

CALA Directory of Laboratories

Membership Number: 2728

Laboratory Name: Caduceon Environmental Laboratories (Kingston)

Parent Institution: Caduceon Enterprises Inc.

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Standard: Conforms with requirements of ISO/IEC 17025

Clients Served:

Revised On: February 18, 2020 Valid To: June 11, 2021

Scope of Accreditation

Oil (Organic)

Polychlorinated Biphenyls (PCB) - Oil (081) PCB-002; modified from EPA 8082A

GC/ECD - EXTRACTION

Aroclor 1242 Aroclor 1248 Aroclor 1254

Aroclor 1260 Total PCB

Solids (Inorganic)

Conductivity - Solids (077)
COND-003; modified from ON MOECC E3138
CONDUCTIVITY METER

Conductivity

Solids (Inorganic)

Cyanide - Solids [Soil] (074)
CN-001; modified from EPA 9012B
COLORIMETRIC - WATER EXTRACTION

Free Cyanide Total Cyanide

Cyanide (WAD)

Solids (Inorganic)

Extractable Cyanide - Solids (061)
CN-001; modified from EPA 1311 (PREPARATION) and SM 4500-CN- E (ANALYSIS)
COLORIMETRIC - TCLP

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Solids (Inorganic)

Extractable Fluoride - Solids (062)

F-001; modified from EPA 1311 (PREPARATION) and SM 4500-F- D (ANALYSIS)

COLORIMETRIC - TCLP

Fluoride

Solids (Inorganic)

Oil and Grease - Solids [Soil] (049)

O&G-001; modified from SM 5520 B and SM 5520 F

GRAVIMETRIC

Animal/Vegetable Oil and Grease

Mineral Oil and Grease

Total Oil and Grease

Solids (Inorganic)

pH - Solids [Soil] (056)

PH-001, PH-003; modified from ON MOECC E3137

pH METER

рΗ

Solids (Inorganic)

Total Ammonia - Solids [Biosolid, Soil] (083)

NH3-001: modified from ON MOECC E3116

AUTO COLOR

Total Ammonia

Solids (Inorganic)

Total Kjeldahl Nitrogen (TKN) - Solids [Biosolid, Soil] (078)

TPTKN-001; modified from ON MOECC E3116

AUTO COLOR - DIGESTION

Total Kjeldahl Nitrogen (TKN)

Solids (Inorganic)

Total Phosphorus - Solids [Biosolid, Soil] (079)

TPTKN-001; modified from ON MOECC E3116

AUTO COLOR - DIGESTION

Total Phosphorus

Solids (Organic)

Base Neutral Acid Extractables (BNA) - Solids (060)

NAB-W-001; modified from EPA 1311 (PREPARATION) and EPA 8270D (ANALYSIS)

GC/MS - TCLP

2,3,4,6-Tetrachlorophenol

2,4-Dichlorophenol

2,4-Dinitrotoluene

2,4,5-Trichlorophenol

2,4,6-Trichlorophenol

3/4-Methylphenol

Benzo(a)pyrene

Hexachlorobenzene

Hexachlorobutadiene

Hexachloroethane

Nitrobenzene

Pentachlorophenol

Pyridine

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Total Cresols

Solids (Organic)

Base Neutral Acid Extractables (BNA) - Solids [Soil] (048)

NAB-S-001; modified from EPA 525.2 and EPA 8270D

GC/MS - EXTRACTION

- 1-Methylnaphthalene
- 1-Methylnaphthalene + 2-Methylnaphthalene (Calculation)
- 1,2,4-Trichlorobenzene
- 2-Chlorophenol
- 2-Methylnaphthalene
- 2,4+2,6-Dinitrotoluene (Calculation)
- 2,4-Dichlorophenol
- 2,4-Dichlorophenoxyacetic acid (2,4-D)
- 2,4-Dimethylphenol
- 2,4-Dinitrophenol
- 2,4-Dinitrotoluene
- 2,4,5-Trichlorophenol
- 2,4,5-Trichlorophenoxyacetic acid (2,4,5-T)
- 2,4,5,6-Tetrachlorophenol
- 2,4,6-Trichlorophenol
- 2,6-Dinitrotoluene (2,6-DNT)
- 3,3'-Dichlorobenzidine
- 4-Chloroaniline (p-Chloroaniline)

Acenaphthene

Acenaphthylene

Alachlor

Aldicarb

Anthracene

Atrazine

Atrazine, desethyl

Azinphos-methyl (Guthion)

