



CALA

Canadian Association for
Laboratory Accreditation Inc.

CALA Directory of Laboratories

Membership Number: 3775

Laboratory Name: AGAT Laboratories - Edmonton

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Standard: Conforms with requirements of ISO/IEC 17025

Clients Served:

Revised On: April 19, 2017

Valid To: April 25, 2019

Scope of Accreditation

Oil (Inorganic)

Atmospheric Distillation - Oil (Petroleum Laboratory) (071)

HC-320-22011; ASTM D86

DISTILLATION

Atmospheric Distillation

Oil (Inorganic)

Base Sediment and Water - Oil (Petroleum Laboratory) (070)

HC-320-22010; modified from ASTM D4007

CENTRIFUGATION

Sediment

Water

Oil (Inorganic)

Cloud Point - Oil (Petroleum Laboratory) (064)

HC-320-22004; ASTM D2500

CLOUD POINT ANALYZER

Cloud Point

Oil (Inorganic)

Colour - Oil (Petroleum Laboratory) (066)

HC-320-22006; ASTM D1500

OIL COMPARATOR WITH GLASS COLOR STANDARDS

Color

Oil (Inorganic)

Density and API - Oil (Petroleum Laboratory) (065)

HC-320-22005; modified from ASTM D4052 and ASTM D5002

DIGITAL DENSITY METER

API Gravity

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Density

Oil (Inorganic)

Elemental Sulfur - Oil (Petroleum Laboratory) (061)

HC-320-22001; ASTM D4294

X-RAY FLUORESCENCE SPECTROMETRY

Elemental Sulfur

Oil (Inorganic)

Flashpoint - Oil (Petroleum Laboratory) (060)

HC-320-22000; modified from ASTM D93

PENSKY MARTENS CLOSED CUP TESTER

Flashpoint

Oil (Inorganic)

Metals - Oil (Petroleum Laboratory) (076)

HC-320-22017; ASTM D5708A

ICP/OES (DILUTION METHOD)

Aluminum

Barium

Boron

Cadmium

Calcium

Chromium

Copper

Iron

Lead

Magnesium

Manganese

Molybdenum

Nickel

Phosphorus

Silicon

Silver

Sodium

Tin

Titanium

Vanadium

Zinc

Oil (Inorganic)

Metals - Oil (Petroleum Laboratory) (102)

HC-320-22016; ASTM D5708B

ICP/OES

Iron

Nickel

Vanadium

Oil (Inorganic)

Micro carbon residue - Oil (Petroleum Laboratory) (067)

HC-320-22007; ASTM D4530

MICRO METHOD

Micro carbon residue

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Oil (Inorganic)

Organic Chlorides - Oil (Petroleum Laboratory) (080)
HC-320-22023; modified from ASTM D4929, Procedure A
POTENTIOMETRIC TITRATION
Chloride from 204 degrees cut of crude oil

Oil (Inorganic)

Pour Point - Oil (Petroleum Laboratory) (063)
HC-320-22003; modified from ASTM D97, ASTM D5853
POUR POINT ANALYZER
Pour Point

Oil (Inorganic)

Salt - Oil (Petroleum Laboratory) (068)
HC-320-22008; ASTM D3230
ELECTROMETRIC
Salt Content

Oil (Inorganic)

Sediment - Oil (Petroleum Laboratory) (069)
HC-320-22009; modified from ASTM D4807
MEMBRANE FILTRATION
Solids

Oil (Inorganic)

Sediment - Oil (Petroleum Laboratory) (101)
HC-320-22027; ASTM D473
GRAVIMETRIC - EXTRACTION
Sediment

Oil (Inorganic)

Simulated Distillation - Oil (Petroleum Laboratory) (074)
HC-320-22014; ASTM D7169
HIGH TEMPERATURE GC
Crude oil-Boiling Point Fractions

Oil (Inorganic)

Sulfur Compounds - Oil (Petroleum Laboratory) (078)
HC-320-22019; modified from ASTM D5623 and ASTM 5504
GC/SCD
2-Propanethiol
Carbon sulfide
Cobalt Sulfide
Diethyl disulfide
Dimethyl disulfide
Ethyl mercaptan
Ethyl methyl sulfide
Ethyl sulfide
Hydrogen Sulfide
Isobutyl mercaptan
Methyl mercaptan
Methyl sulfide
n-Butyl mercaptan
n-Propylmercaptan
sec-Butyl mercaptan
tert-Butyl mercaptan
tert-Butyl methyl mercaptan
Thiophene

