

CANADIAN ASSOCIATION FOR ENVIRONMENTAL ANALYTICAL LABORATORIES INC. (CAEAL)

2007 ANNUAL REPORT





Canadian Association for
Environmental Analytical
Laboratories Inc. (CAEAL)

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President's Report



Since the Annual General Meeting of 2007, it has been my pleasure to serve as the President of CAEAL, during what has proven to be a very busy year for our organization.

In August of 2007, CAEAL notified the Ontario Ministry of the Environment (OMOE) that although it still wished to continue serving the OMOE and the laboratory community by offering accreditation and proficiency testing services in support of the Ontario *Safe Drinking Water Act* (OSDWA), it did not wish to renew the agreement between the OMOE, the Standards Council of Canada (SCC), and CAEAL, which expires in August 2008. The current agreement causes unnecessary duplication and delays in announcing accreditation (and suspension) decisions, thus potentially endangering public health. The current agreement also puts an extra financial burden on the laboratories, and laboratories had requested to have an option to choose CAEAL or SCC for accreditation under the OSDWA. The OMOE is now in the process of considering CAEAL's request to be accepted as an accreditation body in its own right under the OSDWA.

In October of 2007 the Board held a special meeting devoted to Ownership Linkage issues. A day was spent discussing the current membership arrangements, membership opportunities, membership challenges and membership arrangements (types of membership, membership privileges, etc.). That the Board members were all of a similar mind with respect to the issues discussed and the conclusions reached was a very good sign for the association, as it meant that all the Directors were in agreement on the direction of the association, and the changes required to accommodate the new direction in which CAEAL is going. As a result of this meeting, the Board will recommend changes to the By-Law to the members at the Annual General Meeting. The recommendations include creating new membership types, including a 'volunteer membership', and changes to the composition of the Board itself. The inclusion of a 'volunteer membership' in the By-Law is in recognition of the fact that CAEAL simply couldn't offer the services that it now does at the current costs without the large group of volunteers filling the roles of assessors, panel members, and Board members

themselves. The influence of volunteers goes beyond merely carrying out specific tasks; through CAEAL's internal feedback mechanisms, the volunteers are actively involved in recommending improvements to program policies or delivery. The cadre of volunteers is one of the cornerstones on which CAEAL is built.

The recommended changes to the composition of the Board itself will include one elected representative from each of five regions across Canada, five elected "representatives at large", and the appointment of up to five other directors where the Board wishes to bring in special skills, or create links with other organizations. It was felt by the Board that this approach offers the best compromise of regional representation, and access to potential Directors with the skill sets needed by the Board.

CAEAL has achieved a position of respect on the international stage. Through its admission to APLAC (Asia Pacific Laboratory Accreditation Cooperation), CAEAL is a world recognized Accreditation Body, and is

very active in APLAC activities. CAEAL has long been active on the ILAC (International Laboratory Accreditation Cooperation) Laboratory Committee (LC), which acts as an interface between ILAC and the international laboratory community. After its acceptance into ILAC as an accreditation body, the CEO of CAEAL represents CAEAL as an accreditation body, and a CAEAL Director from the Board represents CAEAL member laboratories on the LC. As mentioned in the last annual President's report, members are also aware that CAEAL was selected to organize the 2009 ILAC/IAF Conference that will be held in Vancouver. CAEAL has received recognition for being a very active member of APLAC.

Perhaps the biggest external indication of all the internal events taking place with CAEAL is a new corporate name and logo. CAEAL had hired Allegro168 Inc. of Ottawa to do a brand audit of CAEAL. During this brand audit, a number of individuals representing the CAEAL staff, Board of Directors, assessors, advisory panel members, member labs and lab data

users were interviewed. The outcome was a report and presentation to the Board identifying CAEAL's strengths, and areas for continued and new growth. Among the recommendations were a new name and logo to reflect the broader scope of programs that CAEAL members wish to have delivered by the Association. The Gordon Group of Ottawa was subsequently hired to assist the Board with the development of a branding strategy. The Board is pleased to be able to recommend to the membership a new corporate name and logo, and a vote will be held by the membership at the 2008 AGM to accept these recommendations.

CAEAL is in a period of rapid change, and your feedback is important. To this end we ask members to assist us through such mechanisms as responding to surveys or interviews, and commenting on documents. Our thanks go out to all of you who have played a part in this renewal.

James Doull
President of CAEAL

Board of Directors

President

Mr. James Doull
Environment Canada
Moncton, NB

Vice President and Secretary

(Vice President since August 2007)
Mr. Erv Callin
ALS Environmental
Edmonton, AB

Treasurer

Dr. John Lawrence
Environment Canada
Burlington, ON

Past President

Ms. Deborah Masson-Stogran
SGS Lakefield
Lakefield, ON

Mr. Al Colodey
(since June 2007)
Environment Canada
North Vancouver, BC

Mr. François Dumouchel
Environment Canada
Montréal, QC

Dr. T. Duncan Ellison
Canadian Water and Wastewater
Association
Ottawa, ON

Mr. Don Enns
CANTEST Ltd.
Burnaby, BC

Mr. Paul Fewer
(until June 2007)
Maxxam Analytics Inc.
Bedford, NS

Ms. Michèle J. Giddings
Health Canada
Ottawa, ON

Mr. Peter Haulena
(until June 2007)
Accutest Laboratories
Ottawa, ON

Mr. Pat Lang
(since August 2007)
Alberta Environment
Edmonton, AB

Dr. Chris Pharo
(until June 2007)
Environment Canada
North Vancouver, BC

Ms. Trudy Toms
(since June 2007)
Jacques Whitford Limited
St. John's, NF

Dr. Wo Yuen
(until July 2007)
Saskatchewan Research Council
Saskatoon, SK

Corporate Profile

The Canadian Association for Environmental Analytical Laboratories Inc. (CAEAL) is a member-owned laboratory accrediting body that also provides related products and services.

