TESTING AND CALIBRATION LABORATORY ACCREDITATION PROGRAM (LAP)

Scope of Accreditation

Accredited Laboratory No. 672

Legal Name of Accredited Laboratory:	**AGAT Laboratories LTD.**
Location Name or Operating as (if applicable):	**Petroleum and Lubricating Testing Services, Oil Sands, Air, Forensic and Test Method Development Services**
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SCC File Number:	15827
Accreditation Standard(s):	ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories
Fields of Testing:	Chemical/Physical
Program Specialty Area:	Environmental Testing (ET) Forensic Test Method Development and Evaluation and Non-routine Testing (TMDNRT)
Initial Accreditation:	2010-04-27
Most Recent Accreditation:	2022-02-14
Accreditation Valid to:	2026-04-27

Remarque: La présente portée d'accréditation existe également en français, sous la forme d'un document distinct.
Note: This scope of accreditation is also available in French as a separately issued document.

TEST METHOD DEVELOPMENT & NON-ROUTINE TESTING

Note: The laboratory accredited under this PSA have demonstrated that it meets ISO/IEC 17025 requirements for non-routine testing under the following product classification.

Description of activities:

1. Developing, modifying and validating new, published or existing test methods for screening and determining chemical residues and contamination in environmental and forensic samples.
2. Developing and validating mass spectral techniques for confirming the identity of chemical residues and contaminants in environmental and forensic samples.
3. Screening, determining and confirming the identity of chemical residues and contaminants in environmental and forensic samples for non-routine purposes.

Description of techniques:

1. Gas Chromatography (GC) with Mass Spectrometry (MS) Detection
2. Two-Dimensional Gas Chromatography

FORENSICS

Forensic Chemistry / Trace Evidence

(Testing conducted at 2420-42 Avenue NE, Calgary AB T2E7T6)

Description of activities:

1. Examination and analysis of trace evidence.

Description of techniques:

1. Gas Chromatography (GC) with Mass Spectrometry (MS) Detection
2. Two-Dimensional Gas Chromatography

Forensic Chemistry / Trace Analysis

IHF-60-25001	Determination of Ignitable Liquid Residues in Fire Debris by Gas Chromatography-Mass Spectrometry (ASTM E1618, ASTM E1412, ASTM E2451)		
IHF-60-25007	Determination of Extractable Petroleum Hydrocarbons by Two-Dimensional Gas Chromatography (in-house)		
	F2	F3	F4
	2-Methylnaphthalene	Acenaphthene	Acenaphthylene
	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene
	Chrysene	Fluoranthene	Fluorene
	Naphthalene	Phenanthrene	Pyrene
	A10-A12	A12-A16	A16-A21
	A21-A34	C8-C10	C10-C12
	C12-C16	C16-C21	C21-C34
	C34-C50	A8-A10	
	Benzo (b+j) fluoranthene/Benzo (k) fluoranthene		
	Indeno (1,2,3-c,d) pyrene/Dibenzo (a,h) anthracene		

ENVIRONMENTAL AND OCCUPATIONAL HEALTH AND SAFETY

Environmental:

Air

AQM-43-16000	Determination of Anions by Ion Chromatography (Modified APHA Method 4110B; EPA 6, EPA 8, ASSC Method 8, EPA 26, MMCAAP Method 47071, NIOSH 7906, NIOSH 7907, NIOSH 7908, NIOSH 6004, OSHA ID-200, OSHA ID-182, OSHA ID-214) Fluoride (F^-) Chloride (Cl^-) Bromide (Br^-) Phosphate (PO_4^{3-}) Nitrite (NO_2^-) Nitrate (NO_3^-) Sulphate (SO_4^{2-}) Sulfite (SO_3^{2-}) Sulfur Dioxide (SO_2) Sulfuric Acid mist (H_2SO_4)
AQM-43-16002	Gravimetric Determination of Particulate Matter from Stationary and Other Sources (Modified Alberta Stacks Sampling Code Method 5,AENV, US EPA Method 5, US EPA Method 201A and US EPA 17)
AQM-43-16004	Determination of Nitrogen Dioxide (NO_2) in the Air by Ion Chromatography (in-house)
AQM-43-16005	Determination of Nitrogen Oxide (NOx), from Stationary Sources (Alberta Stack Sampling Code, Method 7A, and Method 7D AENV; US EPA Method 7A; US EPA Method 7D)
AQM-43-16006	Determination of Hydrogen Sulfide (H_2S) in Air by Spectrofluorophotometery (in-house)
AQM-43-16007	Determination of Sulfur Dioxide (SO_2) in Air by Ion Chromatography (in-house)
AQM-43-16008	Determination of Ozone (O_3) in Air by Ion Chromatography (in-house)
AQM-43-16009	Determination of Dustfall (Total, Fixed, Soluble, Insoluble and Total Suspended Solids) by Gravimetric Analysis (Modified ASTM D1739, “Methods Manual for Chemical Analysis of Atmospheric Pollutants”, Method No. 32020, EPHA 2540B, 2540E, 2540D)
AQM-43-16010	Determination of Total Particulate and Dew Point in Air and Other Sources (Modified ASTM D1142, NIOSH 0500, Colorimetry)
AQM-43-16011	Determination of Ammonia (as N) and Hydrogen Sulfide in Aqueous Samples by Colorimetry (Modified Methods Manual for Chemical Analysis of Atmospheric Pollutants Method #41515, Method #43535)
AQM-43-16012	Determination of Ammonia (NH_3) in Air by Spectrofluorophotometry (in-house)

IHF-60-25002	Determination of Fixed Gases and Volatile Hydrocarbons in Air by Gas Chromatography (Modified ASTM D1946, EPA TO-14A,TO-15, NIOSH 6602, EPA 10B, ASSC Method 18, EPA 18, ASSC Method 3C, EPA 3C) Oxygen — Nitrogen Methane — Ethane Carbon Monoxide — Carbon Dioxide Non Methane Volatile Hydrocarbons — Volatile Halogenated Hydrocarbons Nitrous Oxide — Sulfur Hexafluoride C3-C12 — Dimethyl Ether 1,1,1-Trichloroethane — 1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane — 1,1-Dichloroethane 1,1-Dichloroethene — 1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene — 1,2-Dibromoethane (EDB) 1,2-Dichlorobenzene — 1,2-Dichloroethane 1,2-Dichloropropane — 1,3,5-Trimethylbenzene 1,3-Dichlorobenzene — 1,4-Dichlorobenzene Benzene — Bromomethane Carbon tetrachloride — Chlorobenzene Chloroethane — Chloroform Chloromethane — cis-1,2-Dichloroethene cis-1,3-Dichloropropene — Dichlorodifluoromethane Dichlorotetrafluoroethane (R114) — Ethylbenzene Hexachlorobutadiene — Methylene chloride m-Xylene — o-Xylene p-Xylene — Styrene Tetrachloroethene — Toluene trans-1,3-Dichloropropene — Trichloroethene Trichlorofluoromethane — Trichlorotrifluoroethane (R113) Vinyl chloride

