



# CANADIAN ASSOCIATION FOR LABORATORY ACCREDITATION INC.

2017 Annual Report



CALA



102-2934 Baseline Road  
Ottawa, Ontario  
K2H 1B2

## Table of Contents

|                                                               |    |
|---------------------------------------------------------------|----|
| Chair's Report                                                | 3  |
| President & CEO's Message                                     | 5  |
| Board of Directors                                            | 8  |
| Corporate Profile                                             | 8  |
| Financial Report                                              | 11 |
| Accreditation Program                                         | 15 |
| Proficiency Testing Program                                   | 19 |
| Training                                                      | 22 |
| International Activity                                        | 24 |
| Appendix A –<br>Summary of Proficiency<br>Testing Performance | 26 |



## Chair's Report



The famous poet Ralph Waldo Emerson has been quoted as saying, "It's not the destination that's important, it's the journey." I think we can all identify with

the deeper meaning behind those words but today I would respectfully disagree with Mr. Emerson.

Sometimes, reaching your goal or destination is the important thing, even though you gain insight and wisdom along the way. Without the destination there would be no journey to begin with!

Imagine, if we never met the objective of completing the Association Management System (AMS) upgrade project, achieving training self-sufficiency, or the implementation of the new ISO 17025 standard but we said we sure learned a lot along the way. How much benefit would there be in that for CALA and the members it serves?

To be sure, CALA is facing a number of important issues as mentioned above; and the journey in advancing these objectives has not always been marked by a short, straight line. Many portions of the above

journeys, to date, have had to deal with a number of obstacles and detours along the way. Thankfully, I am able to report that CALA has made, and continues to take, measureable strides in advancing these objectives and it is my hope that next year's Chair's Report will be able to highlight some of these as completed accomplishments.

This past year has also been one of transition for CALA as we brought in our new President & CEO. If there's one thing I can be proud of in my time on the Board and as Chair, it's the very good decision the CEO Selection Committee made in hiring Andrew Adams. I have genuinely enjoyed working with Andrew and getting to know him better this year. He has come up to speed quickly and is demonstrating on an ongoing basis how well suited he is to being CALA's President & CEO.

Andrew is the right person to lead our organization into the future; and he has excellent people around him to help assist him. I think the future for CALA is very optimistic. There are new sectors emerging for PT and accreditation, as well as potential opportunities to work with other organizations/agencies to leverage new markets and opportunities.

I would like to conclude by saying that it is both a pleasure and a privilege for me to serve as a CALA volunteer. From my assessor days on throughout my involvement with the Advisory Panel, Accreditation Council and now the Board of Directors, I value being associated with an organization that is fundamentally about quality and excellence and more importantly, I appreciate all the great people I have met; especially the dedicated staff in Ottawa.

Thank you to all the CALA volunteers across the country. You are fundamental to the success of this organization. Keep improving yourselves, keep excelling in your field(s) of expertise, and keep sharing what you have learned and experienced with your colleagues and with those that will follow you. If you strive for this, I can guarantee that every part of your journey will become a destination in itself.

Thank you!

Dave Schellenberg  
Chair

## President & CEO's Message



As I write my first message for a CALA annual report I can't help but reflect on the changes at CALA in 2017. The most obvious change is the one that brought me to CALA, the

change in President & CEO. In June of 2017 CALA bid farewell to C. Charles (Charlie) Brimley as he retired after serving CALA as CEO for the last eight years. Charlie was at the helm of the organization when current initiatives like the new Association Management System (AMS) and an increased emphasis on Marketing and Communications got off the ground. These will serve CALA well for years to come. When someone has led an organization for as long as Charlie did, the organization and the leader can get comfortable with one another. A change in leadership can be disruptive for an organization but I hope everyone agrees that the transition at CALA has been smooth.

When I joined CALA in June of 2017, I was fortunate that Charlie had worked with the CALA managers to put together a well thought out on-boarding program. This helped familiarize me with the organization and get me up to speed on essentials quickly. I appreciate the work of Charlie and CALA's Managers in putting together a thorough orientation program.

Another change at CALA in 2017 was the hiring of a part time Marketing & Communications Officer. Karen Tremblay, who is also an instructor at Algonquin College, joined CALA in May 2017. Karen's arrival is timely and she is sure to help CALA achieve growth in all program areas. Karen has initiated projects that should yield results in 2018. These include: Market research and analysis, to identify markets that offer CALA opportunities for growth; a website refresh; and a Branding exercise, to look at how CALA positions itself. She has also worked closely with CALA managers to identify opportunities for CALA to increase its visibility. People have to know about us to do business with us.

CALA's Training Program also underwent significant change in 2017. In March, CALA Training moved to Shopify as its online store and to LearnUpon as its learning management system. Feedback has been very positive. As well as the changes in the software supporting training, CALA shifted delivery to the virtual delivery of training and away from the instructor in classroom model. While some clients were initially apprehensive about virtual training, those who took virtual courses found them to be effective. As well as improving invoicing and payment these changes have effectively expanded the reach of CALA training and we can now offer courses much farther from home. In fact, the analytics available from Shopify show interest in CALA training from many countries around the world. CALA will be

watching this over the next couple of years to see how this interest translates into sales.

In 2017 there was a change in the company that is working on CALA's Association Management System (AMS). Up until now CALA has been working with a US company, Cobalt (located in Virginia) for the development of the AMS. Cobalt has developed the Membership and Proficiency Testing modules of the system. CALA decided to consider alternate service providers for the development of the Accreditation module based on early estimates that were provided. After a rigorous Request for Proposals (RFP) process CALA selected the Corporate Renaissance Group (CRG), located in Ottawa, to develop the Accreditation module. This does not end CALA's business relationship with Cobalt. We expect to be working with Cobalt for many years to come as they handle upgrades, fix bugs, move the modules they have developed into a cloud environment, etc. The work with CRG is going well and we believe will provide good value for money for all CALA members.

When considering changes that occurred in 2017 I can't overlook changes that touch the very heart of what CALA is and does. November 2017 saw the introduction of two updated standards: ISO/IEC 17025:2017 – *General requirements for the competence of testing and calibration laboratories* and ISO/IEC 17011:2017 *Conformity assessment - Requirements for accreditation bodies accrediting conformity assessment bodies*.

