<br>Lead | TM LAND 013-93        | EPA 1311 Toxicity Characteristic Leachate Procedure<br><br>EPA 1311 Toxicity Characteristic Leachate Procedure (Modified) |
| Non-metals in Water Soil and Solids by Colorimetric Discrete Analyzer<br>Cyanide<br>Nitrate + Nitrite                                                                                     | TM INORG 002-93       | EPA 335.4 (Modified)<br><br>EPA 353.2 (Modified)                                                                          |
| Non-metals in Water Soil and Solids by Spectrophotometer<br>Cyanide                                                                                                                       | TM INORG 001-93       | HACH Method 8027(Modified)                                                                                                |
| Paint Filter Test<br>Free Liquids - Waste                                                                                                                                                 | TM LAND 009-93        | EPA 9095B (Modified)                                                                                                      |
| pH and Electrical Conductivity in Extracts<br>pH                                                                                                                                          | TM INORG 003-93       | MSS 4.12, B.C. Environmental Lab Manual (Modified)                                                                        |
| Special Waste Oil Determination by Petroleum Ether Extraction (cont.)<br>Oil and Grease Dried Basis<br>Oil as Received                                                                    | TM LAND 011-93        | B.C. Environmental Lab Manual Determination of Waste Oil Content (Modified)                                               |

**Water:**

| <b>Analytes</b>                                                                                                                                                                                                                                             | <b>Test Method(s)</b> | <b>Reference Method(s)</b>                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| BTEX/VPH – Soil, Water and Solids<br>by GC FID/MSD<br>Benzene<br>Ethylbenzene<br>m/p - Xylene<br>Methyl tert butyl Ether (MTBE)<br>o - Xylene<br>Styrene<br>Toluene<br>Volatile Hydrocarbons (C6-C10)<br>Volatile Petroleum Hydrocarbons<br>(C6-C10 - BTEX) | TM BTX 005-93         | B.C. Environmental Lab Manual<br>Volatile Hydrocarbons in Water<br>(Modified)                                                                    |
| Extractable Petroleum Hydrocarbons<br>in Soil and Water by GC FID<br>EPH 10-19<br>EPH 19-32                                                                                                                                                                 | TM EPH 004-93         | BC Environmental Lab Manual,<br>Extractable Petroleum Hydrocarbons<br>in Water (Modified)                                                        |
| Non-metals in Water Soil and Solids<br>by Colorimetric Discrete Analyzer<br>Chloride<br>Ammonia<br>Nitrate + Nitrite                                                                                                                                        | TM INORG 002-93       | 4500-Cl E, B.C. Environmental Lab<br>Manual (Modified)<br><br>APHA 4500-NH3 G, Unity Science<br>AMM-002-A (Modified)<br><br>EPA 353.2 (Modified) |
| Non-metals in Water Soil and Solids<br>by Spectrophotometer<br>Ammonia<br>Chloride                                                                                                                                                                          | TM INORG 001-93       | APHA 4500-Cl E (Modified)<br><br>HACH Method 10031 (Modified)                                                                                    |
| pH and Electrical Conductivity in<br>Water and Soil<br>EC<br>pH                                                                                                                                                                                             | TM INORG 003-93       | APHA 4500-H+ B (Modified)<br><br>APHA 2510 B (Modified)                                                                                          |
| Polycyclic Aromatic Hydrocarbons in<br>Soil and Water by GC MS<br>1-Methylnaphthalene<br>2-Methylnaphthalene<br>Acenaphthalene<br>Acenaphthylene<br>Acridine<br>Anthracene<br>Benzo (a) anthracene<br>Benzo (a) pyrene                                      | TM PAH 004-93         | B.C. Environmental Lab Manual,<br>PAH in Water (Modified)                                                                                        |

| <b>Analytes</b>                                                                                                                                                                                                                                                                                                                                                | <b>Test Method(s)</b> | <b>Reference Method(s)</b>                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------------------------------------------|
| Polycyclic Aromatic Hydrocarbons in Soil and Water by GC MS (cont.)<br>Benzo (b) fluoranthene<br>Benzo(b+j) fluoranthene<br>Benzo (g,h,i) perylene<br>Benzo (j) fluoranthene<br>Benzo (k) fluoranthene<br>Chrysene<br>Dibenzo (a,h) anthracene<br>Fluoranthene<br>Fluorene<br>Indeno (1,2,3 - cd) pyrene<br>Naphthalene<br>Phenanthrene<br>Pyrene<br>Quinoline | TM PAH 004-93         | B.C. Environmental Lab Manual, PAH in Water (Modified) |
| Salinity, pH, and EC in Water and in Soil & Waste by Saturated Paste<br>Calcium<br>Hardness<br>Magnesium<br>Potassium<br>SAR<br>Sodium<br>Sulfate                                                                                                                                                                                                              | TM DW 004-93          | EPA 3005A (Modified)                                   |

**Notes:**

**AER:** Alberta Energy Regulator

**APHA:** American Public Health Association (Standard Methods for the Examination of Water & Wastewater)

**ASTM:** American Society for Testing and Materials

**EPA:** Environmental Protection Agency

**MSS:** Manual on Soil Sampling and Methods of Analysis - J.A. McKeague, 1978

**SSMA:** Soil Sampling and Methods of Analysis, Martin R. Carter, 2008



## Accredited Laboratory

A2LA has accredited

**Element Materials Technology Canada Inc.**

*Fort St. John, British Columbia, CANADA*

for technical competence in the field of

**Chemical Testing**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. 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).



Presented this 23<sup>rd</sup> day of January 2024.

A blue ink signature of Mr. Trace McInturff.

Mr. Trace McInturff, Vice President, Accreditation Services  
For the Accreditation Council  
Certificate Number 6206.04  
Valid to January 31, 2026

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