Bendiocarb

Benzo(a)anthracene

Benzo(a)pyrene

Benzo(b)fluoranthene

Benzo(g,h,i)perylene

Benzo(k)fluoranthene

Biphenyl (1,1-Biphenyl)

Bis(2-chloroethyl) ether

Bis(2-chloroisopropyl) ether

Bis(2-ethylhexyl) phthalate (Diethylhexyl phthalate)

Bromoxynil

Carbaryl

Carbofuran

Chlorpyrifos ethyl

Chrysene

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Cyanazine

Di-n-butyl phthalate

Diazinon

Dibenzo(a,h)anthracene

Dicamba

Diclofop-methyl

Diethyl phthalate

Dimethoate

Dimethyl phthalate

Dinoseb

Diuron

Fluoranthene

Fluorene

Hexachloroethane

Indeno(1,2,3 - cd)pyrene

Malathion

Metolachlor

Metribuzin

Naphthalene

Parathion (ethyl)

Pentachlorophenol

Phenanthrene

Phenol

Phorate

Picloram

Prometryne

Pyrene

Simazine

Temephos (Abate)

Terbufos

Total PAHs (calculation)

Triallate

Trifluralin

Solids (Organic)

Chlorinated Pesticides - Solids [Soil] (076)

PESTCL-002; modified from EPA 8081B and EPA 8082A

GC/ECD - EXTRACTION

2,4'-DDD (o,p'-DDD)

2,4'-DDE (o,p'-DDE)

2,4'-DDT (o,p'-DDT)

4,4'-DDD (p,p'-DDD)

4,4'-DDE (p,p'-DDE)

4,4'-DDT (p,p'-DDT)

Aldrin

Aldrin + Dieldrin (calculation)

alpha-BHC

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alpha-Chlordane

beta-HCH (beta-Hexachlorocyclohexane (b-HCH, b-BHC, beta-BHC, beta-Hexachlorocyclohexane)

DDT + metabolites

Dieldrin

Endosulfan I (a-Endosulfan)

Endosulfan I (a-Endosulfan) + Endosulfan II (b-Endosulfan) (calculation)

Endosulfan II (b-Endosulfan)

Endosulfan Sulfate

Endrin

gamma-Chlordane

Heptachlor

Heptachlor epoxide

Hexachlorobenzene

Hexachlorobutadiene

Hexachloroethane

Lindane (gamma-BHC)

Methoxychlor

Mirex

Oxychlordane

Total DDD (Calculation)

Total DDE (Calculation)

Total DDT (Calculation)

Solids (Organic)

Petroleum Hydrocarbons (PHC) - Solids [Soil] (046)

PHC-S-001; CCME CWS PETROLEUM HYDROCARBONS IN SOIL - TIER 1 METHOD and ON MOECC E3398 GC/FID - EXTRACTION

Diesel Range Organics (DRO): C10-C24

F2: C10-C16

F3: C16-C34

F4: C34-C50

Heavy Oils: C24-C50

Total Petroleum Hydrocarbons (TPH) (C10-C50)

Solids (Organic)

Petroleum Hydrocarbons (PHC) - Solids [Soil] (058)

PHC-S-001; CCME CWS PETROLEUM HYDROCARBONS IN SOIL - TIER 1 METHOD

GRAVIMETRIC F4: Gravimetric

Solids (Organic)

Polychlorinated Biphenyls (PCB) - Solids [Soil] (080)

PCB-003; modified from EPA 8082A

GC/ECD - EXTRACTION

Aroclor 1242

Aroclor 1248

Aroclor 1254

Aroclor 1260

Total PCB

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Water (Inorganic) OSDWA † Ammonia + Ammonium - Water [Liquid Biosolid, Wastewater] (025) NH3-001; modified from SM 4500-NH3 H **AUTO COLOR** Ammonia Unionized Ammonia (Calculation) Water (Inorganic) OSDWA † Biochemical Oxygen Demand (BOD) - Water (054) BOD-001; modified from SM 5210 B D.O. METER BOD (5 day) CBOD (5 day) Water (Inorganic) OSDWA † Conductivity - Water (010) COND-001; modified from SM 2510 B CONDUCTIVITY METER Conductivity (25°C) Water (Inorganic) OSDWA † Cyanide - Water (006) CN-001: modified from SM 4500-CN- E **AUTO COLOR - DISTILLATION** Cyanide (SAD) Free Cyanide Water (Inorganic) OSDWA † Oil and Grease - Water (047) O&G-001; modified from SM 5520 B and SM 5520 F GRAVIMETRIC Animal/Vegetable Oil and Grease Mineral Oil and Grease Total Oil and Grease Water (Inorganic) OSDWA † pH - Water (009) PH-001; modified from SM 4500-H+ B pH METER рΗ Water (Inorganic) OSDWA † Phenols - Water (086) PHEN-01; modified from ON MOECC E3179 **AUTO COLOR Total Phenolics** Water (Inorganic) OSDWA † Phosphate - Water (088) DRP-002; modified from EPA 365.2 and ON MOECC E3364 **AUTO COLOR** Phosphate Water (Inorganic) OSDWA † Solids - Water (026) TS-001, TSS-001; modified from SM 2540 B and SM 2540 D and SM 2540 E **GRAVIMETRIC** Total Solids (TS)