Accredited laboratories have three years from the date of release (November 29th 2017) to comply with the requirements of 17025:2017 and be accredited to that standard. The new standard brings changes for CALA, as CALA's policy, guidance and working documents all need to be updated to reflect the requirements of the new standard. CALA assessors will be trained on the new standard at the Biennial training, scheduled for the week of April 23rd 2018. If you have questions about the new standard and what it means for your laboratory, please visit the CALA website. There you will find resources to support your transition to the new standard including a CALA Crosswalk Comparison



Chart that we are making available to everyone free of charge. CALA Training also has course offerings to help you prepare for transition to the new standard (<http://www.cala.ca/training>).

The last change I'll mention is the new version of ISO/IEC 17011, released along with ISO/IEC 17025 in November 2017. To comply with the requirements of the revised 17011:2017 standard, CALA needs to separate organizationally its Proficiency Testing (PT) from its Accreditation activities. During 2018 CALA will work on options to meet the requirements of the new standard and will present this to the Board at its November 2018 meeting. The plan will then go to the 2019 AGM so members can vote on the proposal.

While 2017 brought many changes to CALA it is clear we are not done with change. I think that at least for the next couple of years CALA will be focussed on implementation and getting comfortable with the recent changes, but we'll also be working towards the organizational changes we know are coming. I hope you all visit the CALA website ([www.cala.ca](http://www.cala.ca)) and read the newsletter to stay tuned-in to what's going on in your association.

Andrew M. Adams  
President & CEO

## Board of Directors

### Chair

Mr. Dave Schellenberg  
Appointed, Atlantic, Not-For-Profit  
Fredericton, NB

### Vice-Chair

Mr. Jeff Zimmer  
Prairies and Northern, Not-For-Profit  
Saskatoon, SK

### Treasurer

Mr. R. Shane Harnish  
At-Large, For-Profit  
Edmonton, AB

### Secretary

Ms. Jane Kaczmer  
At Large  
Cochrane, AB

---

### Mr. Dalibor Ambrus

At-Large, Not-For-Profit  
Calgary, AB

### Dr. Joyce Austin

Pacific & Yukon Region, Not-For-Profit  
Victoria, BC

### Mr. Boniface Koudjonou

Ontario/Quebec, Not-For-Profit  
Ottawa, ON

### Mr. Barry Loescher

At Large, For-Profit  
Gabriola Island, BC

### Ms. Glenna Pike

Ontario/Québec, For-Profit  
Waterloo, ON

### Ms. Pam Reyno

Appointed, For-Profit  
Dartmouth, NS

### Ms. Rhonda Schop

At-Large, Not-For-Profit  
Toronto, ON

## Corporate Profile

**Mission** *The Canadian Association for Laboratory Accreditation Inc. (CALA) is a not-for-profit member-based association that instills public confidence in laboratory test results by providing internationally recognized accreditation, proficiency testing and training services.*

### History

CALA was originally established as the Canadian Association for Environmental Analytical Laboratories (CAEAL) 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 the assessment of a laboratory's quality management system, supported by the evaluation of analytical capability determined through proficiency testing.

Between 1994 and 2004, CALA operated in partnership with the Standards Council of Canada (SCC), an arrangement in which CALA 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, CALA resumed granting accreditation independently from the SCC 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 of 2005, the CALA Accreditation Program was officially recognized by the Asia Pacific Laboratory Accreditation Cooperation (APLAC) and the International Laboratory Accreditation Cooperation (ILAC).

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

- ***CALA 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 ensures that Members' views are made known to regulatory and standards-related decision makers in Canada and internationally.

In 2007, CALA Members approved a broader scope of activities for CALA programs, expanding the organization's focus beyond simply environmental laboratories. The CALA corporate strategic plan included provisions for the expansion of accreditation activities. Currently, CALA-Accredited laboratories now include the following additional types of testing: cannabis, coal, food, mineral, natural health products and petroleum.

At the June 2008 AGM, Members selected the new association name the Canadian Association for Laboratory Accreditation or "CALA", which facilitated a broader scope of accreditations beyond simply the environmental field. In October 2008, CALA officially launched its new identity

and transitioned to a new "CALA" look. In the same year, CALA signed an Agreement directly with the Ontario Ministry of the Environment for the accreditation of water-testing laboratories conducting tests under the OSDWA.

In 2009, CALA's international recognition from APLAC and ILAC was renewed for another four-year period. Later that year, CALA successfully hosted the 2009 joint meetings of ILAC and the International Accreditation Forum (IAF) in Vancouver.

In 2010, CALA's Board of Directors approved a new, more sustainable business model that completely removed the PT Program's subsidization of the Accreditation Program. Under this business model, the goal is for each CALA program area to become financially self-sustaining.

At the end of 2011, CALA had progressed on its goal to expand its scope of services beyond only environmental testing by having drafted the basis for an agreement with the Canadian Food Inspection Agency (CFIA). The agreement was subsequently formalized on February 1st, 2012.

In 2012, CALA, in conjunction with CFIA, undertook the development and implementation of food accreditation assessment procedures, and piloted a food microbiology PT Program.

In 2013, CALA implemented a PT scheme for food microbiology to support Canadian laboratories seeking a Canadian source of PT, and CALA's international recognition from APLAC and ILAC was renewed for another four-year period.

In 2014, the PT Program switched to the robust statistical procedure recommended

in ISO 13528 – *Statistical methods for use in proficiency testing by inter-laboratory comparisons (Algorithm A)*. As well, the Standards Council of Canada selected a CALA staff member to participate on the ISO/CASCO working group tasked with reviewing and revising ISO/IEC 17025:2005 – *General requirements for the competency of testing and calibration laboratories*.

In 2015, the CALA Board of Directors approved two major long-term initiatives: the redevelopment of CALA's Association Management System and the CALA 2020 Strategic Plan, for the years 2016-2020. Due to insufficient participation, CALA discontinued the food microbiology PT scheme at the end of 2015.

In 2016, the CALA Accreditation Program underwent a scheduled re-evaluation by APLAC and met the requirements to maintain its signatory status with ILAC for another four (4) years. Also in 2016, incumbent CALA President & CEO Charlie Brimley informed the Board of his intent to retire at the 2017 AGM. A professional executive search firm was contracted to lead the search for CALA's next President & CEO.

In 2017, Andrew Adams was hired as President & CEO. In the second quarter of 2017, the Training Program introduced a new storefront and online learning management system.

## MEMBERSHIP AND CLIENTS

At the end of 2017, there were 643 clients of CALA (see Table 1), including 494 CALA Members (see Table 2). The number of clients increased 0.94% from 2016, primarily as a result of an increase in private sector, non-Member clients.

