

# 2004

ANNUAL REPORT



# CAEAL





Canadian Association for  
Environmental Analytical  
Laboratories (Inc.)

Suite 310  
1565 Carling Avenue  
Ottawa ON  
K1Z 8R1

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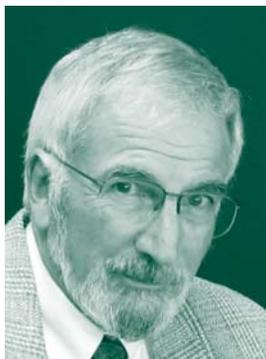
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## President's Report



My report to CAEAL members could be summarized quite briefly: at the 2004 Annual General Meeting in Vancouver the membership voted to not renew the accreditation partnership with the Standards Council of Canada (SCC), and by extension challenged CAEAL to become an independent accreditation body. One year later, I am pleased to report that we have done it.

I will not give you a blow-by-blow account of the meetings, discussions and phone calls: they have been reported in the President's Messages over the course of the year. Instead I will focus on the high points.

- We negotiated an arrangement with the Province of Ontario and the SCC that would ensure CAEAL would meet its obligations under the Ontario Safe Drinking Water Act despite the termination of the CAEAL-SCC partnership.
- We negotiated an arrangement for terminating the CAEAL-SCC partnership that would have minimal impact on laboratories, particularly

those that elected to remain with CAEAL.

- We developed the Terms of Reference for an Accreditation Council, solicited and appointed its members, trained them, and by January 2005 CAEAL was able to issue certificates of accreditation to all members that had expressed a desire for CAEAL accreditation. By January 2005 we had 114 labs accredited. By May 2005 that number had reached almost 150, with more than 25 additional new applicants.
- CAEAL has a current membership of 607, almost identical to the total a year ago.
- CAEAL has achieved full membership in the Asia Pacific Laboratory Accreditation Cooperation (APLAC), and should soon be formally recognized as having international status as an accreditation body.
- We have been invited to join discussions with the Pan American Health Organization toward forming a new arrangement with them.
- We were selected by the Globe Foundation as one of the finalists

for a prestigious GLOBE Award for Environmental Excellence.

- And we have been asked by APLAC to undertake APLAC's own internal audit, which is recognition of their confidence in both CAEAL and Ned Gravel who will conduct the audit.

I consider that successful. And this success owes a great deal to the efforts, the enthusiasm, the energy, and the dedication of the CAEAL staff, and to the leadership and direction of Dr. Rick Wilson. They really reflect CAEAL's core values and vision in operation. We are indeed fortunate to have such a solid base anchoring the Association. On behalf of the Board of Directors I offer thanks and congratulations to them.

Other actions that bear witness to the recognition and reputation that CAEAL has gained include the success, in partnership with the Alberta Research Council, of a joint bid to run the proficiency testing component of the Alberta Alternate Program, and the increasing recognition by Federal,

Provincial and Territorial regulatory agencies as an accepted accreditation body.

The last point caused some disappointment that Ontario was unwilling to do so too, despite numerous discussions. We can take some comfort, however, that Ontario moved its position to accept that an accreditation body must be recognized by the Asia Pacific Laboratory Accreditation Cooperation, the International Laboratory Accreditation Cooperation, or the Inter-American Accreditation Cooperation – something that CAEAL should achieve by the end of 2005.

Because of the changes that CAEAL has recently undergone it is now time for the Board of Directors to review and revitalize two important elements of its substructure. First, the CAEAL Strategic Plan, which describes where the Association is going over the next 3 to 5 years and defines how it will get there. And second, how the organization will work so that the objectives of the Strategic Plan can be met.

With a renewed Strategic Plan and a revitalized governance structure, coupled with a solid relationship between the Board, the office and the committees, and with the continued constructive input of its members, CAEAL will have a sound and solid footing upon which to meet the future.

In closing, I would remind readers that in 2004 CAEAL changed its fiscal year to coincide with the calendar year, so this particular (2004) annual report applies to the nine-month period between April and December 2004.

Thank you.



Chris Pharo, Ph.D.  
President of CAEAL

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## Board of Directors

### **President**

Dr. Chris Pharo  
Environment Canada  
North Vancouver

### **Vice-President**

Dr. Wo Yuen  
Saskatchewan Research Council  
Saskatoon

### **Treasurer**

Dr. John Lawrence  
Environment Canada, Burlington

### **Past President**

Russ Calow  
SGS Minerals Services  
Lakefield

### **Executive Director and Secretary**

Dr. Rick Wilson  
CAEAL, Ottawa

Mr. Erv Callin  
Enviro-Test Laboratories  
Edmonton

Dr. John Cooper  
Health Canada  
Ottawa

Mr. James Doull  
Environment Canada  
Moncton

Mr. James Downie  
New Westminster

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

Dr. John Fenwick  
Montréal

Mr. Murray Hartwell  
Maxxam Analytics Inc.  
Bedford

Ms. Jacinthe Leclerc  
Environment Canada  
Montréal

Mr. Pat Paladino  
Standards Council of Canada  
Ottawa

Dr. Peter Toft  
Pan American Health Organization  
Qualicum Beach

### **Small Laboratory Committee Representatives:**

(rotational depending on meeting location)

Shamil Cathum, SAIC Canada, Ottawa  
Brent Mussato, Levelton Analytical  
Services, Richmond



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## Corporate Profile

The Canadian Association for Environmental Analytical Laboratories (CAEAL) is a non-profit organization dedicated to improving the quality of environmental data. During 2004 CAEAL provided member laboratories with accreditation assessment and re-assessment, as well as proficiency testing and training services, and in our joint program the Standards Council of Canada (SCC) provided accreditation. CAEAL member laboratories' commitment to generating the highest quality of data is demonstrated by their voluntary participation in rigorous proficiency testing and accreditation programs.

