

P02-04 – CALA Program Description - PT Catalogue
Revision 1.21– April 17, 2018



TABLE OF CONTENTS

1.0	INTRODUCTION	2
2.0	REFERENCES	2
3.0	2018 SHIPPING SCHEDULE.....	3
4.0	REGISTRATION	3
5.0	TESTS OFFERED IN THE CALA PT PROGRAM.....	4
5.1	INORGANICS AND BASIC WET CHEMISTRY IN WATER.....	4
5.2	ORGANIC COMPOUNDS IN WATER	8
5.3	SOIL	12
5.4	MICROBIOLOGY IN WATER.....	16
5.5	OIL	16
5.6	AIR	16
5.7	TOXICOLOGY.....	17
5.8	WATER TREATMENT OPERATOR PT	17

CALA PROGRAM DESCRIPTION – PT CATALOGUE

1.0 INTRODUCTION

The CALA Proficiency Testing (PT) Program is accredited to ISO/IEC 17043- *Conformity assessment—General requirements for proficiency testing* and offers PT in support of inorganic, organic and microbiology test methods covering matrices such as water, soil/sediment, oil and air filters. Not all of the Test Groups in this catalogue are covered by the scope of accreditation. For a detailed list of what is covered by the A2LA accreditation please refer to the on-line scope (<https://www.a2la.org/dirsearchnew/newsearch.cfm>).

With the exception of C05A (microbiology) and C05B (microbiology), samples are provided as whole samples and are ready to analyze. However, some samples may have to be diluted to bring the concentrations within the laboratory's calibration range, as is common practice for customer samples.

In general, each test group is shipped twice per year, one half being shipped in January and June and the other half shipping in March and October. With the exception of C38, C39, P50, P51 and P52, each test group consists of four samples of different concentration.

2.0 REFERENCES

The following CALA documents provide information about Proficiency Testing and other CALA programs:

- P02-01 - CALA Program Description;
- P02-02- CALA Program Description - Fee Schedule;
- P02-03 - CALA Program Description - Proficiency Testing Policy for Accreditation;
- P02-05 - CALA Program Description - List of Approved PT Providers;
- PT15-01 - CALA PT Program - Scheme;
- PT15-02 - CALA PT Program - Policies;
- PT15-03 - CALA PT Program - Procedures;
- PT15-05 - CALA PT Program - Regression Equations; and,
- PT33-List of PT Collaborators.

3.0 2018 SHIPPING SCHEDULE

The table below provides details on important dates for the CALA PT Program (2018).

Water Inorganic Chemistry/Toxicology/Water Microbiology/Metals on Filters			
Test Groups	Registration deadline	Shipping Date	Reporting Deadline
C01A, C01B, C02A, C02B, C02C, C03, C04A, C04B, C04C, C04D, C05A, C05B, C11, C12, C13, C14, C15, C19, C32, C33, C37, C42, P50, P51, P52	February 16	March 19	April 20
	September 14	October 15	November 16

Water Organics/Soil Inorganics/Soil Organics/Oil/Metals on Filters			
Test Groups	Registration deadline	Shipping Date	Reporting Deadline
C06A, C06B, C07, C08, C09, C16, C17, C18, C22, C24, C25, C27, C29, C31A, C31B, C34, C35, C36, C38, C39, C40A, C40B, C41, C43, C44, C45	December 15	January 15	February 16
	May 18	June 18	July 20

Asbestos			
Test Groups	Registration deadline	Shipping Date	Reporting Deadline
C20	December 15	January 15	February 9
	February 16	March 12	April 6
	May 18	June 11	July 6
	September 14	October 15	November 9

If there are any discrepancies between this schedule and the schedule posted on the CALA web site (http://www.cala.ca/pt_ship_schedule.html), the CALA web site will be deemed to be correct.

4.0 REGISTRATION

Laboratories wishing to participate in CALA Proficiency Testing must submit a completed Application (P04-02-CALA *Application for Proficiency Testing*).

5.0 TESTS OFFERED IN THE CALA PT PROGRAM

This section provides details on the test group names, analytes included in the test group, approximate concentration range, months that the studies occur, the volume of material provided and the preservative used. Note to international laboratories: Some samples may be subject to national import restrictions. Please consult with your national import authorities.