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Oil (Inorganic)

Total Acid Number - Oil (Petroleum Laboratory) (072)
HC-320-22012; modified from ASTM D664
POTENTIOMETRIC
Total Acid Number

Oil (Inorganic)

Total Mercury - Oil (Petroleum Laboratory) (079)
HC-320-22021; modified from UOP 938
MERCURY ANALYZER
Total Mercury

Oil (Inorganic)

True Vapour Pressure - Oil (Petroleum Laboratory) (073)
HC-320-22013; ASTM D6377
VAPOUR PRESSURE ANALYZER
Vapour Pressure of crude oil

Oil (Inorganic)

Viscosity - Oil (Petroleum Laboratory) (062)
HC-320-22002; ASTM D7042
STABINGER VISCOMETER
Dynamic Viscosity
Kinematic Viscosity

Oil (Inorganic)

Volatile Organic Phosphorus - Oil (Petroleum Laboratory) (075)
HC-320-22015; CCQTA
ICP/OES
Phosphorus in crude oil 250 degrees C cut

Petroleum Products (Inorganic)

Asphaltenes - Oil, Petroleum Products (Petroleum Laboratory) (098)
HC-320-22022; ASTM D6560
GRAVIMETRIC
Asphaltenes

Petroleum Products (Inorganic)

Reid Vapor Pressure - Petroleum Products (Petroleum Laboratory) (099)
HC-320-22026; ASTM D323
VAPOR PRESSURE ANALYZER (REID METHOD)
Reid Vapor Pressure

Petroleum Products (Inorganic)

Vapor Pressure - Petroleum Products (Petroleum Laboratory) (100)
HC-320-22025; ASTM D5191 and ASTM D4953
VAPOR PRESSURE ANALYZER
Dry Vapor Pressure

Solids (Inorganic)

Anions - Soil (001)
INOR-171-6200, INOR-171-6002; modified from SM 4110 B and CARTER and GREGORICH SOIL SAMPLING
and METHODS OF ANALYSIS
IC - EXTRACTION
Chloride
Nitrate
Nitrite
Sulfate

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Solids (Inorganic)

Boron - Soil (002)

INOR-171-6201, INOR-171-6005; modified from SM 3120 B / CARTER and GREGORICH SOIL SAMPLING and METHODS OF ANALYSIS

ICP - HOT WATER EXTRACTION

Boron

Solids (Inorganic)

Bulk Density - Soil (103)

INOR-171-6004; blaKE, G.R.MSA BULK DENSITY, 1986

GRAVIMETRIC

Bulk Density

Solids (Inorganic)

Cations - Soil (056)

INOR-171-6201, INOR-171-6002; modified from SSMA CHAPTER 15 and SM 3120 B

ICP/OES - SATURATED PASTE EXTRACTION

Boron

Calcium

Magnesium

Potassium

Sodium

Sulphur

Solids (Inorganic)

Chloride - Soil (057)

INOR-171-6212, INOR-171-6002; modified from SM 4500-CL E

COLORIMETRIC

Chloride

Solids (Inorganic)

Chloride - Soil (Mobile Lab) (090)

INOR-59-6000, INOR-59-6002; MARTIN R. CARTER, E.G. GREGORICH, ED., 15.2 EXTRACTION Pp. 161-164 IN SOIL SAMPLING AND METHODS OF ANALYSIS and SM 4500 CL E

COLORIMETRIC

Chloride

Solids (Inorganic)

Conductivity - Soil, Sediment (004)

INOR-171-6002, INOR-171-6208; MILLER, J.M. AND CURTIN, 2007 EC SOLUBLE IONS PG 161-171 SM 2510

CONDUCTIVITY METER

Conductivity (saturated)

Conductivity (2:1)

Solids (Inorganic)

Conductivity - Soil, Sediment (Mobile Lab) (087)

INOR-59-6000, INOR-59-6001; modified from MCKEAGUE, ED. 1978 SECTION 4.1

CONDUCTIVITY METER

Conductivity (saturated paste)

Solids (Inorganic)

Extractable Barium - Soil (005)