CAEAL's Quality System is based on these three international standards:

- ISO/IEC Guide 58 – General Criteria for the Operation and Mutual Recognition of Laboratory Accreditation Systems (soon to be replaced by ISO/IEC 17011 – Conformity Assessment – General requirements for accreditation bodies accrediting conformity assessment bodies).

- ISO/IEC Guide 43 – Proficiency Testing by Interlaboratory Comparison, and
- ILAC Guide 13 – Guidelines for the Requirements for the Competence of Providers of Proficiency Testing Schemes.

These standards contain all of the requirements necessary for CAEAL to be recognized as an agency that delivers competent laboratory assessments and proficiency testing services. CAEAL staff document all activities that may not conform to requirements, and take corrective action. In support of continuous improvement, CAEAL has well-understood methods of determining opportunities for improvement and taking preventive action.

The system for receiving, tracking and responding to member requests and feedback is fully transparent at CAEAL, and our Quality System is also under constant scrutiny – as all good quality systems must be. An internal audit is conducted each year,

after which the Board of Directors conducts a management review of the entire system. The SCC examines our Quality System every year for conformance to ISO/IEC Guide 58, in support of external recognition, and CAEAL is also audited periodically to ensure conformance to ILAC Guide 13.

CAEAL regards accreditation, proficiency testing and high quality information as vital to improving environmental quality and public health and

safety. CAEAL's values include providing the highest levels of professional and technical expertise and modelling the most rigorous standards of fair and ethical conduct. CAEAL provides leadership by providing world-class programs that meet members' business needs and that also satisfy regulator requirements.

Increasingly, small laboratories from both public and private sectors in Canada are participating in CAEAL

programs as a result of regulator requirements, particularly for drinking water analysis. CAEAL also endeavours to make contributions to solving international problems and challenges regarding the environment, public health and safety by working through partners such as the Pan American Health Organization and the International Laboratory Accreditation Cooperation.

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## Financial Report

During the course of the year, the Board of Directors approved a change in the fiscal reporting period to that of a calendar year. The audited results found in this report represent results of a short financial year, namely, a nine-month period.

In financial terms, 2004 was a good year for CAEAL. A budgeted deficit was approved for the short year as two rounds of Proficiency testing (January and March) that normally occur in the last quarter would not contribute to net revenue. As illustrated in Table 1, CAEAL's results of operations at the end of the fiscal 2004 reported a deficit of \$86,957 as compared to a budgeted deficit of \$119,900.

Total revenue was 2% lower than the \$2.1 million budgeted. The main driver for this decrease was the decline in the number of participants in CAEAL training courses throughout the period.

In total, expenses for the year were \$2.1 million, a decrease of \$0.078 million or 3.5% of budgeted expenses. The decline in travel costs for assessments and decline in costs associated with international activities allowed us to successfully implement our transition plan to become a nationally recognized accrediting body as of January 1, 2005. This was in spite of the added expenses involved in the changeover amounting to just over \$28,000.

A summarized set of audited financial statements can be found later in this report. For a complete set of audited financial statements, please refer to our website at [www.caeal.ca](http://www.caeal.ca)

The trend in growth both for the site assessments program and the proficiency testing program continues at a steady pace. Our ability to manage the

## FINANCIAL REPORT

growth efficiently would not be possible without the contribution made by our volunteer assessors, Board members, Technical Committees and other volunteers. It is important

to point out that this economic value is not captured in our audited financial statements (in the 2003-2004 Annual Report, the value of volunteer effort was estimated at more than

\$450,000). Without this contribution the expenses would have been significantly greater.