5.1 Inorganics and Basic Wet Chemistry in Water

C01A Major Ions in Water		Member	Non-Member
		\$250	\$325
Mar/Oct	Alkalinity to pH 4.5	(20 – 250 mg/L)	
500 mL	Chloride	(5 – 500 mg/L)	
No Preservative	Conductivity at 25°C	(20 – 2000 µS/cm)	
	Calcium	(2 – 200 mg/L)	
	Magnesium	(2 – 50 mg/L)	
	Fluoride	(0.2 – 4.0 mg/L)	
	Hardness as CaCO ₃	(10 – 800 mg/L)	
	Inorganic Carbon	(2 – 50 mg/L)	
	Nitrate	(0.20 – 20.0 mg/L)	
	Nitrate plus Nitrite	(0.20 – 20.0 mg/L)	
	Potassium	(1 – 40 mg/L)	
	Reactive Silica	(0.5 – 30 mg/L)	
	Sodium	(2 – 150 mg/L)	
	Sulfate	(5 – 200 mg/L)	

This PT is obtained from naturally occurring surface waters. The only analytes added are Fluoride and Nitrate. Although participants may use their method of choice for participation, caution should be taken when using colorimetric procedures as some samples may have a natural colour.

C01B Nutrients in Water		Member	Non-Member
		\$210	\$275
Mar/Oct	Ammonia	(0.5 – 20.0 mg/L)	
250 mL	Organic Carbon	(2.0 – 20.0 mg/L)	
No Preservative	Phosphate	(0.1 – 3.0 mg/L)	
	Bromide	(1.0 – 10.0 mg/L)	
	Nitrite	(0.1 – 1.0 mg/L)	

The concentration ranges for this PT cover the range from clean waters to wastewaters.

C02A Metals (Full Range) in Water		Member	Non-Member
		\$210	\$275
Mar/Oct	Aluminum	(0.001 – 1.60 mg/L)	
250 mL	Antimony	(1.0 – 100 µg/L)	
0.2% HNO ₃	Arsenic	(1.0 – 100 µg/L)	
	Barium	(0.001 – 1.6 mg/L)	
	Beryllium	(0.001 – 0.10 mg/L)	

CO2A Metals (Full Range) in Water (Cont.)

Boron	(0.001 - 1.60 mg/L)
Cadmium	(0.001 - 0.10 mg/L)
Chromium	(0.001 - 1.60 mg/L)
Cobalt	(0.001 - 1.60 mg/L)
Copper	(0.001 - 1.60 mg/L)
Iron	(0.001 - 1.60 mg/L)
Lead	(0.001 - 1.60 mg/L)
Manganese	(0.001 - 1.60 mg/L)
Molybdenum	(0.001 - 1.60 mg/L)
Nickel	(0.001 - 1.60 mg/L)
Selenium	(1.0 - 100 µg/L)
Silver	(0.001 - 0.100 mg/L)
Strontium	(0.001 - 1.60 mg/L)
Thallium	(0.001 - 0.100 mg/L)
Tin	(0.001 - 0.100 mg/L)
Titanium	(0.001 - 1.60 mg/L)
Uranium	(0.001 - 0.1 mg/L)
Vanadium	(0.001 - 1.60 mg/L)
Zinc	(0.001 - 1.60 mg/L)

This PT test group is intended for analysis by ICP-MS or other technologies that can achieve low ppb detection levels. Although sample digestion is not required, hydrides by hydride generation will require the digestion specified by the method. Please note different reporting units for the hydride metals.

CO2B Metals (High Range) in Water

		Member	Non-Member
		\$210	\$275
Mar/Oct 250 mL 0.2% HNO ₃	Aluminum	(0.25 - 1.6 mg/L)	
	Barium	(0.25 - 1.6 mg/L)	
	Boron	(0.25 - 1.6 mg/L)	
	Chromium	(0.25 - 1.6 mg/L)	
	Cobalt	(0.25 - 1.6 mg/L)	
	Copper	(0.25 - 1.6 mg/L)	
	Iron	(0.25 - 1.6 mg/L)	
	Lead	(0.25 - 1.6 mg/L)	
	Manganese	(0.25 - 1.6 mg/L)	
	Molybdenum	(0.25 - 1.6 mg/L)	
	Nickel	(0.25 - 1.6 mg/L)	
	Strontium	(0.25 - 1.6 mg/L)	
	Thallium	(0.25 - 1.6 mg/L)	
	Titanium	(0.25 - 1.6 mg/L)	
Vanadium	(0.25 - 1.6 mg/L)		
Zinc	(0.25 - 1.6 mg/L)		

This PT is intended for laboratories that use ICP-OES or other technologies that have higher detection levels than ICP-MS. Sample digestion is not required.

