



CALA

Canadian Association for
Laboratory Accreditation Inc.

CALA Directory of Laboratories

Membership Number: 3915
Laboratory Name: AGAT Laboratories - Lloydminster
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Standard: Conforms with requirements of ISO/IEC 17025
Clients Served: All Interested Parties
Revised On: March 23, 2018
Valid To: October 3, 2019

Scope of Accreditation

Soil (Inorganic)

Ammonia - Soil (010)
INOR-190-6012; modified from SM 4500-NH3 F
SPECTROPHOTOMETRIC
Ammonia

Soil (Inorganic)

Anions - Soil (001)
INOR-190-6008, INOR-190-6002; modified from SM 4110 B and MCKEAGUE 3.21
IC - SATURATED PASTE EXTRACTION
Chloride
Fluoride
Nitrate
Nitrite
Sulfate

Soil (Inorganic)

Chromium - Soil (029)
INOR-190-6016; modified from BARTLETT, R.J., JAMES, B.R. (1996), CHROMIUM PP. 683-701
COLORIMETRIC - DIGESTION
Chromium

Soil (Inorganic)

Conductivity - Soil, Sediment (004)
INOR-190-6011, INOR-190-6002; modified from MCKEAGUE 4.13 and MCKEAGUE 3.21 and MCKEAGUE 4.12
CONDUCTIVITY METER
Conductivity (saturated paste)

† "OSDWA" indicates the appendix is used for the analysis of Ontario drinking water samples, which is subject to the rules and related regulations under the Ontario "Safe Drinking Water Act" (2002).

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Soil (Inorganic)

Flashpoint - Soil (009)
ORG-190-5100; modified from ASTM D93-02A
PENSKY MARTENS CLOSED CUP
Flashpoint

Soil (Inorganic)

Hot Water Soluble Boron - Soil (028)
INOR-190-6009, INOR-190-6014; modified from CARTER, M.R. & GREGORICH E.G. 2008. HOT WATER SOLUBLE BORON
ICP/OES
Boron

Soil (Inorganic)

Metals - Soil (030)
INOR-190-6017; modified from SM 3125 B
ICP/MS
Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Copper
Lead
Mercury
Molybdenum
Nickel
Selenium
Silver
Thallium
Tin
Uranium
Vanadium
Zinc

Soil (Inorganic)

Particle Size Analysis (PSA) - Soil (006)
INOR-190-6004; modified from SHELDRIK, B.H. & WANG, C, CARTER MO ED. 1993
SIEVE ANALYSIS
Particle Size (75um)

Soil (Inorganic)

Particle Size Analysis (PSA) - Soil (022)
INOR-190-6013; modified from SHELDRIK, B.H. & WANG, C, CARTER MO ED. 1993
HYDROMETER (2 PT)
% clay
% Sand
% silt

Soil (Inorganic)

Percent Saturation - Soil (002)
INOR-190-6002; modified from MCKEAGUE 3.21
GRAVIMETRIC - SATURATED
Percent Saturation (Saturated Paste)

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Soil (Inorganic)

pH - Soil, Sediment (007)

INOR-190-6010, INOR-190-6002; modified from CARTER & GREGORICH, SOIL SAMPLING & METHODS OF ANALYSIS, 2ND ED.

pH METER

pH (1:1) Soil: Water

pH (Saturated Paste)

Soil (Inorganic)

Soluble Cations - Soil (013)

INOR-190-6009, INOR-190-6002; modified from SSMA CHAPTER 15 and SM 3120 B

ICP/OES - SATURATED PASTE EXTRACTION

Boron

Calcium

Magnesium

Potassium

Sodium

Sulphur

Soil (Inorganic)

Specific Gravity - Soil (003)

INOR-190-6003; modified from BAROID MUD BALANCE, ASTM D 4380, G50, and DRILLING WASTE MANAGEMENT

MUD BALANCE

Specific Gravity

Soil (Organic)

Petroleum Hydrocarbons (PHC) - Soil (012)

ORG-190-5103; modified from EPA SW-846 8260 and EPA 5030C

GC/MS

Benzene

Ethylbenzene

m/p-xylene

o-xylene

Toluene

Soil (Organic)

Petroleum Hydrocarbons (PHC) - Soil (014)