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Total Suspended Solids Total Volatile Solids (TVS) Volatile Suspended Solids

Water (Inorganic)

OSDWA †

Sulphide - Water (036)

H2S-001; modified from SM 4500-S2- D

COLORIMETRIC

Sulphide

Water (Inorganic)

OSDWA †

Tannin and Lignin - Water (085)

TAN-001; SM 5550 **AUTO COLOR**

Tannin and Lignin

Water (Inorganic)

OSDWA †

Total Kjeldahl Nitrogen (TKN) - Water [Liquid Biosolid, Wastewater] (016)

TPTKN 001; modified from ON MOECC E3199A.1

AUTO COLOR - DIGESTION

Organic Nitrogen

Total Kjeldahl Nitrogen

Water (Inorganic)

OSDWA †

Total Phosphorus - Water [Liquid Biosolid, Wastewater] (042)

TPTKN 001; modified from ON MOECC E3199A.I

AUTO COLOR - DIGESTION

Total Phosphorus

Water (Microbiology)

OSDWA †

Coliforms - Water (035)

ECTC-001; modified from ON MOECC E3407

MEMBRANE FILTRATION (DC)

Background Counts

Escherichia coli

Total Coliforms

OSDWA †

Water (Microbiology) Escherichia coli (E. coli) - Water (002)

EC-001; modified from SM 9222 D

MEMBRANE FILTRATION (mTEC-XGLUC)

Escherichia coli

Water (Microbiology)

OSDWA †

Fecal (Thermotolerant) Coliforms - Water (044)

FC-001; modified from SM 9222 D

MEMBRANE FILTRATION (mTEC) WITH INDICATOR

Fecal (Thermotolerant) Coliforms

Water (Microbiology)

OSDWA †

Fecal Streptococci - Water (003) FS-001; modified from SM 9230 C

MÉMBRANE FILTRATION

Fecal streptococci

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Water (Microbiology)

Heterotrophic Plate Count (HPC) - Water (001)

HPC-001; modified from SM 9215 D

MEMBRANE FILTRATION

Heterotrophic Plate Count (HPC)

Water (Microbiology)

OSDWA †

OSDWA †

Total Coliforms - Water (043) TC 001; modified from SM 9222 B

MEMBRANE FILTRATION (mENDO)

Background Counts

Total Coliforms

Water (Organic)

OSDWA †

2-methyl-4-chlorophenoxyacetic acid (MCPA) - Water (084)

HERB-W-001; modified from EPA 8151A

GC/MS

MCPA (2-Methyl-4-chlorophenoxyacetic acid)

Water (Organic)

OSDWA †

Base Neutral Acid Extractables (BNA) - Water (030)

NAB-W-001; modified from EPA 8270D

GC/MS

- 1-Methylnaphthalene
- 1-Methylnaphthalene + 2-Methylnaphthalene (Calculation)
- 1,2-Dichlorobenzene
- 1,2,4-Trichlorobenzene
- 1,3-Dichlorobenzene
- 1,4-Dichlorobenzene
- 2-Chloronaphthalene
- 2-Chlorophenol
- 2-Methylnaphthalene
- 2-Methylphenol (o-Cresol)
- 2-Nitrophenol
- 2,3,4,6-tetrachlorophenol
- 2,4+2,6-Dinitrotoluene (Calculation)
- 2,4-dichlorophenol
- 2,4-dichlorophenoxyacetic acid
- 2,4-Dimethylphenol
- 2,4-Dinitrophenol
- 2,4-Dinitrotoluene
- 2,4,5-Trichlorophenol
- 2,4,5-trichlorophenoxyacetic acid
- 2,4,6-trichlorophenol
- 2,6-Dinitrotoluene (2,6-DNT)
- 3,3-Dichlorobenzidine
- 4-Chloro-3-methylphenol
- 4-Chloroaniline (p-Chloroaniline)
- 4-Chlorophenyl phenyl ether
- 4-Methylphenol (p-Cresol)
- 4-Nitrophenol