C02C Metals (Total) in Water		Member	Non-Member
		\$210	\$275
Mar/Oct	Aluminum	(0.25 - 1.6 mg/L)	
250 mL	Barium	(0.25 - 1.6 mg/L)	
0.2% HNO ₃	Boron	(0.25 - 1.6 mg/L)	
	Chromium	(0.25 - 1.6 mg/L)	
	Cobalt	(0.25 - 1.6 mg/L)	
	Copper	(0.25 - 1.6 mg/L)	
	Iron	(0.25 - 1.6 mg/L)	
	Lead	(0.25 - 1.6 mg/L)	
	Manganese	(0.25 - 1.6 mg/L)	
	Molybdenum	(0.25 - 1.6 mg/L)	
	Nickel	(0.25 - 1.6 mg/L)	
	Strontium	(0.25 - 1.6 mg/L)	
	Thallium	(0.25 - 1.6 mg/L)	
	Titanium	(0.25 - 1.6 mg/L)	
	Vanadium	(0.25 - 1.6 mg/L)	
	Zinc	(0.25 - 1.6 mg/L)	

This PT is intended for metals analyses that require a preliminary acid digestion.

C03 Complex Nutrients in Water		Member	Non-Member
		\$175	\$230
Mar/Oct	Total Kjeldahl Nitrogen	(2.0 - 20 mg/L)	
250 mL	Total Phosphorus	(0.10 - 4.0 mg/L)	
pH < 2 with H ₂ SO ₄			

The concentration range covers both clean waters and wastewaters. An appropriate digestion is required prior to analysis. This PT is not intended for Total Nitrogen analysis involving a UV digestion unless nitrates are subtracted prior to reporting.

C04A Solids in Water		Member	Non-Member
		\$165	\$215
Mar/Oct	Total Suspended Solids	(10 - 200 mg/L)	
500 mL	Volatile Suspended Solids	(5 - 150 mg/L)	
No Preservative	Total Dissolved Solids	(100 - 1000 mg/L)	

Solids concentrations are typical of those observed in wastewater treatment systems. Filters used should be Whatman™ 934-AH™ or equivalent.

C04B Biochemical Oxygen Demand in Water		Member	Non-Member
		\$180	\$235
Mar/Oct	BOD	(25 - 200 mg/L)	
1000 mL	CBOD	(25 - 200 mg/L)	
Freezing			

BOD and CBOD concentrations are typical of those observed in wastewater treatment systems.

C04C Turbidity in Water		Member	Non-Member
		\$160	\$210

Mar/Oct
250 mL
No Preservative

Turbidly (0.5 – 50 NTU)

The turbidity levels found in these samples are suitable for drinking water and for surface water.

C04D Chemical Oxygen Demand in Water		Member	Non-Member
		\$160	\$210

Mar/Oct
250 mL
pH < 2 with H₂SO₄

COD (30 – 500 mg/L)

The COD concentrations in these samples are typical of those found in wastewater treatment systems and is suitable for the HACH™ COD vials (or equivalent).

C14 Cyanide in Water		Member	Non-Member
		\$180	\$235

Mar/Oct
500 mL
pH > 12 NaOH

Cyanide-Strong Acid Dissociable (0.2 – 5.0 mg/L)

This PT is suitable for methods that require a strong acid treatment to dissociate complex cyanides.

C15 pH in Water		Member	Non-Member
		\$135	\$180

Mar/Oct
125 mL
No Preservative

pH (3 – 10 pH units)

C19 Mercury in Water		Member	Non-Member
		\$170	\$225

Mar/Oct
125 mL
0.5% bromine monochloride

Mercury (0.1 – 5 µg/L)

C32 Chlorine in Water		Member	Non-Member
		\$160	\$210

Mar/Oct
250 mL
No Preservative

Free Chlorine (0.5 – 3.0 mg/L)
Total Chlorine (0.5 – 3.0 mg/L)

C33 Total 4AAP Phenolics in Water		Member	Non-Member
		\$185	\$245

Mar/Oct
250 mL
pH < 2 H₂SO₄

Total Phenolics (0.005 – 0.5 mg/L)

This PT is restricted to laboratories that use the 4AAP colorimetric method.

C34 Hexane Extractable Oil and Grease in Water		Member	Non-Member
		\$260	\$340

Jan/Jun	Total Oil and Grease	(10 – 500 mg/L)
1000 mL	Mineral (non-polar) Oil and Grease	(10 – 500 mg/L)
pH < 2 H ₂ SO ₄		

This PT is restricted to laboratories that use the hexane extractable/gravimetric procedure for oil and grease.

C37 Colour in Water		Member	Non-Member
		\$130	\$170

Mar/Oct	True Colour	(0 – 50 CU)
125 mL		
pH < 2 HCl		

Although the reference method for colour instructs laboratories to pH adjust samples for Colour analysis, these samples are not to be pH adjusted prior to analysis.