ORG-190-5102; CCME CWS PHC TIER 1 METHOD

GC/FID - EXTRACTION COLD SHAKE

F2: C10-C16

F3: C16-C34

F4: C34-C50

Soil (Organic)

Petroleum Hydrocarbons (PHC) - Soil (015)

ORG-190-5102; CCME CWS-PHC-TIER 1 METHOD

GRAVIMETRIC - EXTRACTION COLD SHAKE

F4: Gravimetric

Soil (Organic)

Petroleum Hydrocarbons (PHC) - Soil (027)

ORG-190-5103; modified from CCME CWS-PHC TIER 1 METHOD

GC/FID - PURGE AND TRAP

F1: C6-C10

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Soil (Organic)

Total Extractable Hydrocarbons (TEH) - Soil (023)

ORG-190-5104; modified from AEC V92-M2 and AEC V92-G108 and EPA SW-846 CH.4 and BCMOE CSR EPH

IN SOLIDS BY GC/FID

GC/FID - EXTRACTION

EPH C10-C19

EPH C19-C32

SASK (C10-C22)

SASK (C23-C60)

Total Extractable Hydrocarbons (TEH): C11-C30

Soil (Organic)

Total Purgeable Hydrocarbons (TPH) - Soil (025)

ORG-190-5103; BCMOE VOLATILE HYDROCARBONS IN SOIL

GC/FID

TPgH (C5-C10)

VH: C6-C10

Solids (Organic)

BTEX - Soil (011)

ORG-190-5101; IN-HOUSE

GC/MS - LEACHATE PURGE AND TRAP

Benzene

Ethylbenzene

m,p-Xylene

o-Xylene

Toluene

Waste (Inorganic)

Free Liquid - Waste (005)

INOR-190-6006; modified from EPA SW-846 9095

PAINT FILTER TEST

Free Liquid

Waste (Organic)

Metals - Waste (008)

INOR-190-6005, INOR-190-6009; IN-HOUSE

ICP/OES - EXTRACTION

Antimony

Arsenic

Barium

Boron

Cadmium

Chromium

Copper

Iron

Lead

Mercury

Selenium

Silver

Thallium

Uranium

Vanadium

Zinc

Zirconium

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Water (Inorganic)

Ammonia - Water (017)

INOR-190-6012; modified from SM 4500-NH3 F
SPECTROPHOTOMETRIC

Ammonia

Water (Inorganic)

Anions - Water (016)

INOR-190-6008; modified from SM 4110 B
ION CHROMATOGRAPHY

Chloride

Fluoride

Nitrate

Nitrite

Sulfate

Water (Inorganic)

Soluble Cations - Water (018)

INOR-190-6009; modified from SM 3120 B
ICP/OES

Calcium

Magnesium

Potassium

Sodium

Water (Organic)

Petroleum Hydrocarbons (PHC) - Water (019)

ORG-190-5106; modified from EPA SW-846 8260 and EPA 5030C
GC/MS

Benzene

Ethylbenzene

m/p-xylene

o-xylene

Toluene

Water (Organic)

Petroleum Hydrocarbons (PHC) - Water (020)

ORG-190-5102; IN-HOUSE modified from CCME CWS PHC TIER 1 METHOD
GC/FID - EXTRACTION COLD SHAKE

F2: C10-C16

F3: C16-C34

F4: C34-C50

Water (Organic)

Total Extractable Hydrocarbons (TEH) - Water (024)

ORG-190-5105; modified from EPA SW-846 -3510 and AECV92-M2 and BCMOE CSR EPH IN WATER BY
GC/FID

GC/FID - EXTRACTION

EPH C10-C19

EPH C19-C32

SASK (C10-C22)

SASK (C23-C60)

Total Extractable Hydrocarbons (TEH): C11-C30

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Water (Organic)

Total Petroleum Hydrocarbons (TPH) - Water (026)

ORG-190-5106; modified from EPA SW-846 5021 and EPA SW-846 8015B

GC/MS - PURGE AND TRAP

F1: C6-C10

TPgH (C5-C10)

Volatile Hydrocarbons (VH): C6-C10

Water (Toxicology)

Microtox - Liquid Phase - Water (021)

TOX-190-19000; modified from EPS 1/RM/24

BIOLUMINESCENCE

Microtox IC50 (15 min)

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