



# BRITISH COLUMBIA OPERATORS DIGEST

A NEWSLETTER FOR WATER  
AND WASTEWATER OPERATORS

MARCH 2003 • NUMBER 106

## OPERATOR RE-CERTIFICATION

**T**he Environmental Operators Certification Program (EOCP) Board of Directors is considering the implementation of a policy that will require continuing education units (CEU's) as a **condition for renewal of certified operator certificates.**

A review of certification programs throughout North America has shown that all states in the US require continuing education as a condition for operator certificate renewal. Some states require as little as 2 hours per year, while some require as much as 12 hours per year. ***This continuing education requirement can be met by attending courses, workshops, and conferences, or by correspondence courses related to the type of certificate held.*** Generally, this education requirement is based on a two-year period in order to permit operators to take the necessary education only once per two year period.



In Canada, several provinces are considering an education requirement for re-certification. For example, Alberta may require a total of 24 hours (2.4 CEU's) per two-year renewal period. In Ontario, operators must take 40 hours of training per year, however, this training is not linked to certification renewal.

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# Environmental Operators Certification Program

The BC Operators Digest is the official newsletter of the Program. Submissions for publication in the Digest are welcome and may be sent to the Editor:

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Changes of address, annual dues, exam applications, as well as general inquiries about the program should be addressed to:

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Ms. Barbara Striegler, Executive Assistant  
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The Environmental Operators Certification Program is a charter member of the Association of Boards of Certification, and is a Registered Society with over 2,200 active members.

# Elections

## 2003 CERTIFICATION BOARD ELECTIONS

This year's Nominating Committee members are Al Lane and Eric Jackson.

There are four positions on the Board to be filled by two operators, one government representative and one industry representative. The following candidates have been nominated:

**Operators:** Don Gare  
Kevin McLuskey

**Government Representative:** Joe McGowan

**Industry Representative:** Bill Hyslop

The Nominating Committee invites further nominations from the membership. Each nomination shall be supported by a minimum of three (3) certified operators and shall be submitted no later than March 31, 2003 by mail to:

Eocp Nominating Committee  
219 – 3823 Henning Drive  
Burnaby, B.C. V5C 6P3

Or by fax to (604) 874-4794

Ballots with instructions will be mailed to operators on April 11, 2003. Returned ballots must be mailed to:

**Eocp**  
**219 – 3823 Henning Drive**  
**Burnaby, B.C. V5C 6P3**

**The deadline for the receipt of ballots is May 8, 2003.**

## 2002/2003 BOARD OF DIRECTORS

- Joe McGowan** – Chairman
- Bernie Taekema** – Secretary
- Bill Hyslop** – Industrial Waste
- Kevin Ramsay** – BCWWA Liaison
- Leo Albrecht** – CEU Assessment
- Al Lane** – Facilities Classification
- Don Gare** – Newsletter
- Kevin McLuskey** – Newsletter
- Eric Jackson** – Treasurer



**Rear (left to right):** Kevin McLuskey, Al Lane, Barbara Striegler (Executive Assistant), Leo Albrecht, Kevin Ramsay, Eric Jackson.  
**Front (left to right):** Bill Hyslop, Joe McGowan, Bernie Taekema, Don Gare.

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## BOARD BUSINESS BRIEFS

### Strategic Planning Session – February 2

The EOCB Board of Directors and EOCB staff met in Parksville on February 2nd and 3rd with one day for a strategic planning session and one day for regular Board business. This was the second planning session for the Board, with the first one two years ago. Many issues raised two years ago remain high on the Board's 'to do' list.

#### The top five issues as put forward by the Board:

1. Establishing EOCB examinations
2. a) Mandatory On-going Education
  - b) More Service to Operators
3. a) Maintain Exam Eligibility Standards
  - b) Exam Scheduling
4. Certify Other Areas
5. a) Exam Invigilators
  - b) Close Contact with Major Players

The Board's most important issue concerns examinations – the need for new EOCB exams, the scheduling of exam sessions, who can invigilate or give the exams and maintaining the eligibility standards. The second important issue for the Board is requiring an operator to undertake continued education as a requisite for maintaining an operator certificate.

### Board Meeting - February 3

Eric Jackson, Treasurer, presented the financial report as of Jan. 24, 2003.