INOR-171-6201, INOR-171-6007; modified from AB SOIL QUALITY GUIDELINES 6.2.2

ICP/OES - EXTRACTION

Extractable Barium -0.1M CaCl₂

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Solids (Inorganic)

Flashpoint - Soil (029)

ORG-170-5210; modified from ASTM D93

PENSKY MARTENS CLOSED CUP TESTER

Flashpoint

Solids (Inorganic)

Free Liquid - Waste (017)

INOR-171-6012; modified from EPA SW-846 9095

PAINT FILTER TEST

Free Liquid

Solids (Inorganic)

Hexavalent Chromium - Soil (006)

INOR-171-6215; modified from SSSA PART 2 BY REISENAUER

SPECTROPHOTOMETRIC - EXTRACTION

Hexavalent chromium

Solids (Inorganic)

Metals - Soil (008)

INOR-171-6202, INOR-171-6006; modified from SM 3125 and EPA SW-846 3050B and BC LAB MANUAL

SECTION C

ICP/MS - DIGESTION

Antimony

Arsenic

Barium

Beryllium

Cadmium

Chromium

Cobalt

Copper

Iron

Lead

Manganese

Mercury

Molybdenum

Nickel

Selenium

Silver

Strontium

Thallium

Tin

Titanium

Uranium

Vanadium

Zinc

Solids (Inorganic)

Metals - Waste (018)

INOR-171-6201, INOR-171-6011; IN-HOUSE LEACHATE

ICP/OES - LEACHATE PREPARATION

Antimony

Arsenic

Barium

Beryllium

Boron

Cadmium

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Chromium
Cobalt
Copper
Iron
Lead
Mercury
Nickel
Selenium
Silver
Thallium
Uranium
Vanadium
Zinc
Zirconium

Solids (Inorganic)

Moisture - Solids (105)

LAB-175-4002; CARTER 2008, SOIL SAMPLING AND METHODS OF ANALYSIS
GRAVIMETRIC

Moisture Content

Solids (Inorganic)

Oil and Grease - Soil (019)

ORG-170-5200; modified from EPA 1664
FTIR - EXTRACTION

Oil and Grease

Solids (Inorganic)

Organic Carbon - Soil (009)

INOR-171-6216; modified from MSA PART 3 CH. 34
CHEMICAL OXIDATION UV/VISIBLE

Organic Matter

Total Organic Carbon (TOC)

Solids (Inorganic)

Particle Size Analysis (PSA) - Soil (010)

INOR-171-6010; modified from SHELDRIK, B.H. and WANG, C, PARTICLE SIZE DISTRIBUTION IN "SOIL
SAMPLING and METHODS OF ANALYSIS"

HYDROMETER (2 PT)

% clay

% Sand

% silt

Solids (Inorganic)

Particle Size Analysis (PSA) - Soil (011)

INOR-171-6009; modified from SHELDRIK, B.H. and WANG, C, PARTICLE SIZE DISTRIBUTION IN "SOIL
SAMPLING and METHODS OF ANALYSIS"

SIEVE ANALYSIS

Particle Size (75 um)

Solids (Inorganic)

Percent Saturation - Soil (012)

INOR-171-6000, INOR-171-6002, INOR-401-0120; modified from CARTER, ET AL - SOIL SAMPLING and
METHOD ANALYSIS, 2ND ED.

GRAVIMETRIC - SATURATED PASTE

Percent Saturation (Saturated Paste)

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Solids (Inorganic)

Percent Saturation - Soil (Mobile Lab) (088)

INOR-59-6000; modified from MARTIN R. CARTER, E.G. GREGORICH, ED., 15.2 EXTRACTION PP. 161-164

IN SOIL SAMPLING and METHODS OF ANALYSIS

GRAVIMETRIC - SATURATED PASTE

Percent Saturation (Saturated Paste)

Solids (Inorganic)

pH - Soil, Sediment (014)

INOR-171-6002, INOR-171-6205; modified from CARTER and GREGORICH, SOIL SAMPLING and METHODS

OF ANALYSIS, 2ND ED

PC TITRATE

pH (1:2) Soil: CaCl₂

Solids (Inorganic)

pH - Soil, Sediment (058)

INOR-171-6207; modified from CARTER and GREGORICH, SOIL SAMPLING and METHODS OF ANALYSIS,

