



CALA

Canadian Association for
Laboratory Accreditation Inc.

CALA Directory of Laboratories

Membership Number: 3915
Laboratory Name: AGAT Laboratories - Lloydminster
Parent Institution: AGAT Laboratories Ltd.
Address: 5921B 50th Ave. Lloydminster SK S9V 2A4
Contact: Mrs. Marilou Ricketts
Phone: (780) 522-5143; (306) 825-3657
Fax: (780) 462-2490
Email: ricketts@agatlabs.com; jroberts@agatlabs.com; vhill@agatlabs.com;

Standard: Conforms with requirements of ISO/IEC 17025
Clients Served: All Interested Parties
Revised On: July 5, 2017
Valid To: October 3, 2019

Scope of Accreditation

Soil

Chloride - Soil (031)
INOR-190-6018; SM 4500-CL E
COLORIMETRIC
Chloride

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

† "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)

Conductivity - Soil, Sediment (004)

INOR-190-6011, INOR-190-6002; modified from MCKEAGUE 4.13/3.21/4.12

CONDUCTIVITY METER

Conductivity (saturated paste)

Soil (Inorganic)

Flashpoint - Soil (009)

ORG-190-5100; modified from ASTM D93-02A

PENSKY MARTENS CLOSED CUP

Flashpoint

Soil (Inorganic)

Hot Water Boron - Soil (028)

INOR-190-6009, INOR-190-6014; modified from CARTER, M.R. and 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 - Soil (006)

INOR-190-6004; modified from SHELDRIK, B.H. and WANG, C, CARTER MO ED. 1993

SIEVE ANALYSIS

Particle Size (75um)

Soil (Inorganic)

Particle Size - Soil (022)

INOR-190-6013; modified from SHELDRIK, B.H and WANG, C, CARTER MO ED. 1993

HYDROMETER (2 PT)

% clay

% Sand

% silt

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Soil (Inorganic)

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

Soil (Inorganic)

pH - Soil/Sediment (007)
INOR-190-6010, INOR-190-6002; modified from CARTER and GREGORICH, SOIL SAMPLING and 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 SW846 METHOD 8260 AND METHOD 5030 C
GC/MS
Benzene
Ethylbenzene
m/p-xylene
o-xylene
Toluene

Soil (Organic)

Petroleum Hydrocarbons (PHC) - Soil (014)
ORG-190-5102; METHOD, 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

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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

Soil (Organic)

Total Extractable Hydrocarbons (TEH) - Soil (023)
ORG-190-5104; modified from AECV92-M2 and 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 - Soil (025)
ORG-190-5103; BCMOE VOLATILE HYDROCARBONS IN SOIL
GC/FID
TPqH (C5-C10)
VH: C6-C10

Solids (Organic)

Organics - 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 (Leachate) - 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

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Vanadium
Zinc
Zirconium

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 SW846 METHOD 8260 AND METHOD 5030 C
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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