Cash and Bank Accounts	\$ 9,108.24
Canaccord Capital	\$ 10,086.79
Money Market Investment	\$ 107,848.00
<u>Total Investments</u>	<u>\$ 117,934.79</u>
<u>Total Assets</u>	<u>\$ 127,043.03</u>

Kevin Ramsay reported that the Operator Workshop will be held this year from May 12 – 16, at Simon Fraser University instead of UBC. The BCWWA Annual Conference will take place in Penticton, April 27 – 30, 2003. Next year's conference will be in Kelowna.

Suggested articles for the newsletter included: student operator profiles, study questions for exams, photo contest, a photo of Directors and staff and election information. The newsletter will be mailed to municipal and regional district administrators.

A new Office Assistant began work on February 18. Kim Eames, will be working four days a week, Tuesdays to Fridays. The EOCB will research leasing office and computer equipment in advance of our next computer/equipment upgrade.

The BCWWA will be offering refresher courses and new types of courses such as computer skills and basic and advanced math. Eric Jackson will be teaching Wastewater Treatment courses for BCWWA.

### CEU Requirement for Validity of Certificates (Recommended by Walkerton Report)

All the Directors agreed that an article regarding CEU requirement for validity of certificates be placed in the Digest and the BCWWA Watermark to give operators a chance to offer their views. This will be discussed further at the next meeting.

### Review of BCWWA/EOCB Meeting Regarding Exams

The BCWWA was very responsive to our request that course scheduling be shared with EOCB for invigilating exams. Both organizations will strive for better communication between the two organizations.

### Municipal Sewage Regulations Requirements of Operating Plans

The EOCB invited three representatives from the Ministry of Water, Land, and Air Protection to address the meeting. The MWLAP has asked the EOCB for assistance in finding Level III and Level IV certified operators who would be capable of submitting an operating plan for new wastewater treatment facilities. The operating plan would be required three months before the start of construction for design purposes.

Specific details need to be clarified and further discussion is required regarding professional engineers, technologists, etc. who may wish to make submissions. The number of operators required, amount of grant, etc. to be discussed at a meeting early next week.

### Certification of Compost Operators

There was also discussion with the MWLAP representatives on options to explore training and certifying compost operators, as composting is linked to the sewage regulations. The MWLAP will do preliminary research into other programs that certify hundreds of sites. The government wishes to address odour and leachate management. They would like the EOCB to evaluate training from other provinces and organizations. The MWLAP needs to gather more information as to how many sites and what kind of sites. The EOCB needs more information before making a decision.

The EOCB will publish a 2003 Directory of Operators and Facilities in the fall and every two years thereafter.

The EOCB recommended their candidate for the Vic Terry Award (Operator of the Year) and will forward the name to the BCWWA, who will choose the candidate for the award to be presented at the BCWWA conference in Penticton. The EOCB will not award a Corporate Recognition Award for 2003.

The next scheduled Board Meeting is May 12, at Simon Fraser University.



# PLANT PROFILE: Summerland Wastewater Treatment Facility



**S**ummerland is located in the beautiful Okanagan Valley centrally located to Kelowna and Penticton. It is home to the Kettle valley steam train, Ornamental Garden, Pacific Agri-Food Research Center, spectacular beaches, estate/cottage wineries and old English theme shops. The growing community is currently home to 12,000 people that enjoy all the amenities of a progressive community.

The Summerland WWTP was commissioned in 1998 by Reid and Crowther. The plant is based on a 5-stage bardenpho facility (*Enhanced Biological Nutrient Control*); it is used to remove both nitrogen and phosphorus as its primary objective. Biochemical Oxygen Demand (*BOD*) and Total Suspended Solids (*TSS*) are removed by the longer retention times of an EBNR facility. The collection system currently has 2011 connections and is fed primarily by 5 lift stations located throughout the municipality. Summerland has approximately 55 kilometers of sewer lines and over 700 manhole covers.

## PROCESS

### I. Headworks

- Removal of influent material by a mechanical screen (6mm), with a parallel manual screen. This material is forwarded to the compactor then removed offsite.
- Both screens are sized for a peak capacity of 18 ML/day

### II. Primary Clarifier/Fermenter

- Separation of settable solids and floating material, the sludge/scum is directed to the sludge vault.
- Sludge thickening/fermentation takes place; the volatile fatty acids, (VFA's), from the supernatant are added downstream.
- The design peak hourly is 10 ML/day.