CALA offers programs and services in 3 major areas as follows:

- Accreditation (see page 15 for details)
- Proficiency Testing (see page 19 for details)
- Training (see page 22 for details)

CALA offers programs and services internationally, and participates in Mutual Recognition Arrangement activities (see page 24 for details).

**Table 1.** Components of CALA Clients

| Type          | Members    | Non-Member Clients | Totals     |
|---------------|------------|--------------------|------------|
| Private       | 260        | 105                | 365        |
| Public        | 198        | 44                 | 242        |
| Independent   | 36         | 0                  | 36         |
| <b>Totals</b> | <b>494</b> | <b>149</b>         | <b>643</b> |

**Table 2.** Components of the CALA Membership

| Type          | Institutional | Individual | Totals     |
|---------------|---------------|------------|------------|
| Private       | 207           | 53         | 260        |
| Public        | 111           | 87         | 198        |
| Independent   | 0             | 36         | 36         |
| <b>Totals</b> | <b>318</b>    | <b>176</b> | <b>494</b> |

## Financial Report

CALA's total revenue for 2017 was \$3.6 million, approximately 3.8% (\$143,369) lower than budget, but 3.9% higher than the previous year results.

Evaluations as an income category on the Financial Statement are comprised of Proficiency Testing (PT) and Accreditation services. Year-end results for the PT program were 2.9% (\$46,709) below budget. Accreditation income for 2017 was \$52,698 (3.7%) greater than 2016 results and ended the year behind budget by \$27,613 (1.9%).

The Training program did not achieve its growth targets in 2017. Much of the growth target set was predicated on the timing of the release of the new ISO/IEC 17025 standard and the need for training. With a late fall release of the updated standard, CALA was not able to hold as many courses as originally planned. The program ended the year under budget by 19.6% (\$80,266), but did improve performance over the prior year results by 23.9%.

Other income includes foreign currency gains and losses, interest income, gains (or losses) on disposal of sales of investments, and unrealized gains on investments. In 2017, continued investment in the Association Management System (AMS) has further reduced the investment portfolio. Gains on foreign currency have added to this income category as has increased market values on the investment portfolio at year-end.

Total expenses for the fiscal year were approximately \$3.3 million, down 0.8% from prior year and 12.5% lower than budgeted expenses of \$3.8 million. Program-related costs were under budget by 15.7% for a total of \$240,724. This is a combination of reduced sales requiring less product and finding efficiencies within existing work. Salaries, general overhead and administrative costs were also below budget by 3.7% and 24.4% respectively. Underspending in 2017 was driven mainly by delays in projects undertaken. The most significant being the continuation of development for the AMS moving the launch into 2018. This has resulted in the delay of expenses to launch, train staff, and amortize the investment. We continue to focus on controlling and reducing administrative expenses while maintaining service levels. This is an ongoing annual strategy to ensure that CALA administrative expenses are monitored and kept within reasonable levels, further reducing the pressure on program areas.

Employees and volunteers are an integral part of our association and we are fortunate to have a very skilled and dedicated team working at CALA. While the economic value of volunteer time has not been captured in our financial statements, please note that the association continues to benefit greatly from the generous contribution made by all of its volunteers, allowing us to operate such successful programs.

In summary, the Association maintained its strong financial position in 2017 through consistent, careful management of revenue, expenses and cash flow and, after factoring in amortization of capital assets, ended 2017 with an operating surplus of \$274,892.

This increase in net assets resulted in an ending accumulated surplus of \$2.5 million. CALA is an organization that will continue to be successful through the diversity and versatility of the programs it offers and the strong management systems in place.

## Report of the Independent Auditor on the Summarized Financial Statements

To the Members of the Canadian Association for Laboratory Accreditation Inc.

The accompanying summarized financial statements, which comprise the summarized statement of financial position as at December 31, 2017, the summarized statement of operations and changes in net assets and summarized statement of cash flows for the year then ended, and related note, are derived from the complete audited financial statements of the Canadian Association for Laboratory Accreditation Inc. (CALA) for the year ended December 31, 2017. We expressed an unmodified audit opinion on those financial statements in our report dated March 13, 2018.

These summarized financial statements do not contain all the disclosures required by Canadian accounting standards for not-for-profit organizations. Reading these summarized financial statements, therefore, is not a substitute for reading the audited financial statements of CALA.

### **Management's Responsibility for the Summarized Financial Statements**

Management is responsible for the preparation of the audited financial statements on the basis described in Note 1.

### **Auditor's Responsibility**

Our responsibility is to express an opinion on the summarized financial statements based on our procedures, which were conducted in accordance with Canadian Auditing Standard (CAS) 810, "Engagements to Report on Summary Financial Statements".

### **Opinion**

In our opinion, the summarized financial statements derived from the audited financial statements of the Canadian Association for Laboratory Accreditation for the year ended December 31, 2017 are a fair summary of those financial statements, in accordance with the basis described in Note 1.

Welch LLP  
Chartered Accountants  
Licensed Public Accountants

Ottawa, Ontario  
March 13, 2018

## Summarized Statement of Financial Position

December 31, 2017

| <b>Assets</b>                          | <b>2017</b>         | <b>2016</b>         |
|----------------------------------------|---------------------|---------------------|
| Current assets                         | \$ 1,478,178        | \$ 1,327,989        |
| Long-term investments                  | 880,928             | 1,028,971           |
| Tangible capital and intangible assets | 1,068,885           | 919,406             |
|                                        | <b>\$ 3,427,991</b> | <b>\$ 3,276,366</b> |
| <b>Liabilities and Net Assets</b>      |                     |                     |
| Current liabilities                    | \$ 874,013          | \$ 997,280          |
| Unrestricted Net Assets                | 2,553,978           | 2,279,086           |
|                                        | <b>\$ 3,427,991</b> | <b>\$ 3,276,366</b> |

## Summarized Statement of Operations and Change in Net Assets

Year ended December 31, 2017

| <b>Revenues</b>                        | <b>2017</b>         | <b>2016</b>         |
|----------------------------------------|---------------------|---------------------|
| Evaluations                            | \$ 3,119,262        | \$ 3,066,113        |
| Memberships                            | 146,250             | 147,200             |
| Miscellaneous                          | 622                 | (3,903)             |
| Training                               | 328,319             | 264,873             |
| Other revenue                          | 44,862              | 30,084              |
|                                        | <b>3,639,315</b>    | <b>3,504,367</b>    |
| <b>Expenditures</b>                    |                     |                     |
| Evaluations                            | 1,129,699           | 1,197,081           |
| Operational                            | 2,134,304           | 2,117,428           |
| Training                               | 100,420             | 78,792              |
|                                        | <b>3,364,423</b>    | <b>3,393,301</b>    |
| <b>Excess of revenue over expenses</b> | <b>274,892</b>      | <b>111,006</b>      |
| <b>Net assets, beginning of year</b>   | <b>2,279,086</b>    | <b>2,168,020</b>    |
| <b>Net assets, end of year</b>         | <b>\$ 2,553,978</b> | <b>\$ 2,279,086</b> |