CAEAL Board of Directors
June 2005

History

CAEAL was established in 1989 to help Canadian environmental laboratories conform to internationally accepted standards of competence and proficiency. It did this by developing an accreditation program based on assessment of a laboratory's quality management system, coupled with evaluation of analytical capability determined through proficiency testing.

Between 1994 and 2004, CAEAL operated in partnership with the Standards Council of Canada, an arrangement in which CAEAL undertook all site assessments of environmental laboratories, conducted the proficiency testing program, and made recommendations to the Standards Council on the accreditation of the laboratories.

In 2005 CAEAL resumed granting accreditation independently for over 150 laboratories, while also maintaining a partnership arrangement as described above with the Standards Council of Canada and the Ontario

Ministry of Environment, specifically for the accreditation of laboratories conducting tests under the Ontario *Safe Drinking Water Act* (OSDWA). In November 2005 the CAEAL accreditation program was officially recognized by the Asia Pacific Laboratory Accreditation Cooperation (APLAC) and the International Laboratory Accreditation Cooperation (ILAC).

The CAEAL Board of Directors has defined the ultimate goal of the organization as:

- *CAEAL accredited laboratories are recognized as meeting world-class levels of scientific and management excellence.*

A series of subordinate policies focus on benefits for both the laboratories and the users of laboratory data, and ensure that members' views are known to regulatory and standards-related decision makers in Canada and internationally.

In 2007 CAEAL members approved a broader scope of activities for CAEAL

programs, removing the restriction to environmental laboratories. The corporate strategic plan now provides for the expansion of accreditation activities, and applications for non-environmental accreditation are being accepted for any tests for which CAEAL can provide appropriate capability.

Membership

At the beginning of 2008 there were 623 members of CAEAL as shown in Table 1, representing a decrease of 2.2% from 2007.

Program Participation

Private laboratories represent about three-quarters of the participants in our programs and they provide about one-third of the assessors in the accreditation program.

Surveys of Members and Their Clients

During 2007 we repeated two surveys that were initiated in 2006:

- a satisfaction survey was directed at 390 institutional members; and
- members assisted us in conducting a survey of their clients and regulators.

Table 1: Components of the CAEAL membership

Type	Private Sector	Public Sector	Independent	Total
Institution	265	125	-	390
Individual	68	109	41	218
Associate	7	5	3	15
Total	340	239	44	623

We found that membership satisfaction continues to be rated highly:

- 85% of respondents indicated they are “Satisfied” or “Very Satisfied” with the total package delivered by CAEAL (including programs, cost and level of service); and
- 89% feel “very satisfied” or “satisfied” with their recent customer service experience with CAEAL.

In a survey of 126 users of laboratory data, we found that both private users and government regulators are aware of CAEAL, are aware of the major elements of accreditation (i.e. proficiency testing and site assessments) and have confidence in and trust the data – indeed even prefer data - from CAEAL-accredited laboratories. Users exhibited an increased awareness, relative to

the 2006 survey, of the requirements of accreditation and a greater awareness of the scope of accreditation. Our surveys indicate that CAEAL laboratories are assisting us in building client awareness by increasingly using the CAEAL “statements of accreditation” on reports, the CAEAL accreditation mark, and the joint CAEAL/ILAC mark.

Financial Report

Management Discussion and Analysis

CAEAL maintained a healthy financial position throughout 2007 again this year. Program revenues were very close to budget and related program expenses were just slightly under budget. Gains were created in operating expenses as these were again, managed very conservatively and declined by almost 3 percent as compared to budget. In addition, CAEAL did not expend much in terms of new scope developments as most of these activities were deferred to 2008. This decline in expenses resulted in an excess of revenue over expenditures for the year of \$137,231, a very successful year for CAEAL and its members.

Balance Sheet

CAEAL's net working capital figures after incorporating our investments increased by \$180,965 to \$1,109,553. This improved working capital is within the board's approved policy and adequately permits the Association to continue its effective operations into the future and plan for broadening the scope of its accreditation program and

implement its strategy for marketing and re-branding activities.

Temporary investments are purchased with surplus funds in excess of normal daily requirements to provide higher than standard bank interest rates that can be liquidated at any time.

The decrease in capital assets reflects the net expenditure for acquired computers, equipment, furniture and fixtures during the year less amortization.

Accounts payable and accrued liabilities decreased due to the timing of receipt of supplier invoices and payments of such.

Statement of Operations

Program revenue decreased to \$3,166,607, a 4 percent decrease over last year. A fee reduction in proficiency testing samples enjoyed by accredited members in addition to a lower number of assessments performed in the odd years accounted for most of the decline in revenue.

Total expenditures increased very slightly over last year by about 1 percent to \$3,056,929 as a result of minor cost increases in salaries and general and administrative expenses.

Interest and sundry income decreased by 55 percent due to the implementation of a long-term investment policy statement. The investment policy states

as primary objectives, the preservation of capital with some exposure to assets that possess the potential of providing higher returns. Ongoing income from this portfolio is not required but rather long-term annual rates of return that exceed the increase in Consumer Price Index and equities that have generally outperformed inflation by 5 to 6 percent.

CAEAL continues to benefit greatly from the generous contribution made by all of its volunteers which allows us to put together such successful programs. Note that the economic value of volunteer time is not captured in our financial statements.