### III. Bioreactor

- Nitrogenous compounds such as ammonia must be removed to protect the receiving waters, these compounds provide a nutrient source for plants, algae and can be toxic to fish. This is done by a 2-step process nitrification/denitrification.
- Nitrification is the conversion of ammonia to nitrate; this is elicited by microorganisms (*Nitrosomas and Nitrobactor*) called autotrophs. The reaction occurs with the presence of free oxygen (*Aerobic Cells*)

- Reaction:  $\text{NH}_3$  (Ammonia)  $\rightarrow$   $\text{NO}_2^-$  (Nitrite)  $\rightarrow$   $\text{NO}_3^-$  (Nitrate)
- Denitrification is the process in which microorganisms reduce nitrate ( $\text{NO}_3^-$ ) to nitrogen gas ( $\text{N}_2$ ). This is done by heterotrophic organisms that metabolize complex organic compounds. This reaction is done primarily in the absence of oxygen (*Pre-Denite/Anoxic Zones*).
- Reaction:  $\text{NO}_3^-$  (*Nitrate*)  $\rightarrow$   $\text{N}_2$  (*Nitrogen gas*)
- Phosphorus such as Ortho P also provides a food source for algae that can cause taste and odors in drinking waters.
- Phosphorus removal in the SWWTP is done by a modified process of biological phosphorus removal and chemical addition. Biological P removal is done first in

the anaerobic cell (*VFA addition*) where in the absence of dissolved oxygen and nitrite, microorganisms release the phosphorus from their cell membrane. This release can now be captured and wasted. They are then introduced to the aerobic zone and placed with oxygen and food, since they are now lacking phosphorus. The first thing the organisms need is to obtain phosphorus. Chemical addition is done by the use of Aluminum Sulfate which flocculates/coagulates the phosphorus and creates larger particles that settle in the waste sludge (*Secondary clarifiers*) or is captured in the filter.

- Carbonaceous biological oxygen demand and total suspended solids

## PLANT PERMIT

The plant's permit are as follows:

Biochemical Oxygen Demand ( $\text{BOD}_5$ )	Less than <10 mg/l
Total Suspended Solids (TSS)	Less than <10 mg/l
Total Phosphorus	Annual Average <0.25 mg/l
Total Nitrogen	Less than < 6.0 mg/l
Feacal Coliforms	Annual Average 50 CFU/100 ml
Flow	For 2003 flow not to exceed 3300 m <sup>3</sup> /day

removal is not specifically targeted due to the longer retention times required in the *EBNR* process.