## Summarized Statement of Cash Flows

Year ended December 31, 2017

|                                  | <b>2017</b>       | <b>2016</b>       |
|----------------------------------|-------------------|-------------------|
| Cash flows provided by (used in) |                   |                   |
| Operating activities             | \$ 193,286        | \$ 177,239        |
| Investing activities             | (9,996)           | (180,901)         |
| Net increase (decrease) in cash  | 183,290           | (3,662)           |
| Cash, beginning of year          | 556,238           | 559,900           |
| Cash, end of year                | <b>\$ 739,528</b> | <b>\$ 556,238</b> |

### Note 1

The information selected by management for presentation in the Summarized Annual Financial Statements has been identified as being the most pertinent and useful financial data for inclusion in the CALA annual report. The summarized financial statements do not reflect the substantial value of services contributed by volunteers.



# Accreditation Program

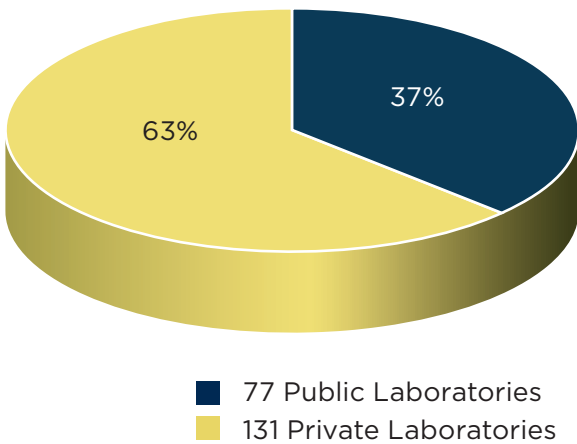
CALA is one of 98 worldwide accreditation bodies that is signatory to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (as of March 2, 2018). This arrangement provides stakeholders with assurance that the CALA Accreditation Program meets requirements of the international standard ISO/IEC 17011 – *Conformity Assessment – General Requirements for Accreditation Bodies Accrediting Conformity Assessment Bodies*.

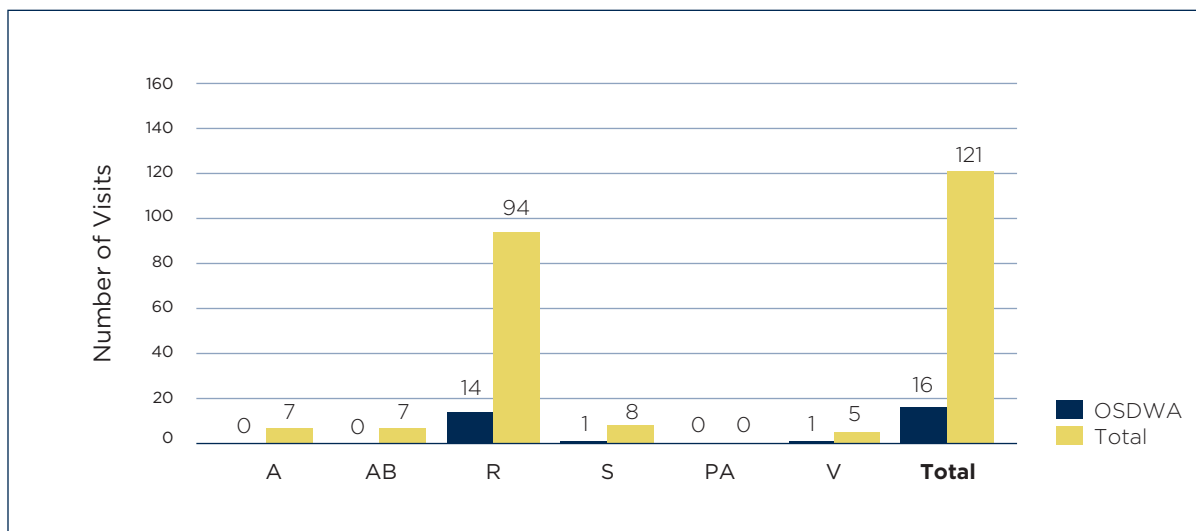
CALA laboratory accreditation is based on ISO/IEC 17025 – *General Requirements for the Competence of Testing and Calibration Laboratories*. Trained assessors with the appropriate expertise assess laboratories against the requirements of ISO/IEC 17025. If any non-conformances are identified, the laboratory has the opportunity to respond to these findings within a specified timeframe. CALA staff, the Lead Assessor and

Advisory Panel members perform the subsequent review of these corrective actions and a recommendation is forwarded to the CALA Accreditation Council, which has the final approval on whether to grant or maintain accreditation. Over and above the assessment, an important component of the accreditation process is demonstration of successful participation in Proficiency Testing (PT) as per P02-03 *Proficiency Testing Policy for Accreditation*.

CALA has granted accreditation to 208 government and private sector laboratories (see Figure 1). Forty-seven (47) of these accredited laboratories are licensed under the Ontario *Safe Drinking Water Act* (OSDWA). In 2017, seven (7) new laboratories underwent an initial assessment, and eight (8) laboratories voluntarily terminated their accreditation.

**Figure 1** Sources of CALA-Accredited Laboratories



**Figure 2** Categories of Site Visits Conducted in 2017

### Site Visits

In 2017, CALA conducted a total of 121 site visits, of which 16 (13.2%) were conducted at laboratories licensed under the OSDWA (see Figure 2).

CALA 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.
- Surveillance (S): A site visit conducted one (1) year after an initial assessment.
- Reassessment (R): A site visit conducted once every two (2) years after an initial assessment.
- Pre-Assessment (PA): A document review and a site visit, and is an

opportunity for the laboratory to gain an understanding of their state of readiness for accreditation. It is not a substitute for an initial assessment.