**Table 1:** Financial Overview, 2001-2004

	2001-2002	2002-2003	2003-2004	9-month 2004 (Budget)	9 month 2004 (Actual)	2005 (Budget)
<b>Revenue</b>						
Proficiency Testing	\$1,114,951	\$1,439,415	\$1,644,309	\$903,720	<b>\$909,632</b>	2,003,430
Site Assessments	529,580	718,217	848,292	936,696	<b>934,900</b>	691,140
Training	108,946	160,458	106,797	75,497	<b>36,601</b>	130,000
International Program Activities	66,285	120,890	158,496	95,494	<b>83,384</b>	62,005
Memberships and other revenue	114,347	122,496	126,037	111,135	<b>112,261</b>	168,550
	<b>\$1,934,109</b>	<b>\$2,561,476</b>	<b>\$2,883,931</b>	<b>\$2,122,542</b>	<b>\$2,076,778</b>	<b>\$3,055,125</b>
<b>Expenses</b>						
Proficiency Testing	523,255	804,151	1,133,282	690,270	<b>692,537</b>	1,288,074
Site Assessments	427,115	607,169	1,098,871	1,045,205	<b>984,606</b>	995,029
Training	64,305	58,301	181,680	116,992	<b>98,734</b>	163,923
International Program Activities	6,202	53,992	149,331	106,542	<b>76,399</b>	157,658
Management and administration	839,017	997,833	308,243	283,433	<b>311,459</b>	428,876
	<b>\$1,859,894</b>	<b>\$2,521,446</b>	<b>\$2,871,407</b>	<b>\$2,242,442</b>	<b>\$2,163,735</b>	<b>\$3,033,560</b>
Net excess (deficiency) over expenses	\$74,215	\$40,030	\$12,524	-\$119,900	<b>-\$86,957</b>	\$21,565

## Auditors' Report on Summarized Financial Statements

To the Members of the  
Canadian Association for Environmental Analytical Laboratories (Inc.)

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.) as at December 31, 2004 and for the nine-months then ended on which we expressed an opinion without reservation in our report dated January 21, 2005. 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  
Chartered Accountants

Ottawa, Canada  
January 21, 2005

## Summarized Statement of Operations

For the nine-month period ended December 31, 2004

	31/12/2004 (9 months)	31/03/2004 (12 months)
	\$	\$
<b>Revenue</b>		
Evaluations	1,909,800	2,559,647
Interest income	7,062	4,357
Memberships	106,864	121,680
Projects	16,451	91,450
Training	36,601	106,797
	<b>2,076,778</b>	<b>2,883,931</b>
<b>Expenses</b>		
Accreditation transition costs	28,077	
Evaluations	1,097,120	1,524,458
Operational	1,008,171	1,191,756
Projects		78,805
Training	30,367	76,388
	<b>2,163,735</b>	<b>2,871,407</b>
<b>Excess (deficiency) of revenue over expenses</b>	<b>(86,957)</b>	<b>12,524</b>

## Summarized Statement of Cash Flows

For the nine-month period ended December 31, 2004

	31/12/2004 (9 months)	31/03/2004 (12 months)
	\$	\$
<b>OPERATING ACTIVITIES</b>		
Excess (deficiency) of revenue over expenses	(86,957)	12,524
Non-cash items		
Amortization of capital assets	18,697	17,558
Changes in working capital items	298,540	20,083
Cash flows from operating activities	230,280	50,165
Cash flows from investing activities	(105,112)	(20,267)
<b>Net increase in cash</b>	<b>125,168</b>	<b>29,898</b>
Cash, beginning of period	183,498	153,600
Cash, end of period	<b>308,666</b>	<b>183,498</b>

## Summarized Statement of Financial Position

December 31, 2004

	31/12/2004	31/03/2004
	\$	\$
<b>ASSETS</b>		
Current assets		
Cash	308,666	183,498
Investments	308,284	251,227
Accounts receivable	424,554	889,046
Prepaid expenses	50,202	45,685
	<b>1,091,706</b>	<b>1,369,456</b>
Capital assets	81,815	52,457
	<b>1,173,521</b>	<b>1,421,913</b>
<b>LIABILITIES</b>		
Current liabilities		
Accounts payable and accrued liabilities	593,356	529,710
Deferred revenue	41,214	266,295
	<b>634,570</b>	<b>796,005</b>
<b>NET ASSETS</b>		
Invested in capital assets	81,815	52,457
Unrestricted	457,136	573,451
	<b>538,951</b>	<b>625,908</b>
	<b>1,173,521</b>	<b>1,421,913</b>

On behalf of the Board



Director



Director

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## SCC/CAEAL Accreditation Program

The SCC/CAEAL accreditation program for environmental laboratories in 2004 was delivered in partnership with the Standards Council of Canada (SCC). The Accreditation Partnership Agreement determined that CAEAL conducted site assessments and operated a supporting Proficiency testing program. Accreditation was only granted by the SCC upon satisfactory participation in both the site assessment program and in proficiency testing where this last was offered as part of the accreditation. In cases where proficiency testing was not offered, accreditation was recommended based strictly on a site visit. A separate tripartite agreement between the Ontario Ministry of the Environment, the SCC, and CAEAL exists for SCC accreditation of drinking water testing in Ontario.

CAEAL trains employees of member labs to act as volunteers ('assessors') for the association. Volunteers attend a rigorous certified Lead Auditor/Auditor ISO 9000:2000 course and participate in CAEAL-specific training once every 2 years. They are a valuable resource for CAEAL.

The process to attain and maintain accreditation in 2004 was as follows:

- An assessment was carried out against criteria listed in CAN-P-4D (ISO/IEC 17025) – General Requirements for the Competence of Testing and Calibration Laboratories;
- The laboratory received a report of corrective actions;
- Laboratories undergoing reassessments had three months to undertake corrective actions, while new laboratories were given six months;

- A laboratory’s response to the corrections was reviewed by CAEAL staff, the Lead Assessor, and Advisory Panel members;
- The Advisory Panel recommended to the CAEAL Board of Directors whether to grant or maintain a lab’s accreditation;
- When the Board was satisfied that the appropriate corrections had been made, the recommendation to grant or maintain accreditation was forwarded to the SCC’s Director of Conformity Assessment for accreditation.