Bioreactor



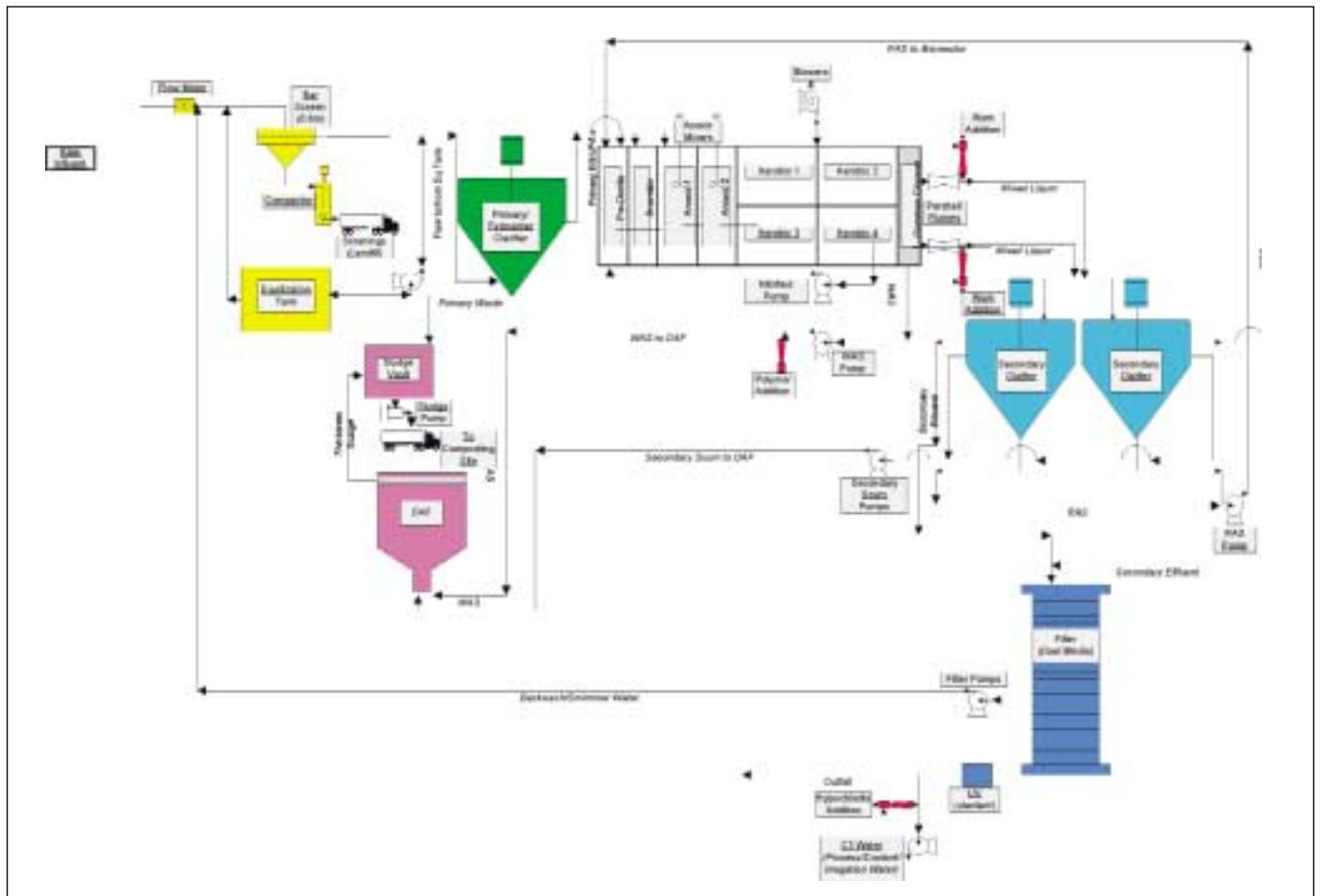
**1.Pre- Denite cell**

- Removal of nitrate and oxygen from the primary effluent and return activated sludge, (RAS). The combination of activated sludge and biodegradable carbon in the primary effluent depletes the free and nitrate bound oxygen.

**2.Anaerobic cell**

- VFA rich supernatant from the primary is added here to provide a soluble carbon source. The VFA addition triggers the release of phosphorus and this allows for removal beyond normal biological requirements.
- Cell Volume 173m<sup>3</sup>, Retention Time 0.9 hr.

**PROCESS FLOW SCHEMATIC**



**3. Anoxic cell 1 & 2**

- Cell 1 receives a convergent flow, (return), from the following three locations: the anaerobic cell, recycled aerobic mixed liquor, and primary effluent. The mixed liquor is pumped at a constant rate, (8 times the influent flow), so as to allow for the completion of the denitrification stage in the two stage nitrogen removal process.
- Cell Volume 185m<sup>3</sup> each, Retention time 4.0 hr

**4. Aerobic cell 1 & 2, (two trains)**

- Continuous aeration provides the free residual dissolved oxygen required to complete the nitrification stage in the nitrogen removal process. In addition, the complete oxidation of the remaining soluble and colloidal carbon occurs.
- Sludge is wasted from a common channel, (located downstream from the aerobic cells), at the end of the bioreactor in order to maintain an accurate sludge age, adequate mixed liquor suspended solids, (MLSS), and to remove the phosphorus rich microorganisms.
- Supplementary alum is added to the bioreactor effluent to assist in flocculation and phosphorus removal.
- Cell Volume 322m<sup>3</sup>, Retention Time 7 hr.

**IV. Secondary Clarifier**

- Separation of mixed liquor from the bioreactor into treated wastewater and flocculated/settled biological solids occurs in the secondary clarifier. The settled sludge is returned to the anaerobic zone and the clarified effluent overflows to the filter system.
- Peak flow 10 ML/day



**V. Dual Media Filter**

- Secondary clarified effluent flows to the dual media filter, (anthracite and sand); where additional suspended solids are removed. This subsequent removal of solids accounts for an additional removal of particulate phosphorus that typically ranges from 5 to 10 mg/l or another 5% that is not discharged. The backwash water is returned to headworks and it is treated again. The effluent from the filter is well below 5 NTU allowing for the use of Ultraviolet, (UV), for the purposes of disinfection.
- Peak Overflow 234 m<sup>3</sup>/d

**VI. Ultra Violet (U.V)**

- The disinfection/sterilization of the final effluent is done by means of UV radiation. The UV radiation penetrates the cell walls of microorganisms and damages the DNA causing microbial inactivation. A noted advantage of UV disinfection is the absence of chemical residual in the effluent. A disadvantage to the UV process is the UV radiation rays cannot penetrate with turbidity over 5 NTU.
- 192 lamps for a Peak flow of 10 ML/day.