IHF-60-25003	Determination of Volatile Organic Compounds in Air by Gas Chromatography (Modified NIOSH 1500, NIOSH 1501, NIOSH 1003)
	1,1,1,2-Tetrachloroethane — 1,1,1-Trichloroethane
	1,1,2,2-Tetrachloroethane — 1,1,2-Trichloroethane
	1,1-Dichloroethane — 1,1-Dichloroethene
	1,2,3-Trichlorobenzene — 1,2,3-Trichloropropane
	1,2,4-Trichlorobenzene — 1,2,4-Trimethylbenzene
	1,2-Dibromo-3-chloropropane (DBCP) — 1,2-Dibromoethane (EDB)
	1,2-Dichlorobenzene — 1,2-Dichloroethane
	1,2-Dichloropropane — 1,3,5-Trimethylbenzene
	1,3-Dichlorobenzene — 1,4-Dichlorobenzene
	2-Butanone (MEK) — 2-Chloroethylvinylether
	2-Hexanone — 4-Methyl-2-pentanone (MIBK)
	Acetone — Acetonitrile
	Acrolein — Acrylonitrile
	Benzene — Bromobenzene
	Bromodichloromethane — Bromoform
	Bromomethane — Carbon tetrachloride
	Chlorobenzene — Chloroethane
	Chloroform — Chloromethane
	cis-1,2-Dichloroethene — cis-1,3-Dichloropropene
	Dibromochloromethane — Dibromomethane
	Dichlorodifluoromethane — Ethylbenzene
	Hexachlorobutadiene — Isopropylbenzene (Cumene)
	m,p-Xylene — Methyl tert-butyl ether (MTBE)
	Methylene chloride — Naphthalene
	o-Xylene — Styrene
	Tetrachloroethene — Toluene
	trans-1,2-Dichloroethene — trans-1,3-Dichloropropene
	Trichloroethene — Trichlorofluoromethane
	Vinyl acetate — Vinyl chloride
	Total VOC as Hexane

IHF-60-25006	Determination of Hydrocarbon Based Biological Markers by Gas Chromatography in Oil and Soil Samples and TEL in Water Samples(in-house)	
	S21	S22
	DIA27S	DIA27R
	DIA28Sab	DIA28Rab
	DIA29S	DIA29R
	5aaa C27S	C27abbR
	C27abbR(218)	C27abbS
	C27abbS(218)	5aaa C27R
	5aaa C28S	C28abbR
	C28abbR(218)	C28abbS
	C28abbS(218)	5aaa C28R
	5aaa C29S	C29abbR
	C29abbR(218)	C29abbS
	C29abbS(218)	5aaa C29R
	Tr23	Tr24
	Tr25	Tr26A
	Tr26B	TET24
	Tr27a	Tr27b
	Tr28A	Tr28B
	Tr29A	Tr29B
	Tr30A	Tr30B
	Tr31A	Tr31B
	Ts	Tm
	H28	NOR25H
	H29	C29Ts
	30d	M29
	30O	H30
	M30	H31S
	H31R	30G
	H32S	H32R
	H33S	H33R
	H34S	H34R
	H35S	H35R
	H36S (TR35)	H36R (TR35)
	D30 (177)	H30 (177)
	H30b	C20TA
	C21TA	C22TA
	SC26TA	RC26TA (SC27TA)
	SC28TA	RC27TA
	RC28TA	C21MA 1
	C22MA 2	C23MA 3
	C27MA 4_5	C27MA 6_7

	C28MA 8	C28MA-U
	C27MA 9	C28MA 10_11
	C29MA 12	C29MA-U
	C29MA 13	C28MA 14_15
	C29MA 16	C30MA 17
	C30MA 18	C4B
	C5B	C6B
	DEC (cis)	DEC(trans)
	1-DEC	2-DEC
	3-DEC	4-DEC
	Naphthalene	2-Methylnaphthalene
	1-Methylnaphthalene	N2
	N3	N4
	N5	Biphenyl
	Bp1	Bp2
	Acenaphthylene	Acenaphthene
	AC1	AC2
	Fluorene	FL1
	FL2	FL3
	Phenanthrene	Anthracene
	PA1	PA2
	PA3	PA4
	PA5	Retene
	Fluoranthene	Pyrene
	Benzo[a,b,c]fluorenes	FP1
	FP2	FP3
	FP4	Benzo(c)phenanthrene
	Benzo(a)anthracene	Cyclopenta[cd]pyrene
	Triphenylene	Chrysene
	BC1	BC2
	BC3	BC4
	Benzo[b+j]fluoranthene	Benzo[k]fluoranthene
	Benzo[j]fluoranthene	Benzo[a]fluoranthene
	Benzo[e]pyrene	Benzo[a]pyrene
	Perylene	BAP1
	BAP2	Indeno[1,2,3-c,d]fluoranthene
	Indeno[1,2,3-c,d]pyrene	Dibenzo[a,c]anthracene
	Dibenzo[a,h]anthracene	Benzo[g,h,i]perylene
	Benzothiophene	BT1
	BT2	Dibenzothiophene
	DB1	DB2
	DB3	DB4
	DB5	Benzo[b]naphtho[2,1-d]thiophene