**Program Participation**

The accreditation program had a total of 213 laboratories participating by December 31, 2004. This figure includes labs in the stream of accreditation that remained unaccredited; that is, application to the program, undergoing corrective procedures, etc. While 184 of the total were already fully accredited, the 29 remaining labs were also at some point in the accreditation stream.

Some additional features of the 213 laboratories:

- 64% are private sector companies (136 labs);

- 37% belong to the public sector (77 labs); and
- 27% (or 57) are licensed under Ontario’s Safe Drinking Water Act (OSDWA).

Location of laboratories (see Figure 1):

- 43% are in Ontario (91 labs);
- 39% are from western and northern Canada (83 labs);
- 15% are in provinces east of Ontario (31 labs); and
- 4% are in various international locations (8 labs).

The laboratories within the SCC/CAEAL accreditation stream vary according to size (measured as accredited “appendices”) as follows:

- the 213 participating laboratories have a total of 4,691 appendices – for an average of 22 appendices;
- 29% (61 labs) were designated by CAEAL as ‘small,’ since their assessments included fewer than six appendices.

**Figure 1:** Laboratories in the SCC/CAEAL accreditation stream



### Site Visits

CAEAL conducts the following types of laboratory assessments:

- **Assessment:** A site visit conducted at a laboratory applying for accreditation for the first time.
- **Abbreviated Assessment:** 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.
- **First-Time Reassessment:** Site visit carried out one year after an initial assessment.
- **Reassessment:** Site visits occurring once every two years after the first-time reassessment.

While labs still complete an application for first-time reassessments and reassessments, these types of visits are, in fact, a condition of continued accreditation. Nonetheless, they are

included in the count of “applications” received in any given year.

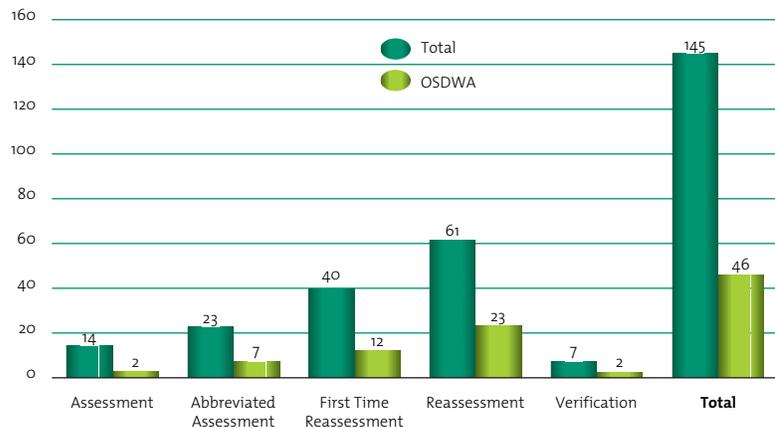
CAEAL received 183 applications for some type of site visit in the 2004 fiscal year. Of these, 22 of them were applicant laboratories – i.e., they applied for accreditation for the first time.

Although 183 “applications” were received, only 145 visits actually occurred in the 2004 fiscal year (i.e., April – December 2004) (see Figure 2, below). Fifteen of the applications were

actually carried out in the preceding fiscal year, and other visits were either cancelled or postponed. Of these 145 visits, 46 (31%) visits were done at laboratories licensed under the OSDWA (see Figure 2).

Aside from regularly scheduled site assessments, CAEAL also carried out 7 verification visits. These are designed to confirm that laboratories have implemented required actions, or that any changes that have been undertaken do not impair or compromise a lab’s ability to render competent results.

**Figure 2:** Number of Site Visits done in 2004 Fiscal Year



**Profile of New Laboratories**

In the 2004 fiscal year, CAEAL carried out 14 assessments on new laboratories (see Table 2). Most new laboratories were in Alberta (3), Ontario (2) and Nova Scotia (3), a reflection of these provinces’ regulations requiring accreditation. Interestingly, another high percentage of applicant laboratories was from other countries. Four of the 14 new laboratories are considered “small” laboratories (i.e., ≤ 5 appendices).