C41 Hexavalent Chromium in Water		Member	Non-Member
		\$245	\$320

Jan/Jun	Hexavalent Chromium	(50 – 500 ug/L)
125 mL		
pH 9.3 - 9.7 Ammonium sulphate		

C42 Sulphide in Water*		Member	Non-Member
		\$170	\$225

Mar/Oct	Sulphide	(1 – 10 mg/L)
125 mL		
pH 10 with NaOH and ZnOAc		

5.2 Organic Compounds in Water

C06A Organochlorine Pesticides in Water		Member	Non-Member
		\$340	\$445

Jan/Jun	alpha-BHC	(0.05 – 3.0 µg/L)
1000 mL	Endosulfan I	(0.05 – 3.0 µg/L)
No Preservative	Endosulfan II	(0.05 – 3.0 µg/L)
	Endrin	(0.05 – 3.0 µg/L)
	Heptachlor Epoxide	(0.05 – 3.0 µg/L)
	Lindane (gamma-BHC)	(0.05 – 3.0 µg/L)
	Mirex	(0.05 – 3.0 µg/L)
	o,p' - DDT	(0.05 – 3.0 µg/L)
	p,p' - DDT	(0.05 – 3.0 µg/L)
	p,p' Methoxychlor	(0.05 – 3.0 µg/L)
	Aldrin	(0.05 – 5.0 µg/L)
	Dieldrin	(0.05 – 5.0 µg/L)
	Heptachlor	(0.05 – 5.0 µg/L)
	a - Chlordane	(0.05 – 5.0 µg/L)
	g - Chlordane	(0.05 – 5.0 µg/L)

C06B Polychlorinated Biphenyls (PCBS) in Water		Member	Non-Member
		\$295	\$385
Jan/Jun	Total PCB	(1.0 - 20.0 µg/L)	
1000 mL	Aroclor 1242	(1.0 - 20.0 µg/L)	
No Preservative	Aroclor 1248	(1.0 - 20.0 µg/L)	
	Aroclor 1254	(1.0 - 20.0 µg/L)	
	Aroclor 1260	(1.0 - 20.0 µg/L)	

Total PCBs in each sample will contain one of the aroclors listed above.

C07 Polycyclic Aromatic Hydrocarbons (PAHs) in Water		Member	Non-Member
		\$295	\$385
Jan/Jun	Acenaphthene	(0.4 - 12 µg/L)	
1000 mL	Acenaphthylene	(0.4 - 12 µg/L)	
No Preservative	Anthracene	(0.4 - 12 µg/L)	
	Benzo(a)anthracene	(0.4 - 12 µg/L)	
	Benzo(a)pyrene	(0.4 - 12 µg/L)	
	Benzo(b)fluoranthene	(0.4 - 12 µg/L)	
	Benzo(b+j)fluoranthene	(0.4 - 12 µg/L)	
	Benzo(g,h,i)perylene	(0.4 - 12 µg/L)	
	Benzo(k)fluoranthene	(0.4 - 12 µg/L)	
	Chrysene	(0.4 - 12 µg/L)	
	Dibenzo(a,h)anthracene	(0.4 - 12 µg/L)	
	Fluoranthene	(0.4 - 12 µg/L)	
	Fluorene	(0.4 - 12 µg/L)	
	Indeno(1,2,3-cd)pyrene	(0.4 - 12 µg/L)	
	Naphthalene	(0.4 - 12 µg/L)	
	Phenanthrene	(0.4 - 12 µg/L)	
	Pyrene	(0.4 - 12 µg/L)	

C16 Volatile Organic Compounds in Water		Member	Non-Member
		\$315	\$410
Jan/Jun	1,1,1-Trichloroethane	(2.0 - 200 µg/L)	
2 x 40 mL vials	1,1,2,2-Tetrachloroethane	(2.0 - 200 µg/L)	
Sodium Bisulphate	1,1,2-Trichloroethane	(2.0 - 200 µg/L)	
	1,1-Dichloroethane	(2.0 - 200 µg/L)	
	1,1-Dichloroethylene	(2.0 - 200 µg/L)	
	1,2-Dichlorobenzene	(2.0 - 200 µg/L)	
	1,2-Ddichloroethane	(2.0 - 200 µg/L)	
	1,2-Dichloropropane	(2.0 - 200 µg/L)	
	1,3-Dichlorobenzene	(2.0 - 200 µg/L)	
	1,4-Dichlorobenzene	(2.0 - 200 µg/L)	
	Acetone (2-Propanone)	(2.0 - 200 µg/L)	
	Benzene	(2.0 - 200 µg/L)	
	Bromodichloromethane	(2.0 - 200 µg/L)	
	Bromoform	(2.0 - 200 µg/L)	
	Carbon Tetrachloride	(2.0 - 200 µg/L)	
	Chlorobenzene	(2.0 - 200 µg/L)	
	Chlorodibromomethane	(2.0 - 200 µg/L)	
	Chloroform	(2.0 - 200 µg/L)	
	cis-1,2-Dichloroethylene	(2.0 - 200 µg/L)	
	cis-1,3-Dichloropropene	(2.0 - 200 µg/L)	
	Dichloromethane	(2.0 - 200 µg/L)	
	Ethylbenzene	(2.0 - 200 µg/L)	
	Ethylene Dibromide	(2.0 - 200 µg/L)	
	m/p-xylene	(2.0 - 200 µg/L)	

C16 Volatile Organic Compounds in Water (Cont.)