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

### Assessors

CALA assessors are predominantly volunteers from Member laboratories, although some do come from other types of laboratories or related organizations. They are a highly-skilled, highly-committed group of volunteers that represent a valuable resource for CALA. As well as having at least five years experience in a laboratory or laboratory-related environment, these volunteers attend a rigorous CALA Lead Assessor/Assessor course and participate in CALA-specific refresher training once every two years.

There are currently 134 active volunteer assessors, primarily from public sector laboratories (see Figure 3). Sixty-seven (67) of these are from 38 laboratories in the Accreditation Program, and 32 come from the 47 laboratories accredited and licensed under the OSDWA.

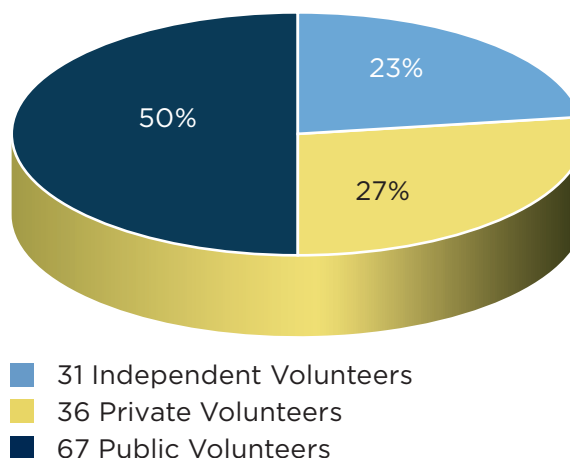
In 2017, 121 site visits were conducted, requiring 203 assessor trips. Assessor assignments ranged from a single experienced assessor at a small laboratory, to several assessors required to conduct the reassessment of a large laboratory with a complex scope of testing.

### Turn-Around Time

Table 3 shows a breakdown of the major steps in the accreditation process, and the average time taken to complete each step in 2017. This data is based on site assessments performed in 2017, and is current as of March 02, 2018.

New (or applicant) laboratories have up to 90 days to respond to any non-conformances identified during an assessment: the seven (7) applicants submitted responses to CALA within 52.7 days on average; the shortest time

**Figure 3** Sources of CALA Volunteer Assessors



was 36 days after the assessment and the longest was 92 days after the assessment. Accredited laboratories have up to 45 days to respond to any non-conformances identified during a reassessment or an abbreviated assessment and the average amount of time for accredited laboratories to submit responses after a reassessment was 42.4 days. Laboratories that applied for an abbreviated assessment or accelerated abbreviated assessment had an average submission time of 36 days.

**Table 3** Major Steps in the Accreditation Process

| Step in the Accreditation Process | Average Time (days*) | 1-7 days (%) | 8-23 days (%) | 24-45 days (%) | >45 days (%)** |
|-----------------------------------|----------------------|--------------|---------------|----------------|----------------|
| Completion of Responses           | 29.3                 | 13.1         | 30.7          | 32.5           | 23.7           |
| Advisory Panel Review             | 2.68                 | 93.5         | 6.5           | -              | -              |
| Accreditation Council Approval    | 2.5                  | 94           | 6             | -              | -              |

\* subject to change, following completion and approval of visits carried out in 2017

\*\* 98% of responses were completed within 90 days.

CALA targets a maximum of 45 days for staff to perform an initial review of laboratory responses, at which time further information will be requested from the laboratory or the laboratory will be informed that the corrective actions address the non-conformances. At the time this Annual Report was prepared, 98.3% of the 2017 laboratory responses were initially reviewed within the 45-day target and the average time to do so was 20.6 days. On average, the amount of time from the date of the site visit to the date of final approval was 97.8 days.

### Suspensions and Withdrawals as a Result of Proficiency Testing (PT)

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

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

The summary of consecutive PT failures shown in Table 4 indicates that generally, the non-accredited laboratories experienced the highest overall rate of consecutive failures while the accredited OSDWA laboratories experienced the lowest rate overall.

A third consecutive PT failure may result in withdrawal of accreditation for the analyte. In 2017, a total of 21 withdrawals occurred at accredited laboratories, with one (1) occurring at an OSDWA laboratory.

**Table 4** Consecutive PT Failures at Non-Accredited, CALA Accredited and Accredited OSDWA Laboratories (values are shown as a percentage of total PT test samples)\*

| Study (2017)           | Non-CALA Accredited | CALA Accredited | Accredited OSDWA |
|------------------------|---------------------|-----------------|------------------|
| January                | 0.66%               | 0.18%           | 0.16%            |
| March                  | 0.88%               | 0.31%           | 0.13%            |
| June                   | 1.36%               | 0.13%           | 0.00%            |
| October                | 1.2%                | 0.39%           | 0.00%            |
| <b>Overall Average</b> | <b>1.03%</b>        | <b>0.24%</b>    | <b>0.07%</b>     |

#### Column Definitions:

##### Non-CALA Accredited:

a PT participant that may or may not be accredited with another accreditation body.

##### CALA Accredited:

a PT participant accredited under the CALA Accreditation Program.

##### Accredited OSDWA:

a PT participant accredited under the CALA Accreditation Program and Licenced under the Ontario Safe Drinking Water Act (OSDWA).

\* These values represent consecutive failures in the CALA PT Program only.

## Proficiency Testing Program

At the end of 2017 the CALA Proficiency Testing (PT) Program offered 49 test groups, comprising 348 analytes. Samples for each test group are generally provided to participant laboratories twice each year. The test groups are split between March/October rounds (inorganic and microbiology) and January/June rounds (organics, and soils).

The scoring system and other details are provided in the PT15-CALA PT Program series of documents, which is available at: [www.cala.ca](http://www.cala.ca).

### PT Evaluation Criteria

CALA continues to re-evaluate the use of fixed limits for the PT acceptance criteria, utilizing those produced by The NELAC Institute (TNI) when the data supports them. By the end of 2017, fixed limits have been implemented for metals in water, metals in soil, VOCs in water and VOCs in soil.

### PT Offerings

The following is a summary of changes to the analytes offered in the PT Program in 2017:

- The following were added in 2017.
  - Sulphide in water (C42)
  - Benzo(b+j)fluoranthene in water (C07)
  - Benzo(b+j)fluoranthene in Soil (C18)
- At the end of 2016, C21 metals on filters was discontinued due to an insufficient number of participants

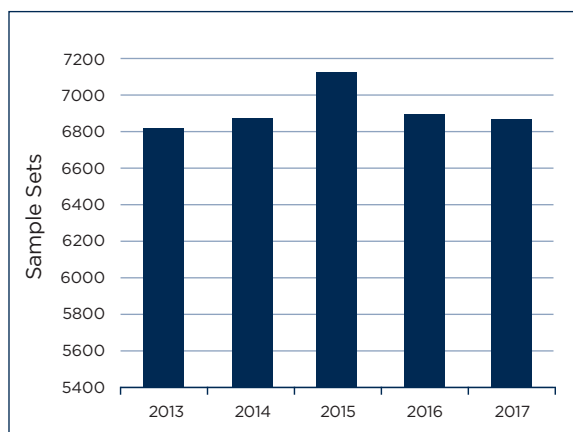
### PT Fees

PT fees remained unchanged in 2017.