Auditors' Report on Summarized Financial Statements

To the Members of the

Canadian Association for Environmental Analytical Laboratories Inc. (CAEAL)

The accompanying summarized statements of operations, cash flows and financial position are derived from the complete financial statements of the Canadian Association for Environmental Analytical Laboratories Inc. (CAEAL) as at December 31, 2007 and for the year then ended on which we expressed an opinion without reservation in our report dated February 8, 2008. The fair summarization of the complete financial statements is the responsibility of the Association's management. Our responsibility, in accordance with the applicable Assurance Guideline of The Canadian Institute of Chartered Accountants, is to report on the summarized financial statements.

In our opinion, the accompanying financial statements fairly summarize, in all material respects, the related complete financial statements in accordance with the criteria described in the Guideline referred to above.

These summarized financial statements do not contain all the disclosures required by Canadian generally accepted accounting principles. Readers are cautioned that these statements may not be appropriate for their purposes. For more information on the Association's financial position, results of operations and cash flows, reference should be made to the related complete financial statements.

Raymond Chabot Grant Thornton LLP

Raymond Chabot Grant Thornton LLP
Chartered Accountants,
Licensed Public Accountants

Ottawa, Canada
April 11, 2008

Canadian Association for Environmental Analytical Laboratories Inc. (CAEAL)

Summarized Statement of Operations

Year ended December 31, 2007

	2007	2006
	\$	\$
Revenue		
Evaluations	2,833,817	3,033,273
Memberships	157,112	153,376
Projects	23,757	11,232
Training	151,921	115,497
	<u>3,166,607</u>	<u>3,313,378</u>
Expenses		
Evaluations	1,442,982	1,468,693
Operational	1,567,262	1,526,092
Training	46,685	41,047
	<u>3,056,929</u>	<u>3,035,832</u>
Other Revenues	<u>27,553</u>	<u>60,892</u>
Excess of revenue over expenses	<u>137,231</u>	<u>338,438</u>

† These summarized financial statements do not reflect the substantial value of services contributed by volunteers.

Summarized Statement of Cash Flows

Year ended December 31, 2007

	2007	2006
	\$	\$
OPERATING ACTIVITIES		
Excess of revenue over expenses	137,231	338,438
Non-cash items		
Amortization of capital assets	23,313	31,614
Loss (gain) on disposal of investments	1,538	(14,594)
Changes in working capital items	(275,904)	194,851
Cash flows from operating activities	(113,822)	550,309
INVESTING ACTIVITIES		
Purchase of investments	(598,924)	(1,844,393)
Redemption of investments	698,432	1,373,278
Acquisition of capital assets	(10,656)	(15,776)
Cash flows from investing activities	88,852	(486,891)
Net (decrease) increase in cash	(24,970)	63,418
Cash, beginning of year	432,741	369,323
Cash, end of year	407,771	432,741

† These summarized financial statements do not reflect the substantial value of services contributed by volunteers.

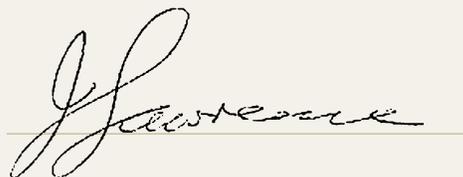
Summarized Statement of Financial Position

December 31, 2007

	2007	2006
	\$	\$
ASSETS		
Current assets		
Cash	407,771	432,741
Short-term investments	300,000	658,767
Accounts receivable	237,522	318,978
Prepaid expenses	156,838	61,266
	1,102,131	1,471,752
Long-term investments	1,025,306	736,508
Capital assets	37,495	50,152
	2,164,932	2,258,412
LIABILITIES		
Current liabilities		
Accounts payable and accrued liabilities	403,064	664,141
Deferred revenues	614,820	615,531
	1,017,884	1,279,672
NET ASSETS		
Invested in capital assets	37,495	50,152
Unrestricted	1,109,553	928,588
	1,147,048	978,740
	2,164,932	2,258,412

† These summarized financial statements do not reflect the substantial value of services contributed by volunteers.

On behalf of the Board



Director



Director

CAEAL Accreditation Program

The CAEAL Accreditation Council

Dr. Adrian Demayo, **Chair**
Ottawa

Ms. Linda Crawford, **Vice-Chair**
QMP-LS, Toronto

Mr. Edgardo Alvarez
Department of National Defence,
Ottawa

Mr. Daniel Chaput
Health Canada, Ottawa

Dr. John Fenwick
Montreal

Mr. Peter Haring
Newfoundland and Labrador
Department of Environment and
Conservation, St. John's

Mr. Steve Horvath
British Columbia Environment,
Surrey

Mr. Paul Kluckner
Environment Canada, Vancouver

Mr. Pat Lang
Alberta Environment, Edmonton

Mr. Julien Moreault
Centre d'expertise en analyse
environnementale du Québec, Québec

Dr. Chris Pharo
West Vancouver

Dr. Peter Toft
Qualicum Beach

CAEAL laboratory accreditation is based on ISO/IEC 17025 and is one of 59 programs world-wide (as at February 2008) that have been officially recognized as full signatory members of the International Laboratory Accreditation Cooperation.

By the end of 2007, 184 labs were participating in the CAEAL accreditation stream and CAEAL had granted accreditation to a total of 177 laboratories. During the year, CAEAL granted initial accreditation to 12 laboratories while 7 laboratories withdrew from the program (3 of these stayed in the proficiency testing program).