	Benzo[b]naphtho[1,2-d]thiophene	Benzo[b]naphtho[2,3-d]thiophene
	NBT1	NBT2
	NBT3	NBT4
	nC10	isoC11
	nC11	isoC12
	nC12	isoC13
	nC13	isoC14
	nC14	Farnesane
	nC15	nC16
	nor-Pristane	Pristane
	Pristane (FID)	nC17
	nC17 (FID)	Phytane
	Phytane (FID)	nC18
	nC18 (FID)	nC19
	nC20	nC21
	nC22	nC23
	nC24	nC25
	nC26	nC27
	nC28	nC29
	nC30	nC31
	nC32	nC33
	nC34	nC35
	nC36	nC37
	nC38	nC39
	nC40	nC41
	nC42	nC43
	nC44	Tetraethyl Lead (TEL)

Water and (Brine)

IHF-60-25010	Determination of Metals in Water Using Triple-Quad Inductively Coupled Plasma – Mass Spectrometry (Modified SM 3125B, EPA 1669)		
	Aluminum	Antimony	Arsenic
	Barium	Beryllium	Bismuth
	Boron	Cadmium	Calcium*
	Cesium	Chromium	Cobalt
	Copper	Gallium	Iron
	Lead	Lithium	Magnesium*
	Manganese	Molybdenum	Nickel
	Phosphorus	Potassium*	Rubidium
	Selenium	Silicon*	Silver
	Sodium*	Strontium	Sulfur*
	Tellurium	Thallium	Thorium
	Tin	Titanium	Tungsten
	Uranium	Vanadium	Yttrium
	Zinc	Zirconium	
IHF-60-25012	Determination of Selenium Speciation in Water Samples by IC-ICP-QQQ (in-house)		
	Se (IV)	Se (VI)	SeCN
	$SeSO_3$	MeSe(4)	SeMet
IHF-60-25013	Determination of Arsenic Speciation in Waters by Multidimensional IC-ICP-QQQ (in-house)		
	Arsenic (III)	Arsenic (V)	AsC
	AsB	DMA	MMA

Water (Inorganic)

(Testing conducted at 3650 – 21st Street NE, Calgary AB T2E6V6)

WAT-0100	Determination of Soluble Sulfides in Water by Iodometric Titration (Modified APHA 4500-S)		
WAT-0300	Determination of pH, Alkalinity and Acidity in Water Using Benchtop pH meter for Conducting Subsequent Manual Acid Base Titration (Modified APHA 2310B and APHA 2320B)		
WAT-0301	Determination of Conductivity, pH and Alkalinity of Water using PC-Titrate (Modified ASTM D1067) Autotitrator		
WAT-0600	Determination of Total Suspended Solids Dried at 103°C-105°C (APHA 2540D)		
WAT-0601	Determination of Total Dissolved Solids Dried at 180°C (APHA 2540 C)		
WAT-2100	Determination of Inorganic Anions in Water using Ion Chromatography (APHA 4110B)		
	Chloride	Nitrate	Bromide
	Nitrite	Sulfate	

WAT-2301	Determination of Relative Density of Water using Portable Digital Density Meter (Modified ASTM D7777)
WAT-2302	Determination of Conductivity and Resistivity of Water using Conductivity Meter of Analytical Water Samples (APHA 2510 B)
WAT-2303	Determination of Selected Elements in Water Using Inductively Coupled Plasma Optical Emission Spectrometer (Modified EPA 200.7) Barium Calcium Iron Magnesium Manganese Potassium Sodium Strontium

Water (Microbiology)