**Table 2:** Breakdown of New Laboratories in 2004 by Province

Location	New Laboratories
British Columbia	1
Alberta	3
Manitoba	1
Ontario	2
Nova Scotia	3
New Brunswick	1
International	3
<b>Total</b>	<b>14</b>

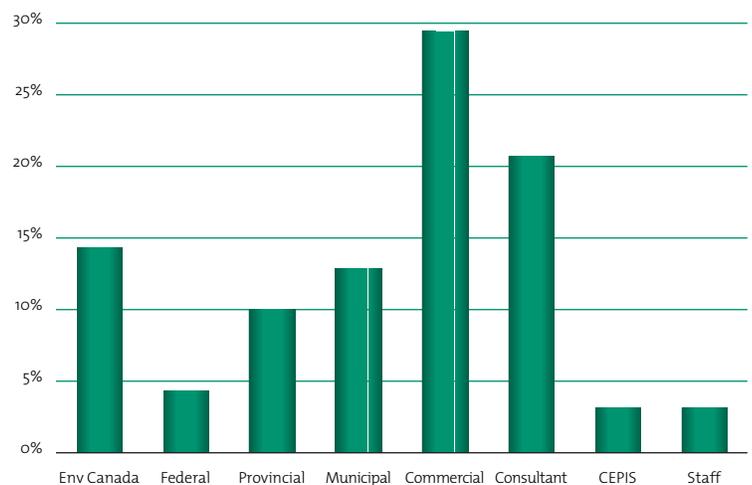
**Assessors**

CAEAL had 157 volunteer assessors as of December 31, 2004 from various sectors (see Figure 3).

Each site visit requires an average of two volunteer assessors, and each laboratory is fully re-assessed every two years, so CAEAL’s assessor plan assumes a minimum of one volunteer assessor is required for each laboratory in the accreditation stream. Only

29 volunteer assessors are drawn from the 57 laboratories accredited and licensed under the OSDWA – 19 from the public sector and 10 from the private sector (See Figure 4). Therefore, assessment of the licensed laboratories relies on the continued participation of volunteers working at Ontario laboratories that are not licensed or out-of-province volunteer assessors.

**Figure 3:** Sources of CAEAL Volunteer Assessors



### Turnaround Time

During the past few years the total elapsed time from a site visit to an initial accreditation has been approximately 265 days on average, and for re-accreditations this time drops to about 220 days. Table 3 below shows a breakdown of the major steps in the accreditation process, and the average time taken to complete each step. The average time taken for each

major step has been essentially the same for both 2003 and 2004.

An audit of the 2004 files showed that some reviews of laboratory responses took substantially longer to process than the average of 56 days shown in Table 3. Analysis showed that the problem occurred when the laboratory responses arrived at the CAEAL office during peak periods. CAEAL has com-

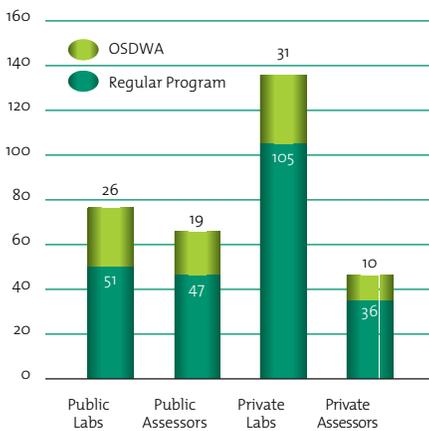
mitted to eliminate this problem and has established a target of a maximum 45 days to conduct an initial review of the responses.

### Suspensions and Withdrawals

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

- fails to successfully analyze two successive sets of Proficiency testing

**Figure 4:** Labs and Assessors from Public and Private Sectors (excluding independent assessors)



**Table 3:** Average Amount of Time (Days) for Major Steps in the Accreditation Process\*

Step in the Accreditation Process	2003	2004
<b>Laboratory Response</b>		
– Assessments	146	149
– Re-assessments	91	88
<b>Staff Review of Laboratory Responses</b>		
to Assessment Reports	53	56
Advisory Panel/Lead Assessor Review	23	24
Board of Directors Approval	12	10
SCC Accreditation Granted/Maintained	8	9

\* Note: these averages are based on a different number of laboratories in each instance, as laboratories are at different stages in the process.

## ACCREDITATION PROGRAM

- (PT) samples for a specific test (parameter);
- does not submit a satisfactory Corrective Action Report in response to a PT failure; or
  - fails to pass the first 'live' round of new PT test groups/parameters that are introduced into the CAEAL PT Program, following the pilot studies.

The summary of suspensions shown in Table 4 indicates that non-accredited laboratories experienced the highest 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 2004, a total of 66 withdrawals occurred at accredited laboratories, 9 of these at OSDWA laboratories.

**Table 4:** Suspensions at non-accredited, accredited and accredited OSDWA laboratories (values are shown as a percentage of total PT test samples).

Study (2004)	Non-Accredited	All Accredited	Accredited OSDWA
January	2.28%	0.89%	0.09%
March	3.08%	0.93%	0.34%
June	2.14%	1.42%	0.77%
October	2.50%	0.93%	1.15%
<b>Average</b>	<b>2.59%</b>	<b>1.04%</b>	<b>0.62%</b>

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## Proficiency Testing Program

In 2004 the CAEAL Proficiency Testing (PT) Program maintained accreditation to ISO/IEC Guide 43 by the Standards Council of Canada. The Program offered thirty-seven test groups, comprising 194 parameters. 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 the CAEAL PT PROGRAM POLICIES AND PROCEDURES, which is available via: [www.caeal.ca](http://www.caeal.ca).

### New Test Groups

There were no new test groups or parameters added to the program in 2004.

### Participation

Participation dropped slightly in 2004 as shown in Figure 5. This was due to a combination of laboratory consolidations and a reduction in new regulatory requirements. Participation levels for each test group are indicated below in Table 5.