Methyl Ethyl Ketone	(2.0 - 200 µg/L)
Methyl t-butyl ether (MTBE)	(2.0 - 200 µg/L)
Methyl isobutyl Ketone (MIBK)	(2.0 - 200 µg/L)
o-xylene	(2.0 - 200 µg/L)
Styrene	(2.0 - 200 µg/L)
Tetrachloroethylene	(2.0 - 200 µg/L)
Toluene	(2.0 - 200 µg/L)
trans-1,2-Dichloroethylene	(2.0 - 200 µg/L)
trans-1,3-Dichloropropene	(2.0 - 200 µg/L)
Trichloroethylene	(2.0 - 200 µg/L)
Trichlorofluoromethane	(2.0 - 200 µg/L)
Vinyl Chloride	(2.0 - 200 µg/L)

C22 Organophosphorus Pesticides in Water

Member Non-Member
\$485 \$635

Jan/Jun 1000 mL No Preservative	Atrazine	(2 - 5 µg/L)
	Azinphos-methyl	(10 - 40 µg/L)
	Bendiocarb	(1 - 40 µg/L)
	Carbaryl	(0.2 - 90 µg/L)
	Carbofuran	(0.2 - 90 µg/L)
	Chlorpyrifos (ethyl)	(2 - 10 µg/L)
	Cyanazine	(2 - 10 µg/L)
	Diazinon	(0.5 - 20 µg/L)
	Dimethoate	(2 - 20 µg/L)
	Diuron	(20 - 50 µg/L)
	Malathion	(2 - 10 µg/L)
	Metolachlor	(2 - 10 µg/L)
	Metribuzin	(2 - 10 µg/L)
	Parathion (ethyl)	(0.5 - 20 µg/L)
	Phorate	(0.5 - 5 µg/L)
	Simazine	(1 - 10 µg/L)
	Terbufos	(0.5 - 5 µg/L)
	Trifluralin	(1 - 10 µg/L)

C24 Aryloxy Acid Pesticides in Water

Member Non-Member
\$320 \$420

Jan/Jun 1000 mL pH < 2 H ₂ SO ₄	2,4-Dichlorophenoxyacetic Acid	(0.1 - 10 µg/L)
	2,4,5-Trichlorophenoxyacetic Acid	(0.1 - 10 µg/L)
	Bromoxynil	(1 - 5 µg/L)
	Dicamba	(1 - 10 µg/L)
	Diclofop-methyl (as free acid)	(0.5 - 5 µg/L)
	Dinoseb	(1 - 10 µg/L)
	Picloram	(0.1 - 10 µg/L)

C25 Phenolic Compounds

Member Non-Member
\$310 \$405

Jan/Jun 1000 mL pH < 2 H ₂ SO ₄	2,4,6-Trichlorophenol	(2 - 20 µg/L)
	2,3,4,6-Tetrachlorophenol	(2 - 20 µg/L)
	2,4-Dichlorophenol	(2 - 20 µg/L)
	Pentachlorophenol	(2 - 20 µg/L)

C27 Glyphosate in Water		Member	Non-Member
		\$270	\$355
Jan/Jun 250 mL 0.01% thiosulfate	Glyphosate	(25 - 80 µg/L)	
C29 Aldicarb in Water		Member	Non-Member
		\$330	\$430
Jan/Jun 250 mL 0.001% thiosulfate	Aldicarb	(1 - 9 µg/L)	
C40A Petroleum Hydrocarbons in Water		Member	Non-Member
		\$290	\$380
Jan/Jun 40 mL vials (x2) Sodium Bisulphate	Benzene Ethylbenzene F1: C6-C10 m/p-Xylene o-Xylene Toluene	(1 - 100 µg/L) (1 - 100 µg/L) (20 - 1000 µg/L) (1 - 100 µg/L) (1 - 100 µg/L) (1 - 100 µg/L)	
C40B Petroleum Hydrocarbons in Water		Member	Non-Member
		\$290	\$380
Jan/Jun 1000 mL Glass	F2: C10-C16 F3: C16-C34 F4: C34-C50	(200 - 50,000 µg/L) (200 - 50,000 µg/L) (200 - 50,000 µg/L)	