2ND ED.

pH METER

pH (1:1)

pH (1:2) Soil: CaCl₂

pH (2:1)

pH (Saturated Paste)

Solids (Inorganic)

pH - Soil, Sediment (Mobile Lab) (089)

INOR-59-6000, INOR-59-6001; modified from MCKEAGUE, ED 1978 SECTION 4.1

pH METER

pH (Saturated Paste)

Solids (Inorganic)

Phenols - Soil (015)

INOR-171-6213; modified from EPA 420.3 600 and EPA4-79-020

COLORIMETRIC

Total Phenolics

Solids (Inorganic)

Specific Gravity - Soil (104)

INOR-171-6003; PROCEDURE FOR USING BAROID MUD BALANCE

MUD BALANCE

Specific Gravity

Solids (Inorganic)

Total Barium - Soil (016)

INOR-171-6201, INOR-171-6008; modified from ASTM D4503; SM 3120 B

ICP - FUSION

Total Barium

Solids (Organic)

Alcohols - Soil (091)

ORG-170-5442; EPA 8015 B and EPA 5021

GC/FID

1-Butanol

2-Butanol

Ethanol

Isobutanol

Isopropanol

Methanol

Pentanol

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Propanol
tert-Butyl alcohol

Solids (Organic)

BTEX - Soil (021)
ORG-170-5100, ORG-170-5430, ORG-170-5440; IN-HOUSE LEACHATE
GC/MS - LEACHATE
Benzene
Ethylbenzene
m,p-Xylene
o-Xylene
Toluene

Solids (Organic)

BTEX - Solids (Mobile Lab) (083)
MO-0500; modified from MONOCYCLIC AROMATIC HYDROCARBONS (BTEX) IN SOILS BY DYNAMIC
HEADSPACE and GC/PID/FID, BC ENVIRONMENTAL LABORATORY MANUAL: 2009 EDITION
GC/PID - HEADSPACE
Benzene
Ethylbenzene
m/p-xylene
o-xylene
Toluene

Solids (Organic)

Petroleum Hydrocarbons (PHC) - Soil (022)
ORG-170-5300, ORG-170-5120; CCME CWS-PHC-TIER 1 METHOD
GC/FID - EXTRACTION COLD SHAKE
F2: C10-C16
F3: C16-C34
F4: C34-C50

Solids (Organic)

Petroleum Hydrocarbons (PHC) - Soil (023)
ORG-170-5120; CCME CWS-PHC-TIER 1 METHOD
GRAVIMETRIC - EXTRACTION COLD SHAKE
F4: Gravimetric

Solids (Organic)

Petroleum Hydrocarbons (PHC) - Soil (024)
ORG-170-5430, ORG-170-5140; CCME CWS-PHC TIER 1 METHOD
GC/FID - PURGE AND TRAP
F1: C6-C10

Solids (Organic)

Petroleum Hydrocarbons (PHC) - Soil (059)
ORG-170-5440, ORG-170-5110; modified from EPA SW-846 B and EPA SW-846 5021A
GC/FID - HEADSPACE
F1: C6-C10
TPgH (C5-C10)

Solids (Organic)

Polycyclic Aromatic Hydrocarbons (PAH) and Alkylated Polycyclic Aromatic Hydrocarbons (PAH) - Soil (025)
ORG-170-5420; modified from EPA SW-846 8270D and EPA SW-846 3540C and EPA SW-846 3570
GC/MS - EXTRACTION
1-Methylnaphthalene
2-Methylnaphthalene
Acenaphthene
Acenaphthylene

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Acridine
Anthracene
Benzo (a) anthracene
Benzo (a) pyrene
Benzo (b) fluoranthene
Benzo(e)pyrene
Benzo (g,h,i) perylene
Benzo (k) fluoranthene
Biphenyl
C1-Acenaphthenes
C1-Benzo(a)anthracenes/Chrysenes
C1-Benzofluoranthenes/Benzopyrenes
C1-Biphenyls
C1-Dibenzothiophenes
C1-Fluoranthenes/Pyrenes
C1-Fluorenes
C1-Phenanthrenes/Anthracenes
C2-Benz(a)anthracenes/Chrysenes
C2-Benzofluoranthenes/Benzopyrenes
C2-Biphenyls
C2-Dibenzothiophenes
C2-Fluoranthenes/Pyrenes
C2-Fluorenes
C2-Naphthalenes
C2-Phenanthrenes/Anthracenes
C3-Dibenzothiophenes
C3-Fluoranthenes/Pyrenes
C3-Fluorenes
C3-Naphthalenes
C3-Phenanthrenes/Anthracenes
C4-Dibenzothiophenes
C4-Fluoranthenes/Pyrenes
C4-Naphthalenes
C4-Phenanthrenes/Anthracenes
Chrysene
Dibenzo (a,h) anthracene
Dibenzothiophene
Fluoranthene
Fluorene
Indeno (1,2,3 - cd) pyrene
Naphthalene
Perylene
Phenanthrene
Pyrene
Quinoline
Retene