A separate tripartite agreement between the Ontario Ministry of Environment, the Standards Council of Canada (SCC), and CAEAL exists for SCC accreditation of drinking water testing under the Ontario *Safe Drinking Water Act*. In this unique program, CAEAL provides the proficiency testing and laboratory assessments, and laboratory accreditation is recommended to the SCC following review by the CAEAL Accreditation Council.

For both the CAEAL accreditation program and the SCC/CAEAL program for Ontario drinking water testing, CAEAL trains employees of member laboratories and other volunteers to act as assessors for the Association. These volunteers attend a rigorous certified Lead Auditor/Auditor ISO 9000:2000 course and participate in CAEAL-specific training once every 2 years. There are currently 151 active assessors and they represent an invaluable resource for CAEAL that sets our program apart from most others.

The process to attain and maintain accreditation is as follows:

- An assessment is carried out against criteria listed in ISO/IEC 17025 – *General Requirements for the Competence of Testing and Calibration Laboratories*;
- The laboratory receives a report of assessment findings;
- Laboratories undergoing reassessments have 45 days to undertake corrective actions, and in 2007, new laboratories were given 180 days;
- A laboratory's response to the find-

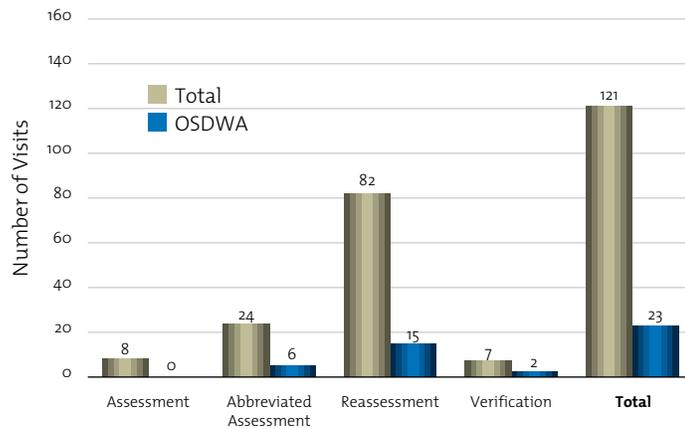
ings is reviewed by CAEAL staff, the Lead Assessor, and Advisory Panel members;

- The Advisory Panel recommends to the CAEAL Accreditation Council whether to grant or maintain a laboratory’s accreditation;
- When the Accreditation Council is satisfied that the appropriate corrective actions have been undertaken, CAEAL either grants the accreditation directly if the laboratory has applied for CAEAL accreditation, or in the case of Ontario drinking water testing, the recommendation to grant or maintain accreditation is forwarded to the SCC’s Director of Conformity Assessment for accreditation.
- In all cases, laboratories must participate successfully in proficiency testing.

Site Visits

In 2007 CAEAL conducted a total of 121 site visits, of which 23 (19%) were conducted at laboratories licensed under the OSDWA (see Figure 1).

Figure 1: Categories of Site Visits Conducted in 2007



CAEAL conducts the following types of laboratory assessments:

- Initial Assessment (A): A site visit conducted at a laboratory applying for accreditation for the first time.
- Abbreviated Assessment (AB): A site visit to assess new appendices between regularly scheduled reassessments. The quality management system is not assessed during these assessments, only the technical requirements of the new test methods.
- Reassessment (R): The first reassessment is carried out one year after an initial assessment and every two years thereafter.

- Verification (V): A site visit to confirm implementation of corrective actions or to ensure satisfactory conditions following significant changes at a laboratory.

Assessors

As mentioned earlier, CAEAL had 151 active volunteer assessors at the end of 2007, drawn primarily from government and private sector laboratories (see Figure 2). Twenty-three of these are drawn from the 52 laboratories accredited and licensed under the OSDWA.

A total of 232 assessor trips were conducted to complete the total of 121 visits. The actual assignments would range from a single experienced assessor to conduct re-assessments at small laboratories, to several assessors required to conduct the re-assessment of a large laboratory with a complex scope of testing.

Turn-around Time

Table 2 shows a breakdown of the major steps in the accreditation process, and the average time taken to complete each step. This data is based on site assessments performed in 2007, and is current as of March 26, 2008. CAEAL has a target of a maximum of 45 days for staff to perform an initial review of laboratory responses, and either request further information from the laboratory or inform the laboratory that the responses meet the requirements. In 2006, the first full year in which the new target was in effect, the average time taken for this review was 30 days and 87% of responses were reviewed within the 45 day target. For 2007 lab responses received by the

Figure 2: Sources of CAEAL Volunteer Assessors

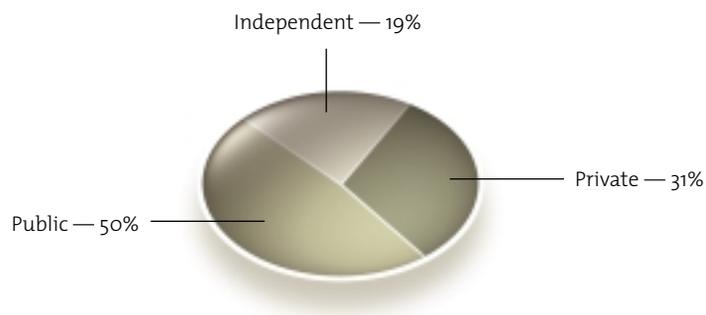


Table 2: Average Amount of Time (Days) for Major Steps in the Accreditation Process*

Step in the Accreditation Process	2007
Laboratory Response	
– Assessments	102
– Re-assessments	45
Completion of Staff Review of Laboratory Responses	27
Advisory Panel/Lead Assessor Review	18
Accreditation Council Approval	8.5
From CAEAL approval to SCC Accreditation decision (for OSDWA labs)	37

* subject to change, following completion and approval of visits carried out in 2007.

time this Annual Report was being prepared, the average was reduced to 27 days and 97% of the responses were reviewed within the 45 day target. The remaining 3% were reviewed within 60 days or less.