5.3 Soil

C17 Metals in Soil/Sediment		Member	Non-Member
		\$170	\$225
Jan/Jun	Aluminum	(1000 - 100000 µg/g)	
5 - 7 g	Antimony	(0.4 - 4.0 µg/g)	
No Preservative	Arsenic	(5.0 - 35 µg/g)	
	Barium	(50 - 500 µg/g)	
	Beryllium	(1.0 - 3.0 µg/g)	
	Boron	(20 - 200 µg/g)	
	Cadmium	(0.2 - 6.0 µg/g)	
	Chromium	(50 - 150 µg/g)	
	Cobalt	(10 - 20 µg/g)	
	Copper	(30 - 600 µg/g)	
	Iron	(1000 - 50000 µg/g)	
	Manganese	(100 - 2000 µg/g)	
	Mercury	(50 - 2000 ng/g)	
	Nickel	(25 - 1000 µg/g)	
	Lead	(5 - 400 µg/g)	
	Strontium	(100 - 500 µg/g)	
	Tin	(10 - 100 µg/g)	
	Titanium	(500 - 5000 µg/g)	
	Uranium	(1 - 5 µg/g))	
	Vanadium	(25 - 200 µg/g)	
	Zinc	(40 - 1600 µg/g)	

This PT is intended for use by laboratories that utilize a strong acid digestion (e.g., aqua-regia) but is not intended for use with HF. Please note the different reporting units for mercury.

C18 Polycyclic Aromatic Hydrocarbons (PAHs) in Soil		Member	Non-Member
		\$230	\$300
Jan/Jun	Acenaphthene	(0.2 - 50 µg/g)	
25 - 40 g	Acenaphthylene	(0.2 - 50 µg/g)	
No Preservative	Anthracene	(0.2 - 50 µg/g)	
	Benzo(a)anthracene	(0.2 - 50 µg/g)	
	Benzo(a)pyrene	(0.2 - 50 µg/g)	
	Benzo(b)fluoranthene	(0.2 - 50 µg/g)	
	Benzo(b+j)fluoranthene	(0.2 - 50 µg/g)	
	Benzo(g,h,i)perylene	(0.2 - 50 µg/g)	
	Benzo(k)fluoranthene	(0.2 - 50 µg/g)	
	Chrysene	(0.2 - 50 µg/g)	
	Dibenzo(a,h)anthracene	(0.2 - 50 µg/g)	
	Fluoranthene	(0.2 - 50 µg/g)	
	Fluorene	(0.2 - 50 µg/g)	
	Indeno(1,2,3-cd)pyrene	(0.2 - 50 µg/g)	
	Naphthalene	(0.2 - 50 µg/g)	
	Phenanthrene	(0.2 - 50 µg/g)	
	Pyrene	(0.2 - 50 µg/g)	

C31A Petroleum Hydrocarbons in Soil		Member	Non-Member
		\$275	\$360
Jan/Jun	F1: (C6-C10)	(30 - 3500 mg/kg)	
8 g	Benzene	(10 - 200 mg/kg)	
Methanol	Ethylbenzene	(10 - 200 mg/kg)	
	m/p- Xylene	(100 - 500 mg/kg)	
	o-Xylene	(100 - 500 mg/kg)	
	Toluene	(10 - 200 mg/kg)	
	VH (C6-C10)	(30 - 3500 mg/kg)	

Samples are intended for use by the CCME PHC method.

C31B Petroleum Hydrocarbons in Soil		Member	Non-Member
		\$275	\$360
Jan/Jun	F2: C10-C16	(150 - 6500 mg/kg)	
30 g	F3: C16-C34	(250 - 12500 mg/kg)	
Freezing	F4: C34-C50	(1000 - 12500 mg/kg)	
	F4: Gravimetric	(1000 - 12500 mg/kg)	

Samples are intended for use by the CCME PHC method.

C35 Polychlorinated Biphenyls (PCBS) in Soil		Member	Non-Member
		\$250	\$325
Jan/Jun	Total PCB	(2 - 150 µg/g)	
30 g	Aroclor 1242	(2 - 150 µg/g)	
No Preservative	Aroclor 1248	(2 - 150 µg/g)	
	Aroclor 1254	(2 - 150 µg/g)	
	Aroclor 1260	(2 - 150 µg/g)	

Total PCBs in each sample will contain one of the aroclors listed above.