WAT-2304	Estimating Biological Activity of Acid Producing Bacteria in Water by APB-BART™ Test Kits (Acid producing bacteria- Biological Activity Reaction Test BART User Manual 2004 edition)
WAT-2305	Estimating Biological Activity of Sulphate reducing bacteria in Water by SRB-BART ™ Test Kits (Sulphate reducing bacteria- Biological Activity Reaction Test BART User Manual 2004 edition)
WAT-2307	Estimating Biological Activity of Iron Related Bacteria in Water by IRB-BART™ Test Kits (Iron related bacteria Biological Activity Reaction Test BART User Manual 2004 edition)

NON-METALLIC MINERALS AND PRODUCTS

Oil Shale and Tar Sands:

(Testing conducted at 3801-21 Street NE, Calgary AB T2E6T5)

ROCK-04-26000	Determination of Water, Minerals and Bitumen in Oil Sands by Dean Stark Analysis Performed by Direct Determination (Modified ACOSA method)
ROCK-04-26001	Determination of Water, Minerals and Bitumen in Oil Sands by Dean Stark Analysis Performed by Weight Difference (Modified ACOSA method)
ROCK-31-001	Determination of Methylene Blue Index of Oil Sands (Modified ASTM C837)
ROCK-31-002	Evaluation of Particle Size Distribution (PSD) of Oil Sands Wet and Dry Sieve Combined (Modified API40 Recommended Practices)
ROCK-31-004	Determination of Particle Size Distribution (PSD) of Oil Sands Samples by Laser Diffraction (in-house)

Petroleum Crudes and Natural Gas:

(Testing conducted at 3650 – 21st Street NE, Calgary AB T2E6V6)

HC-0100	Determination of Density, Relative Density and API Gravity of Liquids by Digital Density Meter (ASTM D4052; ASTM D5002)
HC-0120	Determination of Hydrogen Sulfide by Tutweiler Titration and Stain Tubes (GPA C1; GPA 2377)

HC-0160	Determination of Hydrocarbon from Methane (C1) to Decane (C10) and inert gases in Gas Phase Mixtures by GC/TCD and GC/FID (Modified GPA 2261, GPA 2286) Helium Hydrogen Nitrogen Carbon Dioxide Methanol Methane Ethane Propane Isobutane n-Butane Isopentane n-Pentane Hexane Heptanes+ Oxygen Carbon Dioxide C1-C15+ Benzene Ethylbenzene m/p-Xylene o- Xylene Toluene
HC-0200	Determination of Water and Sediment in Crude Oil by the Centrifuge Method (Modified ASTM D4007) Solids Fraction Water Fraction
HC-0300	Determination of Cloud Point of Petroleum Products and Liquid Fuels (ASTM D2500; ASTM D5771)
HC-0310	Determination of Hydrocarbon C1 to C30+ by Flame Ionization Detection (Atmospheric and Pressurized Samples after Flashing (Modified GPA 2186) Methane Ethane Propane Iso-butane n-Butane Iso-pentane n-Pentane Cyclopentane Hexane Methylcyclopentane Benzene Cyclohexane Heptanes Methylcyclohexane Toluene Octane Ethylbenzene o-Xylene m,p-Xylene Nonane Trimethylbenzene Decanes Undecanes Dodecanes Tridecanes Tetradecanes Pentadecanes Hexadecanes Heptadecanes Octadecanes Nonadecanes Eicosanes Heneicosanes Docosanes Tricosanes Tetracosanes Pentacosanes Hexacosanes Heptacosanes Octacosanes Nonacosanes Tricontanes+
HC-0355	Flashing a Pressurized Hydrocarbon Liquid Sample to Atmospheric Pressure by the Single Stage Flash Method and Obtaining a Gas/Oil Ratio (in-house)
HC-0420	Determination of Flash Point by Pensky-Martens Closed Cup Tester (ASTM D93)
HC-0500	Determination of Pour Point in Petroleum Products (ASTM D97)
HC-0500	Determination of no flow point and pour Point of Petroleum Products and Liquid Fuels (ASTM D7346)
HC-0500	Determination of Pour Point of Crude Oils (ASTM D5853)
HC-0600	Determination of Kinematic Viscosity of Transparent and Opaque Liquids (and Calculation of Dynamic Viscosity) (ASTM D445)