Suspensions and Withdrawals

Accreditation may be suspended, subsequent to being granted, if a laboratory:

- fails to successfully analyze two successive sets of proficiency testing (PT) samples for a specific test (parameter);
- does not submit a satisfactory Corrective Action Report in response to a PT failure.

The summary of suspensions shown in Table 3 indicates that the pattern reported in previous years was repeated in 2007: the non-accredited laborato-

ries experienced the highest overall rate of suspensions while the accredited OSDWA laboratories experienced the lowest rate.

A PT failure subsequent to suspension may result in withdrawal of accreditation for the parameter. In 2007, a total of 45 withdrawals occurred at accredited laboratories, 5 of these at OSDWA laboratories.

Table 3: Suspensions at Non-Accredited, Accredited and Accredited OSDWA Laboratories (values are shown as a percentage of total PT test samples)*

Study (2007)	Non-Accredited	All Accredited	Accredited OSDWA
January	1.63%	0.45%	0.09%
March	2.57%	0.76%	0.40%
June	0.92%	0.58%	0.08%
October	1.20%	0.60%	0.33%
Overall Average	1.65%	0.61%	0.24%

*These values do not include suspensions for reason other than PT failures, nor failures of PT provided by other approved PT providers.

Proficiency Testing Program

In 2007 the CAEAL Proficiency Testing (PT) Program offered 39 test groups, comprising 258 parameters. This is an increase of 20% over 2006. Samples for each test group are generally provided to member laboratories twice each year. The test groups are split between March/October rounds (inorganic and microbiology) and January/June rounds (organics).

The scoring system and other details are provided in *PT15-CAEAL PT PROGRAM POLICIES AND PROCEDURES*, which is available via: www.caeal.ca.

Changes to PT Offerings

The following is a summary of changes to the analytes offered in the CAEAL PT Program in 2007:

- C01B and C01C were combined into a single test group containing ammonia, phosphate, nitrite, bromide and organic carbon.
- C07-PAHs in water was expanded with the addition of,
 - Acenaphthene
 - Acenaphthylene
 - Anthracene
 - Chrysene
 - Dibenzo(a,h)anthracene
 - Fluorene
 - Naphthalene
- C16-VOCs in water was expanded with the addition of,
 - 1,1,1-Trichloroethane
 - 1,1,2,2-Tetrachloroethane
 - 1,1,2-Trichloroethane
 - 1,1-Dichloroethane
 - 1,2-Dichloropropane
 - 1,3-Dichlorobenzene
 - Acetone (2-Propanone)
 - cis-1,2-Dichloroethylene
 - cis-1,3-Dichloropropene
 - Ethylene Dibromide
 - Methyl Ethyl Ketone
 - Methyl t-butyl ether (MTBE)
 - Methyl isobutyl Ketone (MIBK)
 - Styrene
 - trans-1,2-Dichloroethylene
 - trans-1,3-Dichloropropene
 - Trichlorofluoromethane
 - Vinyl Chloride
- C17-Metals in soil was expanded with the addition of,
 - Aluminum
 - Barium
 - Boron
 - Iron
 - Manganese
 - Strontium
 - Tin
 - Titanium
 - Uranium
 - Vanadium
- C18-PAHs in soil was expanded with the addition of,
 - Acenaphthene
 - Acenaphthylene
 - Anthracene
 - Chrysene
 - Dibenzo(a,h)anthracene
 - Fluorene
 - Naphthalene

Review of Concentration Ranges

In 2007, CAEAL started an examination of the concentration ranges of the existing test groups. This review will examine laboratory capabilities, typical sample concentrations and regulatory limits, and use these to optimize the concentration range for each test group.

Collaborator Contracts

Collaborators are the organizations that are contracted by CAEAL to produce, characterize and ship PT samples to participants. The contracts were all renewed until the end of 2009. The Collaborators used in 2007 were,

- National Laboratory for Environmental Testing (NLET), Environment Canada
- Asbestos QA Program, School Of Occupational & Public Health
- Wibby Environmental
- Clinical Microbiology Proficiency Testing, University of British Columbia

- Centre d'expertise en analyse environnementale du Québec
- Maxxam Analytics*

* Maxxam Analytics has decided not to renew the contract for production of C21-Metals on filters and C28-VOCs on carbon tubes. Starting January 2008, these test groups will be produced by NLET.

Participation

Participation showed a decrease in 2006 but remained consistent for 2007 (see Figure 3). The decreased number of samples sets was due to the combining of some test groups in 2006. Participation levels for each test group are indicated in Table 4.

Turn-around Times

CAEAL strives to return PT results to member laboratories within timeframes that enable the laboratories to undertake corrective actions in a timely manner. All reports in 2007 were issued within the five week target for report turnaround (see Figures 4 and 5).

Summary of Proficiency Testing Performance

Appendix A details the success rates observed for each test group in each study. Also detailed are the success rates for Ontario licenced laboratories (OSDWA). In general, success rates ranged from approximately 85% to 100%, consistent with those observed in previous years.