### Participation

Participation showed a slight decrease in 2017 (see Figure 4). Participation levels for each test group are indicated below in Table 5.

**Figure 4** Registration Trend in the Proficiency Testing Program (sample sets = total number of registered test groups)



### Turn-Around Times

Turnaround time from reporting deadline to the issuing of the PT final report continues to be shorter than the goal of five weeks.

### 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 laboratories conducting tests under the Ontario *Safe Drinking Water Act* (OSDWA). In general, average success rates were over 90%, consistent with those observed in previous years.

**Table 5** Participation in Each Test Group of the CALA Proficiency Testing Program

| PT    | Group                                     | Samples<br>2013 | Samples<br>2014 | Samples<br>2015 | Samples<br>2016 | Samples<br>2017 |
|-------|-------------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| C-01A | Major Ions                                | 447             | 447             | 454             | 464             | 460             |
| C-01B | NH <sub>3</sub> , o-PO <sub>4</sub> , DOC | 381             | 382             | 377             | 387             | 381             |
| C-02A | Metals Full                               | 255             | 247             | 240             | 238             | 232             |
| C-02B | Metals High                               | 78              | 75              | 78              | 74              | 69              |
| C-02C | Total Metals                              | 161             | 153             | 151             | 152             | 157             |
| C-03  | TKN & TP                                  | 270             | 260             | 257             | 263             | 262             |
| C-04A | TSS                                       | 473             | 463             | 467             | 474             | 470             |
| C-04B | BOD                                       | 290             | 289             | 280             | 281             | 276             |
| C-04C | Turbidity                                 | 224             | 227             | 224             | 232             | 232             |
| C-04D | COD                                       | 212             | 212             | 205             | 210             | 208             |
| C-05A | Coliforms                                 | 333             | 334             | 331             | 339             | 326             |
| C-05B | Coliforms (P/A)                           | 83              | 81              | 81              | 80              | 78              |
| C06A  | OCP/PCBs                                  | 59              | 57              | 57              | 55              | 55              |
| C06B  | PCBs                                      | 73              | 73              | 76              | 74              | 77              |
| C-07  | PAH                                       | 138             | 136             | 136             | 129             | 131             |
| C-08  | PCB in Oil                                | 84              | 84              | 81              | 79              | 81              |
| C-09  | Metals on Filters                         | 29              | 30              | 30              | 30              | 31              |
| C-11  | Trout LC50                                | 52              | 52              | 53              | 51              | 49              |
| C-12  | Daphnia LC50                              | 47              | 47              | 49              | 47              | 45              |
| C-13  | Microtox IC50                             | 61              | 59              | 62              | 61              | 56              |
| C-14  | CN (SAD)                                  | 104             | 95              | 82              | 86              | 78              |
| C-15  | pH                                        | 487             | 487             | 484             | 492             | 487             |
| C-16  | BTEX/THM                                  | 228             | 240             | 220             | 212             | 202             |
| C-17  | Metals in Soil                            | 157             | 162             | 157             | 145             | 147             |
| C-18  | PAH in Soil                               | 114             | 109             | 107             | 96              | 98              |
| C-19  | Mercury                                   | 159             | 158             | 158             | 151             | 150             |
| C-20  | Asbestos                                  | 330             | 357             | 359             | 367             | 380             |
| C-21  | Metals in Air                             | 42              | 43              | 42              | 53              | -               |
| C-22  | OP Pesticides                             | 94              | 87              | 86              | 81              | 80              |
| C-24  | Aryloxy Acids                             | 50              | 46              | 44              | 42              | 46              |
| C-25  | Phenolics                                 | 65              | 59              | 58              | 59              | 58              |
| C-27  | Glyphosate                                | 33              | 32              | 31              | 26              | 29              |
| C-29  | Aldicarb                                  | 35              | 28              | 28              | 25              | 28              |

Table 5 – Continued from page 20

| PT    | Group                      | Samples<br>2012 | Samples<br>2013 | Samples<br>2014 | Samples<br>2015 | Samples<br>2016 |
|-------|----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| C-31A | BTEX soil                  | 128             | 132             | 131             | 127             | 122             |
| C-31B | PHC soil                   | 132             | 138             | 138             | 135             | 128             |
| C-32  | Chlorine                   | 143             | 151             | 155             | 169             | 181             |
| C-33  | Total Phenolics            | 96              | 90              | 86              | 85              | 83              |
| C-34  | Oil and Grease             | 142             | 136             | 130             | 137             | 138             |
| C35   | PCB in Soil                | 69              | 67              | 72              | 75              | 73              |
| C36   | VOCs in Soil               | 86              | 85              | 85              | 88              | 89              |
| C37   | Colour in Water            | 102             | 114             | 118             | 125             | 127             |
| C38   | TCLP-VOCs                  | Not offered     | 37              | 44              | 49              | 53              |
| C39   | TCLP-Inorganics            |                 | 54              | 62              | 68              | 72              |
| C40A  | PHCs in Water              |                 | 65              | 89              | 96              |                 |
| C40B  | PHCs in Water              |                 |                 | 87              | 92              |                 |
| C41   | Hexavalent Chromium        |                 | 51              | 58              |                 |                 |
| C42   | Sulphide                   |                 |                 | 48              |                 |                 |
| C60A  | Food-Meat (Qualitative)    | 29              | 27              | 65              | Not offered     |                 |
| C60B  | Food-Meat (Quantitative)   | 25              | 44              | 65              |                 |                 |
| C61A  | Food-Milk (Qualitative)    | 13              | 18              | 45              |                 |                 |
| C61B  | Food-Milk (Quantitative)   | 12              | 25              | 43              |                 |                 |
| C62A  | Food-Eggs (Qualitative)    | 9               | 8               | 28              |                 |                 |
| C62B  | Food-Eggs (Quantitative)   | 5               | 9               | 28              |                 |                 |
| C63A  | Food-Cheese (Qualitative)  | 19              | 21              | 13              |                 |                 |
| C63B  | Food Cheese (Quantitative) | 18              | 31              | 9               |                 |                 |
| C64A  | Food-Feed (Qualitative)    | 10              | 13              | 37              |                 |                 |
| P50   | Chlorine in Water          | 34              | 32              | 29              | 27              | 21              |
| P51   | Turbidity in Water         | 18              | 16              | 20              | 10              | 12              |
| P52   | pH in Water                | 16              | 15              | 26              | 12              | 12              |
| TOTAL |                            | 6754            | 6874            | 7104            | 6889            | 6864            |

## Training

The CALA Training Program delivers training on subjects related to laboratory accreditation. Training Program priorities remained unchanged for 2017:

- Training assessors to meet CALA Accreditation Program needs;
- Developing and delivering training within an approved training budget; and
- Assisting in the delivery of special services within the association.