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4,6-Dinitro-2-methylphenol Acenaphthene Acenaphthylene Alachlor Aldicarb Anthracene Atrazine Azinphos-methyl Azobenzene Bendiocarb Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(g,h,i)perylene Benzo(k)fluoranthene Biphenyl (1,1-Biphenyl) Bis(2-chloroethoxy)methane Bis(2-chloroethyl) ether Bis(2-chloroisopropyl) ether Bis(2-ethylhexyl) phthalate (Diethylhexyl phthalate) Bromoxynil Butyl benzyl phthalate Carbaryl Carbazole Carbofuran Chlorpyrifos ethyl Chrysene Cyanazine Desethyl atrazine Di-n-butyl phthalate Di-n-octyl phthalate Diazinon Dibenzo(a,h)anthracene Dibenzofuran Dicamba Diclofop-methyl (as free acid) Diethyl phthalate Dimethoate Dimethyl phthalate Dinoseb Diuron Fluoranthene

Fluorene

Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene

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Hexachloroethane Indeno(1,2,3 - cd)pyrene Isophorone Malathion Metolachlor Metribuzin N-Nitrosodi-n-propylamine N-Nitrosodiphenylamine Naphthalene Nitrobenzene Parathion (ethyl) PBDE 3 (4-Bromophenyl phenyl ether) Pentachlorophenol Phenanthrene Phenol Phorate Picloram Prometryne Pyrene Simazine Temephos (Abate) **Terbufos** Total PAHs (calculation) Triallate Trifluralin OSDWA † Diguat and Paraguat - Water (028) **HPLC** Diquat Paraguat Water (Organic) OSDWA † Glycols - Water (087)

Water (Organic)

HPLCDIQ-001; modified from EPA 549.2

GLYCOL-01; modified from EPA 8015C

GC/FID

Diethylene glycol Ethylene glycol Propylene glycol

Water (Organic)

OSDWA †

Glyphosate - Water (031) GLYPH-002; modified from EPA 547

DIRECT INJECTION HPLC

Glyphosate

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Water (Organic) OSDWA †

Pesticides and Polychlorinated Biphenyls (PCB) - Water (027)

PCB-001, PESTCL-001; modified from EPA 8081 and EPA 8082A

GC/ECD - EXTRACTION

2,4'-DDD (o,p'-DDD)

2,4'-DDE (o,p'-DDE)

4,4'-DDD (p,p'-DDD)

4,4'-DDE (p,p'-DDE)

A -BHC

a - Chlordane

Aldrin

Aldrin + Dieldrin (calculation)

beta-HCH (beta-Hexachlorocyclohexane (b-HCH, b-BHC, beta-BHC, beta-Hexachlorocyclohexane)

DDT + metabolites (Calculation)

delta-HCH (d-HCH, d-BHC, delta-BHC, delta-Hexachlorocyclohexane)

Dieldrin

Endosulfan I

Endosulfan I (a-Endosulfan) + Endosulfan II (b-Endosulfan) (calculation)

Endosulfan II

Endosulfan Sulfate

Endrin

Endrin Aldehyde

g - Chlordane

Heptachlor

Heptachlor epoxide

Hexachlorobenzene

Hexachlorobutadiene

Hexachlorocyclopentadiene

Hexachloroethane

Lindane (gamma-BHC)

Mirex

o,p' - DDT

Oxychlordane

p,p' - DDT

p,p' Methoxychlor

Total DDD (Calculation)

Total DDE (Calculation)

Total DDT (Calculation)

Total PCB

Water (Organic)

OSDWA †

Petroleum Hydrocarbons (PHC) - Water (050)

PHC-W-001; modified from ON MOECC E3398 and ON MOECC E3421

GC/FID - EXTRACTION

Diesel Range Organics (DRO): C10-C24

F2: C10-C16 F3: C16-C34

F4: C34-C50

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Heavy Oils: C24-C50

Total Petroleum Hydrocarbons (TPH) (C10-C50)

Water (Organic)

Petroleum Hydrocarbons (PHC) - Water (059)

PHC-W-001; ON MOECC E3421

GRAVIMETRIC F4: Gravimetric

Water (Organic)

Polychlorinated Biphenyls (PCB) - Water (082)
PCB-001, PESTCL-001; modified from EPA 8081 and EPA 8082A
GC/ECD - EXTRACTION

Aroclor 1242

Aroclor 1248

Aroclor 1254

Aroclor 1260

Total PCB

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OSDWA †

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