HC-0610	Determination of Dynamic Viscosity (cP or mPa*s) and Density of Liquids by Stabinger Viscometer (and the Calculation of Kinematic Viscosity) (ASTM D7042)
HC-0700	Determination of Vapor Pressure of Petroleum Products by Reid Method (ASTM D323)
HC-0801	Determination of Organosulfur Compounds in Liquid and Gaseous Sample using GC/TCD/SCD (Modified UOP 791 ASTM D5504, ASTM D5623)
HC-0900	Determination of Natural Gas Liquid and Liquefied Petroleum Gas Mixtures Containing the following Components by Gas Chromatography GC/TCD (GPA 2177) Nitrogen — Carbon Dioxide — Methane Ethane — Propane — Isobutane n-Butane — Isopentane — n-Pentane Hexane — Heptane
HC-0904	Determination of PIONAOX(U) in Atmospheric and Pressurized Liquid Hydrocarbon Samples by GC-FID (ASTM D6730) P- n-paraffins — I- iso-paraffins — O- Olefins N-Naphthenes — A- Aromatics — OX-Oxygenates U-Unknown Hydrocarbons
HC-0905	Determination of Hydrocarbon Compounds Ranging from C1 to C24+ in Live Crude Oil and Condensate Samples Using GC/FID Coupled with Heated Pressurized Liquid Injection System Valve (HPLIS) (ASTM D8003)
HC-1200	Determination of Aniline Point and Mixed Aniline Point of Petroleum Products and Hydrocarbon Solvents (ASTM D 611 Method A) Aniline Point, °C Mixed Aniline Point, °C
HC-1300	Distillation of Petroleum Products and Liquid Fuels at Atmospheric Pressure (ASTM D86) Initial Boiling Point, °C 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, and 90% Recovery, °C Final Boiling Point, °C Recovered, Volume % Residue, Volume % Loss, Volume %
HC-2000	Determination of Asphaltenes (pentane insoluble) %wt Content in Oil (Modified ASTM D2007 Annex A)
HC-2100	Determination of Heptane Insoluble Asphaltene Content in Oil %wt (Modified ASTM D6560)
HC-3100	Determination of Sulfur Content Mass% or ppm in Crude Oils and its Products by Energy Dispersive X-Ray Fluorescence Spectrometry (ASTM D4294)
HC-3120	Determination of Wax Content %wt of Petroleum Oils and Asphalts (Modified UOP 46-64)

HC-3180	Determination of Pentane Insolubles by Membrane Filtration (Modified ASTM D4055)
HC-3181	Determination of Boiling Point of Samples with Residues Such as Crude Oils and Atmospheric and Vacuum Residues by High Temperature Gas Chromatography (ASTM D7169)
HC-3188	Determination of Light Hydrocarbons (C1-C9) in Stabilized Crude Oils by Gas Chromatography (ASTM D7900)

Petroleum Refinery Products (including asphalt materials, petrochemicals, fuels and lubricants):