In 2017, CALA introduced an online learning management system (LearnUpon) and a new storefront (Shopify). Laboratories are now able to register for training from the website and students can manage and view their training schedule, access training materials, and download their course certificate from the learning management system (LMS).

CALA moved the majority of public courses to the virtual platform, and this has proven to be a popular. A virtual option reduces the laboratory's costs since employees can attend training without travelling.

With the introduction of the revised ISO/IEC 17025 standard in November 2017, the Training Program has been busy updating content. A new course, *ISO/IEC 17025:2017 – What's New or Different* was introduced

in September. The Understanding ISO/IEC 17025 course was completely restructured and revised to cover the new requirements in the 2017 standard. Remaining training courses have been updated to cover the 2017 requirements.

The statistics for CALA Training in 2017 include the following:

- 51 training courses delivered to 387 participants
- 32 public courses delivered on the virtual platform
- 11 on-site, dedicated courses delivered
- 20 participants attended an on-line, self-paced course
- 39 laboratories purchased webinar subscriptions
- 70 laboratories purchased individual webinars
- 45 laboratories purchased a webinar recording

### Preparing for 2018

The Training Program will be busy in 2018 as laboratories transition to the revised ISO/IEC 17025:2017 standard. Additionally, CALA Assessors were trained on the requirements of the new standard ahead of the Biennial training session in April.



A new course intended for all laboratory staff, dealing with the new requirements of the standard (e.g. risk-based thinking, complaints, impartiality) will be added in the spring. New content on Risk-Based thinking will also be added to the curriculum.

The Laboratory webinar series will cover topics related to transitioning to the

new standard (e.g. gap analysis) and to understanding the new requirements (e.g. complaints, impartiality, auditing).

#### **Additional Information**

Course descriptions, registrations details, and the training schedule can be found at [www.cala.ca/training](http://www.cala.ca/training).

## International Activity

### Services Provided Internationally

In 2017, CALA delivered proficiency testing and/or accreditation services to 53 laboratories located outside Canada (an increase of 3 from 2016), mostly in the rest of the Americas as shown in Figure 7. Eight (8) of these laboratories are in the accreditation program and 43 are in the proficiency testing program only. The CALA Training Program also sold services to participants in India, Israel and the United States.

### Mutual Recognition Arrangements

CALA is signatory to two (2) international Mutual Recognition Arrangements or MRAs: the Asia Pacific Laboratory Accreditation Cooperation (APLAC) and the International Laboratory Accreditation Cooperation (ILAC). These Arrangements provide global recognition of CALA accreditation by 97 other accreditation bodies. Being signatory to these arrangements promotes the acceptance of Canadian laboratory test results nationally and around the world.

More and more regulations and customers require accreditation by an accreditation body that is signatory to ILAC. Therefore,

maintaining CALA's signatory status to ILAC is critical for CALA clients. However, there is a cost to maintaining this signatory status. As a signatory to both APLAC and ILAC MRAs, there are requirements and expectations that CALA will contribute to the operation of both APLAC and ILAC. This involves active involvement in international meetings, sitting on committees, reviewing documents, and voting on ballots. In 2017, CALA staff participated in the following meetings:

- APLAC General Assembly – Bangkok, Thailand
- Two (2) ILAC Accreditation Issues Committee Meetings/Laboratory Committee meetings/PT Consultative Group meeting – Frankfurt, Germany and Vancouver, Canada.
- ILAC General Assembly – Vancouver, Canada.

A key activity that is critical to the MRA process is the evaluation of accreditation bodies to ISO/IEC 17011 – Conformity Assessment – *General requirements for accreditation bodies accrediting conformity assessment bodies*; to this end, three (3) CALA staff volunteer as APLAC Evaluators; two (2) of them are designated as Lead

In 2017, the Standards Council of Canada (SCC) continued to support the CALA Accreditation Manager to represent Canada at ISO/CASCO Working Group

## 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

and Climate Change under the Ontario *Safe Drinking Water Act* (OSDWA). 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 2017 and June 2017 rounds.

| Total Program               | January 2017 |           | June 2017 |           |
|-----------------------------|--------------|-----------|-----------|-----------|
|                             | Tests        | Success % | Tests     | Success % |
| <b>Water</b>                |              |           |           |           |
| C06A-OCPs                   | 349          | 94.3      | 342       | 98.5      |
| C06B-PCBs                   | 134          | 95.5      | 134       | 98.5      |
| C07-PAHs                    | 886          | 97.7      | 905       | 98.5      |
| C16-BTEX/THMs/VOCs          | 2284         | 96.5      | 2320      | 95.3      |
| C22-OP Pesticides           | 338          | 98.5      | 338       | 99.4      |
| C24-Aryloxy acid pesticides | 134          | 99.3      | 134       | 100       |
| C25-Phenolics               | 106          | 96.2      | 106       | 95.3      |
| C27-Glyphosate              | 14           | 92.9      | 15        | 93.3      |
| C29-Aldicarb                | 12           | 100       | 12        | 100       |
| C34-Total Oil and Grease    | 90           | 97.8      | 94        | 95.7      |
| C40A-PHCs                   | 185          | 97.3      | 191       | 100       |
| C40B-PHCs                   | 130          | 95.4      | 124       | 95.2      |
| C41-Hexavalent Chromium     | 30           | 90        | 31        | 96.8      |
| <b>Oil</b>                  |              |           |           |           |
| C08-Total PCBs              | 137          | 94.9      | 130       | 93.8      |
| <b>Air Filter</b>           |              |           |           |           |
| C09-Metals                  | 57           | 91.2      | 66        | 92.4      |
| <b>Soil/Sediment</b>        |              |           |           |           |
| C17-Metals                  | 1417         | 97.7      | 1411      | 96.6      |
| C18-PAHs                    | 774          | 98.4      | 802       | 98.3      |
| C31A-PHCs/BTEX              | 376          | 98.9      | 366       | 98.1      |
| C31B-PHCs                   | 215          | 96.3      | 205       | 99.0      |
| C35-PCBs                    | 148          | 98.6      | 143       | 95.8      |
| C36-VOCs*                   | 1379         | 99.5      | 1363      | 99.5      |
| C38-TCLP VOCs               | 211          | 91.0      | 234       | 91.9      |
| C39-TCLP Inorganics         | 406          | 90.6      | 430       | 94.0      |
| <b>Occupational Health</b>  |              |           |           |           |
| C20-Asbestos                | 80           | 86.3      | 85        | 96.5      |