C36 Volatile Organic Compounds in Soil		Member	Non-Member
		\$335	\$440
Jan/Jan	1,1,1-Trichloroethane	(5 - 200 µg/g)	
8 g	1,1,2,2-Tetrachloroethane	(5 - 200 µg/g)	
Methanol	1,1,2-Trichloroethane	(5 - 200 µg/g)	
	1,1-Dichloroethane	(5 - 200 µg/g)	
	1,1-dichloroethylene	(5 - 200 µg/g)	
	1,2-dichlorobenzene	(5 - 200 µg/g)	
	1,2-dichloroethane	(5 - 200 µg/g)	
	1,2-Dichloropropane	(5 - 200 µg/g)	
	1,3-Dichlorobenzene	(5 - 200 µg/g)	
	1,4-dichlorobenzene	(5 - 200 µg/g)	
	Acetone (2-Propanone)	(5 - 200 µg/g)	
	Benzene	(5 - 200 µg/g)	
	Bromodichloromethane	(5 - 200 µg/g)	
	Bromoform	(5 - 200 µg/g)	
	Carbon Tetrachloride	(5 - 200 µg/g)	
	Chlorobenzene	(5 - 200 µg/g)	
	Chlorodibromomethane	(5 - 200 µg/g)	
	Chloroform	(5 - 200 µg/g)	
	cis-1,2-Dichloroethylene	(5 - 200 µg/g)	
	cis-1,3-Dichloropropene	(5 - 200 µg/g)	
	Dichloromethane	(5 - 200 µg/g)	
	Ethylbenzene	(5 - 200 µg/g)	
	Ethylene Dibromide	(5 - 200 µg/g)	
	m/p-xylene	(5 - 200 µg/g)	
	Methyl Ethyl Ketone	(5 - 200 µg/g)	
	Methyl t-butyl ether (MTBE)	(5 - 200 µg/g)	
	Methyl isobutyl Ketone (MIBK)	(5 - 200 µg/g)	
	o-xylene	(5 - 200 µg/g)	
	Styrene	(5 - 200 µg/g)	
	Tetrachloroethylene	(5 - 200 µg/g)	
	Toluene	(5 - 200 µg/g)	
	trans-1,2-Dichloroethylene	(5 - 200 µg/g)	
	trans-1,3-Dichloropropene	(5 - 200 µg/g)	
	Trichloroethylene	(5 - 200 µg/g)	
	Trichlorofluoromethane	(5 - 200 µg/g)	

C38 Volatile Organic Compounds in Soil (TCLP)		Member	Non-Member
		\$310	\$405
Jan/Jan	1,2-Dichlorobenzene	(0.025 - 5 mg/L)	
100 g	1,2-Dichloroethane	(0.025 - 5 mg/L)	
Freezing	1,4-Dichlorobenzene	(0.025 - 5 mg/L)	
	Benzene	(0.025 - 5 mg/L)	
	Carbon tetrachloride	(0.025 - 5 mg/L)	
	Chlorobenzene	(0.025 - 5 mg/L)	
	Chloroform	(0.025 - 5 mg/L)	
	Dichloromethane	(0.025 - 5 mg/L)	
	Methyl Ethyl Ketone	(1.0 - 5 mg/L)	
	Tetrachloroethylene	(0.025 - 5 mg/L)	
	Trichloroethylene	(0.025 - 5 mg/L)	

This PT is restricted to participants that use the EPA 1311 *Toxicity Characteristic Leaching Procedure* for volatiles.

C39 Inorganics in Soil (TCLP)		Member	Non-Member
		\$325	\$425
Jan/Jun 200 g No Preservative	Metals		
	Silver		(0.0010 - 0.050 mg/L)
	Arsenic		(0.10 - 5.0 mg/L)
	Boron		(0.50 - 10.0 mg/L)
	Barium		(0.10 - 2.0 mg/L)
	Cadmium		(0.0010 - 0.050 mg/L)
	Chromium		(0.010 - 0.50 mg/L)
	Lead		(0.010 - 0.50 mg/L)
	Selenium		(0.050 - 1.0 mg/L)
	Uranium		(0.050 - 1.0 mg/L)
	Mercury		(0.0001 - 0.050 mg/L)
	Anions		
	Fluoride		(10 - 100 mg/L)
	Nitrate-N		(2 - 50 mg/L)
	Nitrate and Nitrite as N		(2.8 - 70 mg/L)
	Cyanide (Weak Acid Dissociable)		(0.1 - 5 mg/L)

This PT is restricted to participants that use the EPA 1311 *Toxicity Characteristic Leaching Procedure* for non-volatiles.

C43 Solids in Soil* (NEW)		Member	Non-Member
		\$170	\$225
Jan/Jun 100 g	Fixed Solids		(80 - 100%)
	Percent Moisture		(1 - 30%)
	Total Solids		(70 - 100%)
	Volatile Solids		(1 - 20%)

C44 Nutrients in Soil* (NEW)		Member	Non-Member
		\$170	\$225
Jan/Jun 250 g	Ammonia - N		(300 - 3000 µg/g)
	Kjeldahl Nitrogen		(400 - 4000 µg/g)
	Phosphorus		(300 - 3000 µg/g)
	Organic Carbon		(1000 - 15000 µg/g)

C45 Anions in Soil* (NEW)		Member	Non-Member
		\$170	\$225
Jan/Jun 250 g	Bromide		(10 - 100 µg/g)
	Chloride		(200 - 1000 µg/g)
	Fluoride		(25 - 500 µg/g)
	Nitrate-N		(25 - 500 µg/g)
	Phosphate-P		(25 - 500 µg/g)
	Sulphate		(25 - 2000 µg/g)
	% Saturation*		

* % Saturation is for participants that use the saturated paste extraction method.