Solids (Organic)

Total Extractable Hydrocarbons (TEH) - Soil (026)

ORG-170-5300, ORG-170-5120; modified from AECV92-M2 and G108 and EPA SW-846 CH.4
GC/FID - EXTRACTION

SASK (C11-C22)

SASK (C23-C60)

Total Extractable Hydrocarbons (TEH): C11-C30

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Solids (Organic)

Total Extractable Hydrocarbons (TEH) - Solids (Mobile Lab) (081)

MO-0300; CCME CWS-PHC-TIER 1 METHOD

GC/FID - EXTRACTION

EPH C10-C19

EPH C19-C32

F2: C10-C16

F3: C16-C34

F4: C34-C50

SASK (C11-C22)

SASK (C23-C60)

Total Extractable Hydrocarbons (TEH): C10-C32

Solids (Organic)

Total Petroleum Hydrocarbons (TPH) - Soil (Mobile Lab) (082)

MO-0500; modified from MONOCYCLIC AROMATIC HYDROCARBONS (BTEX) IN SOILS BY DYNAMIC HEADSPACE and GC/PID/FID, BC ENVIRONMENTAL LABORATORY MANUAL: 2009 EDITION

GC/FID - HEADSPACE

F1: C6-C10

TPGH (C5-C10)

Solids (Organic)

Volatile Organic Compounds (VOC) - Soil (027)

ORG-170-5400, ORG-170-5170; modified from EPA SW-846 5030B and EPA SW-846 8260B

GC/MS - PURGE AND TRAP/EXTRACTION

1,1-Dichloroethane

1,1-dichloroethylene

1,1,1-Trichloroethane

1,1,1,2-Tetrachloroethane

1,1,2-Trichloroethane

1,1,2,2-Tetrachloroethane

1,2-dichlorobenzene

1,2-dichloroethane

1,2-Dichloropropane

1,2,4-Trichlorobenzene

1,3-Dichlorobenzene

1,4-dichlorobenzene

2-Hexanone

Acetone (2-Propanone)

Benzene

Bromodichloromethane

Bromoform

Bromoform

Bromomethane

Carbon Tetrachloride

Chlorobenzene

Chlorodibromomethane

Chloroethane

Chloroform

Chloromethane

cis-1,2-Dichloroethylene

cis-1,3-Dichloropropene

Dichloromethane

Ethylbenzene

Ethylene Dibromide

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m/p-xylene
Methyl Ethyl Ketone
Methyl isobutyl Ketone
Methyl t-butyl ether
o-xylene
Styrene
Tetrachloroethylene
Toluene
trans-1,2-Dichloroethylene
trans-1,2-Dichloroethylene
trans-1,3-Dichloropropene
Trichloroethylene
Trichlorofluoromethane
Vinyl chloride

Solids (Organic)

Volatile Organic Compounds (VOC) - Soil (028)

ORG-170-5410, ORG-170-5160; modified from EPA SW-846 8260C and EPA SW-846 5021

GC/MS - HEADSPACE

1,1-Dichloroethane
1,1-dichloroethylene
1,1,1-Trichloroethane
1,1,1,2-Tetrachloroethane
1,1,2-Trichloroethane
1,2-dichlorobenzene
1,2-dichloroethane
1,2-Dichloropropane
1,2,4-Trichlorobenzene
1,3-Dichlorobenzene
1,4-dichlorobenzene
2-Hexanone
Acetone (2-Propanone)
Benzene
Bromodichloromethane
Bromoform
Bromomethane
Carbon Tetrachloride
Chlorobenzene
Chlorodibromomethane
Chloroethane
Chloroform
Chloromethane
cis-1,2-Dichloroethylene
cis-1,3-Dichloropropene
Dichloromethane
Ethylbenzene
Ethylene Dibromide
m/p-xylene
Methyl Ethyl Ketone
Methyl isobutyl Ketone
Methyl t-butyl ether
o-xylene
Styrene
Tetrachloroethylene