### Turnaround Times

CAEAL strives to return PT results to member laboratories within timeframes that enable the labs to undertake corrective actions in a timely manner. For the last several years, the turnaround time has been within the five-week goal, however there has been a slight increase during the last few studies because of an increased scrutiny on sample homogeneity and stability (see Figures 6 & 7).

### Summary of Proficiency Testing Performance

The following tables provide details of success rates for each test group. The first two (Tables 6 and 7) reflect the entire program, while the last two (Tables 8 and 9) are for laboratories licensed by the Ontario Ministry of Environment under the Ontario Safe Drinking Water Act. Note that non-reported results are included among the failures in the estimates, under ‘% successful’.

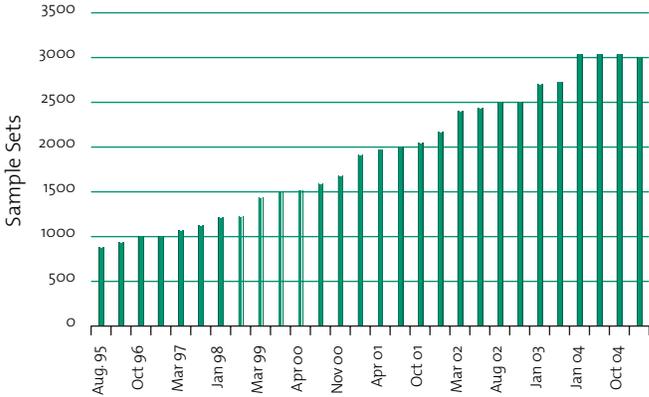
**Continuous Improvement**

In 2004, two proficiency testing workshops were held, the first in Vancouver and the second in Toronto. The goal of these workshops was to solicit input into the operation of the

Proficiency Testing Program in an effort to ensure that it remains relevant and of value. Several suggestions were brought forward and CAEAL has committed to investigating all of them. The first ones to be addressed will be mod-

ifications to the evaluation procedure to eliminate the assigned point system and a means of accounting for a laboratory's detection level in the evaluation.

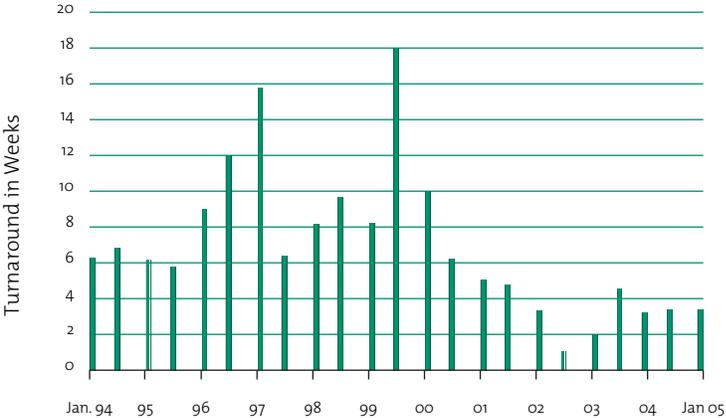
**Figure 5:** Participation trend in the proficiency testing program.



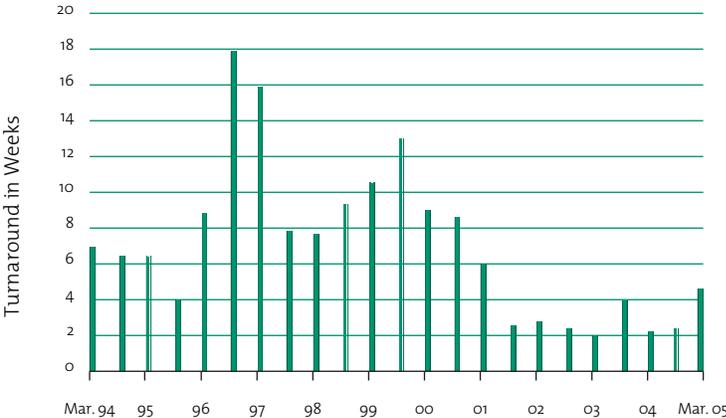
**Table 5:** Participation in the CAEAL Proficiency Testing program, effective April 2004.

Group No.	Group	Sample sets	Group No.	Group	Sample sets
C-01A	Major Ions	271	C-14	CN (SAD)	50
C-01B	NH <sub>3</sub> , o-PO <sub>4</sub> , DOC	149	C-15	pH	223
C-01C	Bromide/Nitrite	91	C-16	BTEX/THM	103
C-02A	Metals Full	175	C-17	Metals in Soil	98
C-02B	Metals High	52	C-18	PAH in Soil	52
C-03	TKN & TP	140	C-19	Mercury	88
C-04A	TSS	205	C-20	Asbestos	52
C-04B	BOD	156	C-21	Metals in Air	25
C-04C	Turbidity	93	C-22	OP Pesticides	60
C-04D	COD	85	C-23	OCI Pesticides	36
C-05	Coliforms	197	C-24	Aryloxy Acids	37
C-06	OCP/PCB	66	C-25	Phenolics	45
C-07	PAH	66	C-27	Glyphosate	15
C-08	PCB in Oil	55	C-28	Aromatic Organics in Air	17
C-09	Metals on Filters	31	C-29	Aldicarb	22
C-10	Major Ions on Filters	21	C-31A	BTEX soil	74
C-11	Trout LC50	23	C-31B	PHC soil	52
C-12	Daphnia LC50	21	C-32	Chlorine	46
C-13	Microtox IC50	31	<b>Total</b>		<b>3023</b>