5.4 Microbiology in Water **

C05A Microbiology (Quantified) in Water		Member	Non-Member
		\$235	\$310
Mar/Oct	<i>Escherichia coli</i> (E. coli)	(20 - 100 CFU/100 mL)	
2 - 5 mL	Fecal (Thermotolerant) Coliforms	(20 - 100 CFU/100 mL)	
Stabilized	Heterotrophic Plate Count	(200 - 1000 CFU/mL)	
	Total Coliforms	(20 - 100 CFU/100 mL)	

This PT is not intended for Multi-Tube fermentation methods.

C05B Microbiology (Presence/Absence) in Water		Member	Non-Member
		\$250	\$325
Mar/Oct	<i>Escherichia coli</i> (<i>E. coli</i>)		
2 - 5 mL	Total Coliforms		
Stabilized			

5.5 Oil

C08 Polychlorinated Biphenyls (PCBS) in Oil		Member	Non-Member
		\$240	\$315
Jan/Jun	Total PCB	(5.0 - 150.0 µg/g)	
3 mL vial	Aroclor 1242	(5.0 - 150.0 µg/g)	
No Preservative	Aroclor 1248	(5.0 - 150.0 µg/g)	
	Aroclor 1254	(5.0 - 150.0 µg/g)	
	Aroclor 1260	(5.0 - 150.0 µg/g)	

Total PCBs in each sample will contain one of the aroclors listed above.

5.6 Air

C09 Metals on Air Filters		Member	Non-Member
		\$230	\$300
Jan/Jun	Cadmium	(4.0 - 30 µg/HVF)	
47 mm x 2 (quartz)	Copper	(4.0 - 60 µg/HVF)	
No Preservative	Lead	(4.0 - 80 µg/HVF)	
	Zinc	(4.0 - 60 µg/HVF)	

PT samples are provided as high volume quartz filters.

C20 Asbestos*		Member	Non-Member
		\$285	\$375
Jan/Mar/Jun/Oct	Asbestos		
Slide/Wedge			
No Preservative			

5.7 Toxicology

C11 Rainbow Trout LC50		Member	Non-Member
		\$265	\$345
Mar/Oct	Trout 96 Hour LC50	(2 - 10 mL/L)	
1000 mL			
No Preservative			
C12 Daphnia LC50		Member	Non-Member
		\$265	\$345
Mar/Oct	Daphnia 48 Hour LC50	(2 - 40 mL/L)	
500 mL			
No Preservative			
C13 Microtox		Member	Non-Member
		\$265	\$345
Mar/Oct	Microtox 15 Minute IC50	(4 - 10 mL/L)	
100 mL			
No Preservative			

5.8 Water Treatment Operator PT

The P50 series of PT is intended for use by water treatment operators, using portable test kits.

P50 Chlorine in Drinking Water by Test-Kit*		Member	Non-Member
		\$85	\$115
Mar/Oct	Total Chlorine	(0.5 - 3.0 mg/L)	
125 mL	Free Chlorine	(0.5 - 3.0 mg/L)	
No Preservative			
P51 Turbidity in Drinking Water by Test-Kit*		Member	Non-Member
		\$85	\$115
Mar/Oct	Turbidity	(0.5 - 10 NTU)	
125 mL			
No Preservative			
P52 pH in Drinking Water by Portable Meter*		Member	Non-Member
		\$85	\$115
Mar/Oct	pH	(4 - 8 pH Units)	
125 mL			
No Preservative			

Special Notes

* These test groups are not currently included in CALA's A2LA scope of accreditation. Please refer to the A2LA web-site for the most current coverage.

** Microbiology samples within Canada will not be shipped without the appropriate Public Health Agency of Canada license or a claim that the participant is exempt from licencing.

Fees: If there are any discrepancies between the fees in this document and P02-02 *CALA Program Description - Fee Schedule*, the fees in P02-02 are the ones that will be applied.

All Test Groups: The indicated concentration ranges are approximate values only. *Actual* concentrations may be higher or lower than those indicated.

General Organics: Because the assigned values used for the calculation of z-scores are based on consensus data, laboratories that are using isotope dilution procedures may observe a bias relative to the assigned values indicated in the PT reports.