Figure 3: PT Registration Trend in the Proficiency Testing Program (sample sets = total number of registered test groups)

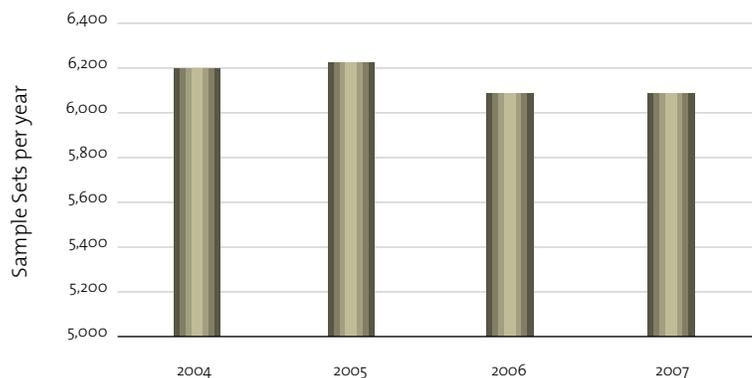


Table 4: Participation in Each Test Group of the CAEAL Proficiency Testing Program

Group No.	Group	Sample Sets				Group No.	Group	Sample Sets			
		2004	2005	2006	2007			2004	2005	2006	2007
C-01A	Major Ions	541	517	451	425	C-14	CN (SAD)	104	104	94	101
C-01B	NH ₃ , o-PO ₄ , DOC	298	302	279	292	C-15	pH	445	439	366	424
C-01C	Bromide/Nitrite	180	180	176	NA	C-16	BTEX/THM	208	217	221	231
C-02A	Metals Full	362	340	314	268	C-17	Metals in Soil	190	195	197	171
C-02B	Metals High	93	112	97	109	C-18	PAH in Soil	105	113	111	119
C-02C	Total Metals	NA	NA	135	139	C-19	Mercury	179	168	152	160
C-03	TKN & TP	280	282	260	249	C-20	Asbestos	229	204	212	249
C-04A	TSS	407	410	357	414	C-21	Metals in Air	100	91	81	75
C-04B	BOD	313	313	266	295	C-22	OP Pesticides	117	119	125	111
C-04C	Turbidity	187	179	159	192	C-23	OCI Pesticides	74	73	NA	NA
C-04D	COD	170	177	152	192	C-24	Aryloxy Acids	72	77	79	67
C-05A	Coliforms	394	398	356	326	C-25	Phenolics	87	91	88	78
C-05B	Coliforms (presence/absence)	NA	NA	79	92	C-27	Glyphosate	30	29	28	26
C-06	OCP/PCB	129	134	133	128	C-28	Aromatic Organics in Air	33	32	30	28
C-07	PAH	127	132	137	138	C-29	Aldicarb	44	45	56	54
C-08	PCB in Oil	113	101	97	96	C-31A	BTEX soil	153	162	168	148
C-09	Metals on Filters	57	53	43	41	C-31B	PHC soil	92	119	122	138
C-10	Major Ions on Filters	42	43	35	26	C-32	Chlorine	86	101	84	105
C-11	Trout LC ₅₀	49	48	49	47	C-33	Total Phenolics	NA	NA	78	84
C-12	Daphnia LC ₅₀	45	43	41	42	C-34	Total Oil and Grease	NA	NA	99	125
C-13	Microtox IC ₅₀	61	60	51	58	TOTAL		6191	6203	6058	6063

Figure 4: Turn-around time for January and June Proficiency Testing Shipments

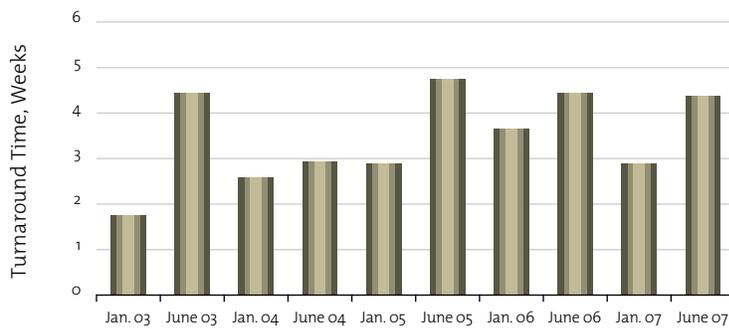
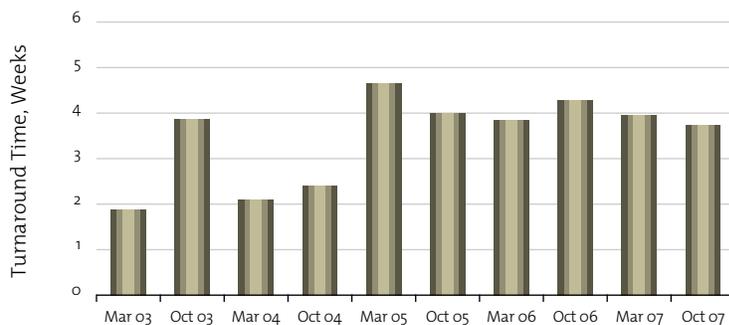


Figure 5: Turn-around time for March and October Proficiency Testing Shipments



Alberta Alternate Program

In 2007, CAEAL coordinated two PT studies, and two follow-up PT studies, in support of Alberta Environment's Alternate Program. This program is directed towards process (operational) testing performed by water and waste-water operators, a sector of testing that, historically, has been under-serviced by quality assurance and quality control.

In March, PT samples were shipped to 293 facilities with 86 facilities being involved in the June follow-up study. Samples were shipped to 288 facilities in September and 89 in the November follow-up study.

Training

The CAEAL Training Service consists of two persons, who are responsible for the following:

- Managing the planning and delivery of a viable and self-sustaining CAEAL Training Service in support of CAEAL operations and to meet member needs;
- Managing the CAEAL Quality Management System so as to meet APLAC/ILAC requirements for signatory status and accreditation as a proficiency testing provider under ILAC Guide 13; and
- Managing the marketing efforts associated with the CAEAL Training Service to recover all costs associated with training.