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Toluene
trans-1,2-Dichloroethylene
trans-1,3-Dichloropropene
Trichloroethylene
Trichlorofluoromethane
Vinyl chloride

Water (Inorganic)

Alkalinity - Water (030)
INOR-171-6205; modified from SM 2320 B
AUTO TITRIMETRIC (PC TITRATE)
Alkalinity (pH 4.5)

Water (Inorganic)

Ammonia - Water (031)
INOR-171-6211; modified from SM 4500-NH3 G
COLORIMETRIC
Ammonia

Water (Inorganic)

Anions - Water (032)
INOR-171-6200; modified from SM 4110 B
ION CHROMATOGRAPHY
Chloride
Fluoride
Nitrate
Nitrite
Sulfate

Water (Inorganic)

Biochemical Oxygen Demand (BOD) - Water (054)
MIC-171-7000; modified from SM 5210 B
D.O. METER
BOD (5 day)
CBOD (5 day)

Water (Inorganic)

Carbon - Water (033)
INOR-171-6217; modified from SM 5310 B
COMBUSTION - INFRARED
Inorganic Carbon
Total Carbon

Water (Inorganic)

Chemical Oxygen Demand (COD) - Water (034)
INOR-171-6210; modified from EPA 410.4
SPECTROPHOTOMETRIC
COD

Water (Inorganic)

Chloride - Water (Mobile Lab) (095)
INOR-59-6002; SM 4500-CL- E
COLORIMETRIC
Chloride

Water (Inorganic)

Conductivity - Water (035)
INOR-171-6205; modified from SM 2510 B
PC TITRATE
Conductivity (25°C)

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Water (Inorganic)

Conductivity - Water (Mobile Lab) (092)

INOR-59-6001; SM 2510 B

CONDUCTIVITY METER

Conductivity (25°C)

Water (Inorganic)

Dissolved Metals - Water (037)

INOR-171-6201, INOR-171-6100; modified from SM 3120 B

ICP/OES

Aluminum

Barium

Beryllium

Bismuth

Boron

Cadmium

Calcium

Chromium

Cobalt

Copper

Iron

Lead

Lithium

Magnesium

Manganese

Molybdenum

Nickel

Phosphorus

Potassium

Silicon

Silver

Sodium

Strontium

Sulfur

Titanium

Tungsten

Vanadium

Zinc

Zirconium

Water (Inorganic)

Dissolved Metals - Water (038)

INOR-171-6202, INOR-171-6100; modified from SM 3125

ICP/MS

Aluminum

Antimony

Arsenic

Barium

Beryllium

Boron

Cadmium

Chromium

Cobalt

Copper

Iron

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Lead
Lithium
Manganese
Molybdenum
Nickel
Phosphorus
Selenium
Silver
Strontium
Thallium
Thorium
Tin
Titanium
Uranium
Vanadium
Zinc

Water (Inorganic)

Hexavalent Chromium - Water (097)
INOR-171-6219; modified from SM 3500-Cr B
SPECTROPHOTOMETRIC
Hexavalent Chromium

Water (Inorganic)

Mercury - Water (039)
INOR-171-6204; modified from SM 3112 B
COLD VAPOUR AA
Mercury

Water (Inorganic)

Oil and Grease - Water (046)
ORG-170-5200; modified from EPA 1664
FTIR - EXTRACTION
Total Oil and Grease

Water (Inorganic)

pH - Water (040)
INOR-171-6205; modified from SM 4500 H+
AUTO TITRIMETRIC (PC TITRATE)
pH

Water (Inorganic)

pH - Water (Mobile Lab) (093)
INOR-59-6001; modified from SM 4500- H+
pH METER
pH

Water (Inorganic)

Phenols - Water (041)
INOR-171-6213; modified from EPA 600 and EPA 4-79-020
AUTO COLOR
Total Phenolics

Water (Inorganic)