**Figure 6:** Turnaround time for January and June proficiency testing shipments.



**Figure 7:** Turnaround time for March and October proficiency testing shipments.



**Table 6:** Success rates for all labs participating in the June 2004 round.

<b>Total Program</b>		<b>% Successful</b>
<b>Water (Organics)</b>		
Co6	OCP/PCB	92.1
Co7	PAH	94.9
C16	BTEX/THM/VOC	91.3
C22	OP Pesticides	90.4
C23	OCI Pesticides	89.1
C24	Aryloxy acid pesticides	89.4
C25	Phenolics	94.6
C27	Glyphosate	93.3
C29	Aldicarb	100.0
<b>Oil</b>		
Co8	Total PCB	94.2
<b>Air Filter</b>		
Co9	Metals on filters	93.6
C10	Major ions on filters	92.3
<b>Soil/Sediment</b>		
C17	metals in soil	91.0
C18	PAH in soil	89.5
<b>OH</b>		
C20	Asbestos	91.2
C21	Metals in air	88.9
C28	Aromatic organics in air	84.4

**Table 7:** Success rates for all labs participation in the March 2004 and October 2004 rounds.

Total Program	% Successful	
	March 2004	October 2004
<b>Water (Inorganics)</b>		
Co1A Major ions	89.0	88.5
Co1B NH <sub>3</sub> /PO <sub>4</sub> /DOC	87.6	87.6
Co1C Br/NO <sub>2</sub>	86.2	86.8
Co2A Metals	89.4	86.7
Co3 TKN/TP	88.8	88.2
Co4A TSS	90.9	89.4
Co4B BOD	94.6	95.3
Co4C Turbidity	92.1	88.9
Co4D COD	92.6	92.9
C14 CN	90.4	91.8
C15 pH	92.2	93.5
C19 Hg	87.5	90.4
<b>Water (Microbiology)</b>		
Co5 Microbiology	91.6	92.2
<b>Water (Toxicology)</b>		
C11 Trout	95.7	94.7
C12 Daphnia	100.0	89.5
C13 Microtox	94.0	94.1
<b>OH</b>		
C20 Asbestos	100.0	96.2
C21 Metals in air	94.7	95.6

**Table 8:** Success rates for OSDWA labs participating in the June 2004 round.

		No. of Tests	% Successful
<b>Water (Organic)</b>			
Co6	OCP/PCB	174	95.4
Co7	PAH	128	98.4
C16	BTEX/THM/VOC	330	97.9
C22	OP Pesticides	204	94.6
C23	OCI Pesticides	59	89.8
C24	Aryloxy acid Pesticides	81	95.1
C25	Phenolic Compounds	56	100
C27	Glyphosate	7	100
C29	Aldicarb	10	100

**Table 9:** Success rates for OSDWA labs participating in the March 2004 and October 2004 rounds.

		No. of Tests	% Successful	No. of Tests	% Successful
		March 2004		October 2004	
<b>Water (Inorganics)</b>					
Co1A	Major Ions	308	87.3	336	93.2
Co1B	NH <sub>3</sub> /PO <sub>4</sub> /DOC	47	87.2	56	91.1
Co1C	Br/NO <sub>2</sub>	38	84.2	44	86.4
Co2A	Metals	536	90.7	611	91.8
Co3	TKN/TP	33	81.8	39	87.2
Co4A	TSS	15	93.3	17	94.1
Co4B	BOD	8	100	10	90.0
Co4C	Turbidity	16	100	18	100
Co4D	COD	8	100	10	100
C14	Cyanide	12	100	15	93.3
C15	pH	27	96.3	28	92.9
C19	Mercury	16	93.7	19	100
<b>Water (Microbiology)</b>					
Co5	Microbiology	118	91.5	176	96.6
<b>Water (Toxicology)</b>					
	Microtox	1	0	1	100

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## 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 international recognition requirements under ISO/IEC 17011 and accreditation as a PT provider under ILAC Guide 13; and
- Managing the marketing efforts associated with the CAEAL Training Service to recover all costs associated with training.

The Mission of the Training Service is: CAEAL will first identify, then develop or acquire, and then deliver facilitated training to CAEAL members and other organizations, in accordance with the stated needs of these organizations, and in a manner that supports the integrity, credibility, and viability of the Association.

The CAEAL Corporate Strategic Plan sets the goal of ensuring the sustainable growth of the CAEAL Training group and the maintenance of our membership's leading edge focus by:

- making the best use of information technologies in support of our training program;
- identifying member training needs beyond their current baseline;
- increasing the marketing of CAEAL training services;
- extending our training offerings beyond the CAEAL membership, nationally and internationally;
- turning training services into an autonomous operation;
- ensuring that the most appropriate expertise is available for our training program.