The CAEAL Policy Governance process continues to set goals for ensuring the sustainable growth of the CAEAL Training service and the maintenance of a leading edge focus by:

- continuing use of information technologies to support training service operations;
- identifying future member training needs and preparing to meet them;
- increasing the marketing of CAEAL training services;
- extending training offerings beyond the CAEAL membership, nationally and internationally;
- turning training services into an autonomous operation; and
- continuing to use only the most appropriate expertise for training offered.



The Mission of the Training Service is:

CAEAL will deliver cost effective and reputable training to meet identified member needs and in support of CAEAL programs.

The priorities of the CAEAL Training Service remain:

- ensuring sufficient trained and qualified assessors to meet CAEAL operational assessment needs;
- assisting overall CAEAL business operations with the planning and delivery of training and other services, as directed;
- developing and delivering training to CAEAL members within the bounds of an approved training budget; and
- marketing CAEAL's Training Service capabilities to the membership, and internationally.

Accomplishments in 2007

During 2007, the CAEAL Training Service planned to deliver 34 in-class courses. Six of these were cancelled from lack of registration and 12 unplanned courses were delivered in their stead. Overall, the CAEAL Training Service delivered 40 courses to 394 participants in class, about the same participation as the previous year. As well, 152 assessors participated in the biennial assessor training. Another 81 participants received training in 41 separate online sessions bringing the total participation to 627

participants, a 10% increase over the previous year.

As anticipated from the inception of online training, over one fifth of all participation in CAEAL Training is online. There are now three distinct methods of acquiring information and training from CAEAL Training Service. In-class training is complemented by online training and the simple purchase of the training materials in a self-study binder. CAEAL offers these self-study publications for nearly all training courses.

Table 5: Achievement of 2007 Training Service Targets

Target	Achievement
Maintain participant satisfaction levels at or above 70%.	The thirteen training facilitators achieved an average satisfaction score of 81% (Excellent) in their delivery of 40 different training sessions.
Increase use of CAEAL training by non-member organizations and international partners.	Ten percent of all participants were from non-member organizations or international partner organizations.
Develop and deliver two offerings of a laboratory leadership course and demonstrate financial success, participant satisfaction and positive perception of value.	One course delivered at the CAEAL AGM and one in Western Canada. Both were financially viable and well received by members.

Looking Forward to 2008

The use of CAEAL training by members has stabilized. However, in order to make better use of the CAEAL Training Service, members need a planning tool – and this has been developed in the form of a year-long schedule. As a result, the planning for the 2008 Training Schedule commenced in August 2007 with a Training Needs Survey.

The Training Needs Survey was completed in October 2007 and showed that members wanted greater diversity in venues for offerings. The 2008 Training Schedule includes 45 courses delivered in 70 training days and in six cities across Canada. Unplanned training will also include up to 12 days to international clients, most of which will be delivered in Ottawa in June and July. The CAEAL Training Calendar for 2008 reflects the needs expressed by members in this survey.

Finding Training Information

With an online focus in the delivery of training, members are invited to review CAEAL Training course contents at http://www.caeal.ca/t_desc.html.

The training schedule is shown at http://www.caeal.ca/t_sched.html.

Online training information is displayed at <http://caeal.dameco.com/Coursesoffered.asp>

The contents of CAEAL Training Publications can be seen at http://www.caeal.ca/t_caealpubs.html

Table 6: Planned Delivery of Training for 2008

City	Member Preference	No. of Courses
Toronto	33%	11
Calgary/Edmonton	28%	10
Vancouver	9%	6
Ottawa	9%	*9
Southern Ontario	6%	3
Halifax	5%	6
Totals	100%	45

* Ottawa is used as the venue for the two week Lead Assessor Training courses that are run each year.

International

CAEAL tracks its international activities in two categories: those that provide services to international customers, and those that are undertaken to support CAEAL's signatory status in international mutual recognition arrangements.

Services Provided Internationally

In 2007 CAEAL delivered proficiency testing and/or accreditation services to 31 laboratories located outside Canada (unchanged from 2006), mostly in the rest of the Americas as shown in Figure 6. Six of these are in the accreditation program and 25 are in the proficiency testing program.

CAEAL's international activities in 2007 included a third year of interaction with the National Institute for Environmental Research (NIER) from Korea and a visit from the Bangladesh

Council of Scientific and Industrial Research (BCSIR). Throughout June, five senior staff from BCSIR and 16 NIER staff visited the CAEAL offices, undertook training, and toured a Canadian lab, as part of an agreement with CAEAL.

Mutual Recognition Arrangements

CAEAL continues to participate in activities to ensure the acceptance of Canadian laboratory results nationally and around the world. CAEAL is a signatory to two international mutual recognition agreements (the Asia Pacific Laboratory Accreditation Cooperation - APLAC - and the International Laboratory Accreditation Cooperation - ILAC) that provide global recognition of CAEAL accreditation by 59 accrediting bodies in more than 44 countries.

CAEAL is an active participant in these two international organizations, for example, providing staff to participate in international evaluations of other accrediting bodies (CAEAL staff led a joint ILAC/APLAC evaluation team in 2007) and participating in meetings of both APLAC and ILAC

to ensure that CAEAL is not only aware of new developments but is active in their formulation.

Throughout 2007 Ned Gravel continued his responsibilities as the Evaluator Training Coordinator for APLAC and, at ILAC, CAEAL continues to

participate in the international discussion of proficiency testing stemming from an issue raised by Canadian laboratories.