Solids - Water (042)
INOR-171-6102, INOR-171-6104; SM 2540 C, D
GRAVIMETRIC
Total Dissolved Solids
Total Suspended Solids

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Water (Inorganic)

Total Kjeldahl Nitrogen (TKN) - Water (096)
INOR-171-6220; modified from HACH plus 880 Method 10242
SPECTROPHOTOMETRIC
Total Kjeldahl Nitrogen

Water (Inorganic)

Total Metals - Water (043)
INOR-171-6201, INOR-171-6100; modified from SM 3120 B
ICP/OES - NITRIC ACID DIGESTION
Aluminum
Barium
Boron
Cadmium
Calcium
Chromium
Cobalt
Copper
Iron
Lead
Lithium
Magnesium
Manganese
Molybdenum
Nickel
Phosphorus
Potassium
Silicon
Silver
Sodium
Strontium
Sulfur
Tin
Uranium
Vanadium
Zinc
Zirconium

Water (Inorganic)

Total Metals - Water (044)
INOR-171-6202, INOR-171-6100; modified from SM 3125 and SM 3030 E
ICP/MS - NITRIC ACID DIGESTION
Aluminum
Antimony
Arsenic
Barium
Beryllium
Bismuth
Boron
Cadmium
Calcium
Chromium
Cobalt
Copper
Iron

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Lead
Lithium
Manganese
Molybdenum
Nickel
Phosphorus
Selenium
Silver
Strontium
Thallium
Thorium
Tin
Titanium
Uranium
Vanadium
Zinc
Zirconium

Water (Inorganic)

Turbidity - Water (045)
INOR-171-6101; SM 2130 B
NEPHELOMETRY
Turbidity

Water (Organic)

Alcohols - Water (094)
ORG-170-5442; EPA 8015 B and EPA 5021
GC/FID
1-Butanol
2-Butanol
Ethanol
Isobutanol
Isopropanol
Methanol
Pentanol
Propanol
tert-Butyl alcohol

Water (Organic)

BTEX - Water (Mobile Lab) (086)
MO-0500; modified from BC MANUAL
GC/PID
Benzene
Ethylbenzene
m/p-xylene
o-xylene
Toluene

Water (Organic)

Polycyclic Aromatic Hydrocarbons (PAH) and Alkylated Polycyclic Aromatic Hydrocarbons (PAH) - Water (048)
ORG-170-5421; modified from EPA SW-846 8270C and EPA SW-846 3510 B and EPA SW-846 3511
GC/MS - EXTRACTION
1-Methylnaphthalene
2-Methylnaphthalene
Acenaphthene
Acenaphthylene
Acridine

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Anthracene
Benzo (a) anthracene
Benzo (a) pyrene
Benzo (b) fluoranthene
Benzo(e)pyrene
Benzo (g,h,i) perylene
Benzo (k) fluoranthene
Biphenyl
C1-Acenaphthenes
C1-Benz(a)anthracenes/Chrysenes
C1-Benzofluoranthenes/Benzopyrenes
C1-Biphenyls
C1-Dibenzothiophenes
C1-Fluoranthenes/Pyrenes
C1-Fluorenes
C1-Phenanthrenes/Anthracenes
C2 Biphenyls
C2 Fluorenes
C2-Benz(a)anthracenes/Chrysenes
C2-Benzofluoranthenes/Benzopyrenes
C2-Dibenzothiophenes
C2-Fluoranthenes/Pyrenes
C2-Naphthalenes
C2-Phenanthracenes/Anthracenes
C3-Benzanthracenes/Chrysenes
C3-Dibenzothiophenes
C3-Naphthalenes
C3-Phenanthrenes/Anthracenes
C4-Benzanthracenes/Chrysenes
C4-Dibenzothiophenes
C4-Naphthalenes
C4-Phenanthrenes/Anthracenes
Chrysene
Dibenzo (a,h) anthracene
Dibenzothiophene
Fluoranthene
Fluorene
Indeno (1,2,3 - cd) pyrene
Naphthalene
Perylene
Phenanthrene
Phenanthrene
Pyrene
Pyrene
Quinoline
Retene

Water (Organic)

Total Extractable Hydrocarbons (TEH) - Water (049)

ORG-170-5300, ORG-170-5120; modified from EPA SW-846 3510 and AECV92-M2 and A108, BCMOE CSR
EPH IN WATER BY GC/FID