**Table A2.** Success rates for all laboratories participating in the March 2017 and October 2017 rounds.

| Total Program               | March 2017 |           | October 2017 |           |
|-----------------------------|------------|-----------|--------------|-----------|
|                             | Tests      | Success % | Tests        | Success % |
| <b>Water (Inorganic)</b>    |            |           |              |           |
| C01A-Major ions             | 1606       | 93.3      | 1562         | 94.6      |
| C01B-Simple Nutrients       | 489        | 94.1      | 484          | 93.6      |
| C02A-Metals                 | 2657       | 98.6      | 2591         | 97.5      |
| C02B-Metals (high range)    | 242        | 99.6      | 307          | 98.7      |
| C02C-Metals (Total)         | 1354       | 99.4      | 1283         | 98.4      |
| C03-Complex Nutrients       | 200        | 93.5      | 197          | 92.4      |
| C04A-Solids                 | 374        | 97.3      | 368          | 97.6      |
| C04B-BOD                    | 214        | 99.1      | 212          | 96.2      |
| C04C-Turbidity              | 115        | 95.7      | 111          | 92.8      |
| C04D-COD                    | 101        | 89.1      | 99           | 97.0      |
| C14-Cyanide                 | 38         | 97.4      | 37           | 100       |
| C15-pH                      | 258        | 100       | 253          | 99.6      |
| C19-Mercury                 | 82         | 98.8      | 84           | 97.6      |
| C32-Chlorine                | 121        | 96.7      | 121          | 97.5      |
| C33-Total Phenolics         | 36         | 94.4      | 36           | 91.7      |
| C37-True Colour             | 65         | 95.4      | 61           | 98.4      |
| C42-Sulphide                | 21         | 90.5      | 28           | 89.3      |
| <b>Water (Microbiology)</b> |            |           |              |           |
| C05A-Microbiology           | 520        | 95.8      | 517          | 97.3      |
| C05B-Microbiology P/A       | 83         | 100       | 87           | 100       |
| <b>Water (Toxicology)</b>   |            |           |              |           |
| C11-Trout                   | 22         | 90.9      | 21           | 95.2      |
| C12-Daphnia                 | 23         | 100       | 22           | 100       |
| C13-Microtox                | 28         | 96.4      | 26           | 84.6      |
| <b>Occupational Health</b>  |            |           |              |           |
| C20-Asbestos                | 85         | 83.5      | 91           | 94.5      |

**Table A3** Success rates for OSDWA laboratories participating in the January 2017 and June 2017 rounds.

| OSDWA Laboratories          | January 2017 |           | June 2017 |           |
|-----------------------------|--------------|-----------|-----------|-----------|
|                             | Tests        | Success % | Tests     | Success % |
| <b>Water (Organic)</b>      |              |           |           |           |
| C06A-OCPs                   | 137          | 98.5      | 137       | 97.8      |
| C06B-PCBs                   | 35           | 97.1      | 30        | 100       |
| C07-PAHs                    | 157          | 94.3      | 141       | 86.5      |
| C16-BTEX/THMs/VOCs          | 534          | 97.9      | 534       | 98.9      |
| C22-OP Pesticides           | 175          | 100       | 175       | 98.9      |
| C24-Aryloxy acid Pesticides | 64           | 100       | 64        | 100       |
| C25-Phenolics               | 44           | 100       | 44        | 100       |
| C27-Glyphosate              | 9            | 100       | 9         | 100       |
| C29-Aldicarb                | 9            | 100       | 9         | 100       |
| C34- Oil and Grease         | 17           | 100       | 17        | 100       |
| C40A-PHCs                   | 15           | 100       | 15        | 100       |
| C40B-PHCs                   | 18           | 94.4      | 18        | 100       |
| C41-Hexavalent Chromium     | 6            | 93.3      | 6         | 100       |

**Table A4** Success rates for OSDWA laboratories participating in the March 2017 and October 2017 rounds.

| OSDWA Laboratories                          | March 2017 |           | October 2017 |           |
|---------------------------------------------|------------|-----------|--------------|-----------|
|                                             | Tests      | Success % | Tests        | Success % |
| <b>Water (Inorganics)</b>                   |            |           |              |           |
| C01A- Major Ions                            | 256        | 95.3      | 251          | 96.8      |
| C01B- NH <sub>3</sub> /PO <sub>4</sub> /DOC | 96         | 94.8      | 94           | 94.7      |
| C02A- Metals                                | 509        | 99.8      | 509          | 99.2      |
| C02C- Total Metals                          | 253        | 100       | 253          | 100       |
| C03- TKN/TP                                 | 33         | 93.9      | 33           | 97.0      |
| C04A-Solids                                 | 42         | 100       | 41           | 100       |
| C04B-BOD                                    | 21         | 100       | 21           | 100       |
| C04C- Turbidity                             | 23         | 95.7      | 21           | 95.2      |
| C04D-COD                                    | 10         | 100       | 10           | 100       |
| C14-Cyanide                                 | 13         | 100       | 12           | 100       |
| C15-pH                                      | 37         | 100       | 37           | 100       |
| C19-Mercury                                 | 19         | 100       | 19           | 100       |
| C32-Chlorine                                | 20         | 90.0      | 14           | 100       |
| C33- Total Phenolics                        | 10         | 100       | 10           | 90.0      |
| C37-True Colour                             | 15         | 100       | 14           | 100       |
| <b>Water (Microbiology)</b>                 |            |           |              |           |
| C05A- Microbiology                          | 128        | 97.7      | 130          | 99.2      |
| C05B- Microbiology P/A                      | 16         | 100       | 18           | 100       |





## NOTES