Figure 6: Distribution of 31 international laboratories receiving services from CAEAL.



Appendix A

Summary of Proficiency Testing Performance

The following tables provide details of success rates for each test group. The first two (Tables A1 and A2) reflect the entire program, while the last two (Tables A3 and A4) are for laboratories licensed by the Ontario Ministry of Environment under the Ontario

Safe Drinking Water Act. Note that non-reported results are not included among the failures in these estimates as these are sometimes related to registration changes after the study has started.

Table A1: Success rates for all laboratories participating in the January and June 2007 rounds.

Total Program	January 2007		June 2007	
	Tests	Success %	Tests	Success %
Water				
Co6-OCPs/PCBs	557	94.8	577	95.7
Co7-PAHs	822	95.9	849	95.4
C16-BTEX/THMs/VOCs	2146	93.1	2257	92.9
C22-OP Pesticides	481	94.2	480	91.7
C24-Aryloxy acid pesticides	182	96.2	184	95.1
C25-Phenolics	136	94.9	133	94.7
C27-Glyphosate	13	100.0	13	92.3
C29-Aldicarb	17	94.1	18	100.0
C34-Total Oil and Grease	62	88.7	62	83.9
Oil				
Co8-Total PCBs	48	93.8	47	95.7
Air Filter				
Cog-Metals	82	95.1	82	93.9
C10-Major ions	46	95.7	42	97.6

APPENDIX A

Table A1: Continued from page 29

Soil/Sediment	January 2007		June 2007	
	Tests	Success %	Tests	Success %
C17-Metals	1280	93.5	1390	92.2
C18-PAHs	800	94.0	828	95.0
C31A-PHCs/BTEX	468	95.7	455	95.4
C31B-PHCs	200	95.0	200	94.5
OH				
C20-Asbestos	55	96.4	60	88.3
C21-Metals	72	93.1	76	90.8
C28-VOCs	30	90.0	28	96.4

Table A2: Success rates for all laboratories participating in the March 2007 and October 2007 rounds.

Total Program	March 2007		October 2007	
Water	Tests	Success %	Tests	Success %
Co1A-Major ions	1658	91.1	1666	91.7
Co1B-NH ₃ /PO ₄ /DOC/Br/NO ₂	441	94.6	447	91.9
Co2A-Metals	2501	91.8	2570	93.3
Co2B-Metals (high range)	636	92.8	618	94.0
Co2C-Metals (Total)	1097	93.8	1147	92.9
Co3-TKN/TP	210	89.5	216	89.8
Co4A-Solids	323	93.8	331	94.3
Co4B-BOD	148	97.3	148	94.6
Co4C-Turbidity	97	96.9	100	94.0
Co4D-COD	96	95.8	96	95.8
C14-Cyanide	50	100.0	48	91.7
C15-pH	224	94.2	229	94.3
C19-Mercury	*	*	83	92.8
C32-Chlorine	53	90.6	54	94.4
C33-Total Phenolics	41	87.8	44	93.2

* Not evaluated due to sample stability problem.

Table A2: Continued from page 30

	March 2007		October 2007	
	Tests	Success %	Tests	Success %
Water (Microbiology)				
Co5A-Microbiology	544	93.9	532	95.3
Co5B-Microbiology P/A	90	96.7	97	95.9
Water (Toxicology)				
C11-Trout	21	90.5	22	100.0
C12-Daphnia	20	95.0	21	100.0
C13-Microtox	28	96.4	30	86.7
OH				
C20-Asbestos	59	100.0	60	95.0
C21-Metals	76	100.0	80	95.0

Table A3: Success rates for OSDWA laboratories participating in the January 2007 and June 2007 rounds.

OSDWA Laboratories	January 2007		June 2007	
	Tests	Success %	Tests	Success %
Water (Organic)				
Co6-OCPs/PCBs	230	98.7	248	96.8
Co7-PAHs	158	94.3	190	95.8
C16-BTEX/THMs/VOCs	639	98.3	666	98.9
C22-OP Pesticides	270	95.9	295	95.9
C24-Aryloxy acid Pesticides	106	97.2	106	98.1
C25-Phenolics	56	96.4	52	98.1
C27-Glyphosate	6	100.0	7	100.0
C29-Aldicarb	12	100.0	14	100.0
C34-Total Oil and Grease	5	100.0	6	83.3

APPENDIX A

Table A4: Success rates for OSDWA laboratories participating in the March 2007 and October 2007 rounds.

OSDWA Laboratories	March 2007		October 2007	
	Tests	Success %	Tests	Success %
Water (Inorganics)				
C01A- Major Ions	286	95.1	272	96.7
C01B- NH ₃ /PO ₄ /DOC	98	94.9	94	95.7
C02A- Metals	514	95.9	526	93.0
C02B- Metals (high range)	20	100.0	20	100.0
C02C- Total Metals	197	93.9	213	97.2
C03- TKN/TP	41	95.1	36	94.4
C04A-Solids	32	93.8	33	93.9
C04B-BOD	7	100.0	7	100.0
C04C- Turbidity	20	100.0	20	95.0
C04D-COD	10	100.0	10	90.0
C14-Cyanide	14	100.0	13	92.3
C15-pH	30	93.3	33	93.9
C19-Mercury	*	*	15	93.3
C32-Chlorine	10	90.0	12	100.0
C33- Total Phenolics	14	92.9	14	100.0
Water (Microbiology)				
C05A- Microbiology	195	97.9	190	97.4
C05B- Microbiology P/A	37	100.0	37	95.6
Water (Toxicology)				
C13-Microtox	1	100.0	1	100.0

* Not evaluated due to sample stability problem.

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