The Training Service's operations are bound by the following policies:

- delivering training primarily, but not exclusively, to current members and their staff;
- not seeking to enter into competition with other qualified training providers, beyond the delivery of

## TRAINING

training to CAEAL members that lies within the Training Service's own capability;

- providing members with the opportunity to participate in the design, development and delivery of training to other members through formal partnership arrangements. The overriding criteria in this regard is for our training to meet the needs of the membership, for those members' greater good, yet striving not to compete directly with those members who may also deliver training;

- endeavouring to obtain training expertise, towards the attainment of our training goals, from within the CAEAL membership, and
- delivering training at a site provided by a CAEAL member organization only as long as participation is not restricted to individuals from that organization. This is to avoid any perception of conflict of interest between the training delivered and other programs delivered to the member.

The priorities of the CAEAL Training Service remain as follows:

- 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;

**Table 10:** Participant ratings for training facilitators

Facilitator	Sessions	Average	Rating
Facilitator 1	4	89%	Excellent
Facilitator 2	1	80%	Above Average
Facilitator 3	2	79%	Above Average
Facilitator 4	2	85%	Excellent
Facilitator 5	1	80%	Above Average
Facilitator 6	1	83%	Excellent
Facilitator 7	1	80%	Above Average
Facilitator 8	1	76%	Above Average
Facilitator 9	1	90%	Excellent
Facilitator 10	1	90%	Excellent
<b>Overall CAEAL Rating</b>		<b>83%</b>	<b>Excellent</b>

- developing a consensus on CAEAL membership training requirements; and
- marketing CAEAL's Training Service capabilities to the membership.

#### Accomplishments in 2004

The CAEAL Training Service planned and delivered 20 courses to 210 members and non-members in FY 2004, a 9-month year, with a 62% reduction in participation, over last year. More local resources were used to deliver quality system training to members, at significant reductions in overall program cost (see Table 11 for a list of Targets and Achievements).

With the anticipated short-term reduction in assessor demand, only eight new CAEAL assessors underwent Lead Assessor training and completed the one-day new assessor course.

More options on the delivery of training became available:

- training delivered by a qualified facilitator;
- on-line self-paced training; and
- CD's developed by Training Service Partner organizations.

#### Membership Satisfaction in 2004

Overall, members felt well served by offerings from the CAEAL Training Service. The facilitator evaluations for training sessions indicate that participating members gave, at the very least, a passing grade to every facilitator. The goal of an overall 70% satisfaction rating was well exceeded (see Table 10).

Most facilitators have maintained this passing grade over multiple sessions and members rated six facilitators as "excellent" overall, the same as last year. When members indicated a desire for different approaches in the delivery of training, the facilitators were informed and delivery was modified.

**Table 11:** Achievement of 2004 Training Service Targets

Target	Achievement
Lead the transition of CAEAL to a fully independent accreditation body.	The transition led to the delivery of 114 accreditation decisions by the first week of January 2005.
Anticipate net loss (expenses including overhead allocations to exceed revenues) from training activities not to exceed \$30,000 caused by short year and planned involvement in transitioning CAEAL to an independent accreditation body.	Net loss exceeded projections by \$32,000 for the nine months of FY 2004 as one month more of transition work than anticipated cut into Training Service delivery.
Develop and deliver training for lab users and regulators on the topic of measurement uncertainty.	The course was developed and delivered twice in FY 2004. It is now part of the standard set of offerings.
Obtain 60% attendance overall for all CAEAL sponsored training.	50% attendance was achieved as more focus was placed on online training.
Develop alternative delivery capability for training, such as online training.	Online training was developed and implemented by October 2004. Access to CD self-study courses was completed by November 2004.

**International**

On behalf of CAEAL and Canadian environmental laboratories, the CAEAL Training Service continues to participate in international activities regarding the acceptance of Canadian laboratory results nationally and around the world. Many provincial regulatory agencies, such as Ontario and Nova Scotia now require this participation. The SCC is signatory to several mutual recognition agreements and CAEAL has continued to fulfill its responsibilities to operate in conformance with the appropriate international standards. Reports from international evaluations, including one conducted by the Asia Pacific Laboratory Accreditation Cooperation in 2004, invariably highlight the excellence of the CAEAL Quality System.

In addition, CAEAL members and staff have continued to represent Canadian laboratory sector interests in international fora such as the International Laboratory Accreditation Cooperation (ILAC) and the U.S. National Laboratory Accreditation Cooperation (NACLA).

In the international community, CAEAL represents:

- the CAEAL membership to the ILAC committee responsible for laboratories,
- the CAEAL membership to NACLA in order to increase U.S. recognition of CAEAL laboratories,
- the SCC and Canada on the ISO committee responsible for the laboratory standard – ISO/IEC 17025,

- the ILAC Laboratory Committee on the ILAC Accreditation Policy Committee, and
- ILAC on the ISO committee responsible for ISO 9000.

CAEAL played a significant role in the international effort to prevent the laboratory standard from becoming a sector-specific application of ISO 9000 – something that would have resulted in significant additional costs for every accredited laboratory.





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