GC/FID - EXTRACTION

C11-C30

F2: C10-C16

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SASK (C11-C22)

SASK (C23-C60)

Water (Organic)

Total Extractable Hydrocarbons (TEH) - Water (Mobile Lab) (085)

MO-0300; modified from BC MANUAL

GC/FID - EXTRACTION

EPH C10-C19

EPH C19-C32

F2: C10-C16

F3: C16-C34

F4: C34-C50

SASK (C11-C22)

SASK (C23-C60)

Total Extractable Hydrocarbons (TEH): C10-C32

Water (Organic)

Total Petroleum Hydrocarbons (TPH) - Water (050)

ORG-170-5140, ORG-170-5430; modified from EPA SW-846 5030B and EPA SW-846 8260B

GC/FID - PURGE AND TRAP

F1: C6-C10

TPGH (C5-C10)

Volatile Hydrocarbons (VH): C6-C10

Water (Organic)

Total Purgeable Hydrocarbons (TPH) - Water (Mobile Lab) (084)

MO-0500; modified from BC MANUAL

GC/FID - HEADSPACE

F1: C6-C10

TPGH (C5-C10)

Volatile Hydrocarbons (VH): C6-C10

Water (Organic)

Volatile Organic Compounds (VOC) - Water (051)

ORG-170-5400, ORG-170-5170; modified from EPA SW-846 8260B and EPA SW-846 5030 B

GC/MS - PURGE AND TRAP

1,1-Dichloroethane

1,1-dichloroethylene

1,1,1-Trichloroethane

1,1,1,2-Tetrachloroethane

1,1,2-Trichloroethane

1,1,2,2-Tetrachloroethane

1,2-dichlorobenzene

1,2-dichloroethane

1,2-Dichloropropane

1,2,4-Trichlorobenzene

1,3-Dichlorobenzene

1,4-dichlorobenzene

2-Hexanone

Acetone (2-Propanone)

Benzene

Bromodichloromethane

Bromoform

Bromomethane

Carbon Tetrachloride

Chlorobenzene

Chlorodibromomethane

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Chloroethane
Chloroform
Chloromethane
cis-1,2-Dichloroethylene
cis-1,3-Dichloropropene
Dibromochloromethane
Dichloromethane
Ethylbenzene
Ethylene Dibromide
m/p-xylene
Methyl Ethyl Ketone
Methyl isobutyl Ketone
Methyl t-butyl ether
Methyl t-butyl ether (MTBE)
o-xylene
Styrene
Tetrachloroethylene
Toluene
trans-1,2-Dichloroethylene
trans-1,3-Dichloropropene
Trichloroethane
Trichloroethylene
Trichlorofluoromethane
Vinyl Chloride

Water (Organic)

Volatile Organic Compounds (VOC) - Water (052)

ORG-170-5410, ORG-170-5160; modified from EPA SW-846 8260C and EPA SW-846 5021A

GC/MS - HEADSPACE

1,1-Dichloroethane
1,1-dichloroethylene
1,1,1-Trichloroethane
1,1,1,2-Tetrachloroethane
1,1,2-Trichloroethane
1,2-Dibromomethane
1,2-dichlorobenzene
1,2-dichloroethane
1,2-Dichloropropane
1,2,4-Trichlorobenzene
1,3-Dichlorobenzene
1,4-dichlorobenzene
2-Hexanone
Acetone (2-Propanone)
Benzene
Bromodichloromethane
Bromoform
Bromomethane
Carbon Tetrachloride
Chlorobenzene
Chlorodibromomethane
Chloroethane
Chloroform
Chloromethane
cis-1,2-Dichloroethylene

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cis-1,3-Dichloropropene
Dichloromethane
Ethylbenzene
Ethylene Dibromide
m/p-xylene
Methyl Ethyl Ketone
Methyl isobutyl Ketone
Methyl t-butyl ether
o-xylene
Styrene
Tetrachloroethylene
Toluene
trans-1,2-Dichloroethylene
trans-1,3-Dichloropropene
Trichloroethylene
Trichlorofluoromethane
Vinyl Chloride

Water (Toxicology)

Microtox - Liquid Phase - Water (053)
TOX-171-7100; EPS 1/RM/24
BIOLUMINESCENCE
Microtox IC50 (15 min)

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