Fuels and Lubricants

LTS-30-8001	Determination of Kinematic Viscosity of Transparent and Opaque Liquids cSt at 40 and 100 degrees Celsius Using An Automatic Viscometer and Calculation of Dynamic Viscosity) (ASTM D445)
LTS-30-8007	Determination of Oil Contamination by Automatic Particle Count and Particle Shape Classification Using a Direct Imaging Integrated Tester (ASTM D 7596)
LTS-30-8008	Determination Of Water In Petroleum Products, Lubricating Oils And Additives By Karl Fischer Titration Water % (ASTM D6304)
LTS-30-8014	Determination of Copper Corrosion from Petroleum Products by Copper Strip Tarnish Test (ASTM D130)
LTS-30-8015	Determination of Additive Elements, Wear Metals, and Contaminants in Used and Unused Lubricating Oils and by Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES) (ASTM D5185) Aluminium, Silver, Arsenic Boron, Barium, Calcium Cadmium, Chromium, Copper Iron, Potassium, Magnesium Manganese, Molybdenum, Sodium Nickel, Phosphorus, Lead Antimony, Silicon, Strontium Titanium, Vanadium, Zinc Zirconium
LTS-30-8024	Determination of Freezing Point in Degrees Celsius of Aviation Fuels (Modified ASTM D2386)
LTS-30-8028	Determination of Water Separation Characteristics of Aviation Turbine Fuels by Portable Separometer as per MSEP Rating (ASTM D3948)
LTS-30-8029	Determination of Electrical Conductivity of Aviation and Distillate Fuels in pS/m (ASTM D2624)
LTS-30-8030	Determination of Saybolt Color of Petroleum Products (ASTM D156)

LTS-30-8032	Determination of Flash point in degree Celsius by Tag Closed Cup Tester (ASTM D56)
LTS-30-8034	Determination of Distillation of Petroleum Products at Atmospheric Pressure (ASTM D86) Initial Boiling Point, °C 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, and 90% Recovery, °C Final Boiling Point, °C Recovered, Volume % Residue, Volume % Loss, Volume %
LTS-30-8035	Determination of Particle Contamination in Aviation Fuels by Laboratory Filtration of Solids in mg/L (Modified ASTM D5452)
LTS-30-8038	Determination of base number in mg/g KOH of Petroleum Products by Potentiometric Perchloric Acid Titration (ASTM D 2896)
LTS-30-8040	Determination of Acid Number of Petroleum Products by Potentiometric Titration (Modified ASTM D664)
LTS-30-8041	Condition Monitoring of In-service Lubricants by Trend Analysis using Fourier Transform Infrared (FT-IR) Spectrometry (ASTM E2412) Soot Oxidation Nitration Sulphation Phosphate Antiwear
LTS-30-8042	Determination of API and Density of Jet Fuel by Digital Density Meter (Modified ASTM D4052)
LTS-30-8047	Determining Insoluble Color Bodies in In-service Oil by Membrane Patch Colorimetery (ASTM D7843) MPC Varnish Potential
LTS-30-8048	Remaining Useful Life of Lubricant Oils by Determination of Amine and Phenol Groups Amine Remaining, % Phenol Remaining, % (ASTM D6971)
LTS-30-8049	Determination Of Percent Fuel Dilution By Gas Chromatography Diesel, % Gasoline, % (ASTM D7593)
LTS-30-8055	Thermal Oxidation Stability of Jet Fuel (JFTOT) (ASTM D3241)
LTS-30-8056	GUM Content of Aviation turbine fuel and Aviation gasoline (ASTM D381, IP540)

Number of Scope Listings: 84

Number of TMDNRT and Forensics Techniques: 2

Notes:

* **Marked analytes are tested only in water.**

ISO/IEC 17025:2017: General requirements for the competence of testing and calibration laboratories

RG-FORENSIC: SCC Requirements and Guidance for the Accreditation for Forensic Testing Laboratories

RG-TMDNRT: SCC Requirements and Guidance for the Accreditation of Laboratories Engaged in Test Method Development and Non-Routine Testing

NIOSH: National Institute for Occupational Safety and Health (USA)

OSHA: Occupational Safety and Health Administration (USA)

EPA: Environmental Protection Agency (USA)

APHA: American Public Health Association

ASSC: Alberta Stack Sampling Code

ACOSA: Alberta Committee for Oils Sands Analysis

GPA: Gas Processor's Association

UOP: Universal Oil Products

ASTM: ASTM International, formerly American Society of Testing and Materials

This document forms part of the Certificate of Accreditation issued by the Standards Council of Canada (SCC). The original version is available in the Directory of Accredited Laboratories on the SCC website at www.scc.ca.

Elias Rafoul
Vice-President, Accreditation Services
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