**PLANT PERFORMANCE**

External Lab results		INFLUENT					EFFLUENT						
Year	Average	BOD	ORG-N	TN	TP	pH	BOD	TSS	TP	TN	pH	Total Coliforms	Faecal Coliforms
2000	Average/yr	126	1.61	42.60	6.95	7.44	< 10	4	0.33	3.66	6.95	185	28
2001	Average/yr	142	1.01	39.22	6.49	7.47	< 10	3	0.28	4.78	7.15	39	1
2002	Average/yr	183	0.99	26.96	4.26	6.94	< 10	1	0.24	4.78	7.01	116	1

**VII. Dissolved Air Floatation, (DAFT),  
Sludge Thickening**

- The Biological Nutrient Removal process consumes suspended and dissolved solids including excess phosphorus that is removed.
- The WAS is mixed with pressurized air saturated recycled effluent. The fine bubbles carry the WAS to the surface thickening and allowing the water to drain from the floating sludge which in turn is then skimmed to the sludge vault. The clarified underflow is returned to the process for further removal of any re-released phosphorus.
- Peak loading rate 6 kg/m<sup>2</sup>/h

**POINTS OF INTEREST**

- 2 full time staff (*Tresa Daoust and Kevin McLuskey*) with 3 additional operators for support staff.
- Entire process and lift station controlled by SCADA system
- Waste sludge is composted at local area landfill.
- C3 (*effluent*) water irrigates plant site, Hypochlorite disinfection.
- Generator at plant site can run all process needs.
- Generators at all lift stations.
- Lift stations all have lead/lag dry centrifugal pumps.
- 1 mobile Gorman lift station.
- Aeration zone, air supplied with 3 Hoffman blowers with fine air diffusers
- Ferric chloride addition at lift stations to prevent odors.
- Foul air is removed from all buildings to the biofilter.

—By *K. Mcluskey*

**PLANT EFFLUENT FLOW**

**Effluent Flow Totals 2000/2001/2002**

2000 EFFLUENT		2001 EFFLUENT		2002 EFFLUENT	
Month	cu meters	Month	cu meters	Month	cu meters
Jan	48413.9	Jan	48457.37	Jan	43231.36
Feb	44504.63	Feb	44391.47	Feb	39290.02
Mar	46911.98	Mar	50708.12	Mar	44191.54
Apr	46718.5	Apr	51637.15	Apr	43414.26
May	50537.56	May	53997.12	May	44099.79
Jun	50662.3	Jun	52017.47	Jun	43101.69
Jul	55259.02	Jul	55043.12	Jul	44477.66
Aug	55233.77	Aug	51733.95	Aug	40336.34
Sep	49573.17	Sep	44300.5	Sep	32428.57
Oct	48600.85	Oct	43099.2	Oct	26672.14
Nov	45612.79	Nov	40768.37	Nov	1921.25
Dec	47667.78	Dec	42480.59	Dec	1799.95
<b>Total</b>	<b>589696.25</b>	<b>Total</b>	<b>578634.43</b>	<b>Total</b>	<b>403244.57</b>




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# STUDENT PROFILE – Kevin John Bakay

**K**evin was born in Edmonton where he resided for several years in his youth. He later moved to the Okanagan where he attended high school and presently lives with his wife Heather. In 2001 he enrolled in the Water Quality Technology Program at Okanagan University College in Kelowna. Upon completion of his first two academic terms he started his co-op work terms. Kevin's first work term was at the Greater Vancouver Regional District (GVRD) where his duties included:

1. *Coquitlam ozonation plant routine checks, maintenance and lab work.*
2. *Seymour and Capilano dam inspection and maintenance.*
3. *Wastewater Collection maintenance and repair.*

In his second work term he worked for the District of Summerland where his duties included:

1. *Assisting operators in all maintenance, routine checks and laboratory requirements for the wastewater treatment facility.*
2. *Inspection and maintenance of all lift stations.*

Kevin is currently in the third semester of the program and will graduate in 2003. Upon graduation he wishes to work in the water and wastewater field in British Columbia as a certified operator.



Kevin John Bakay



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## OPERATOR PROFILE – Don Rajacich

**D**on has been employed with the District of Summerland for 29 years with the last 23 years as a water distribution operator. His job includes all aspects of maintaining a Class IV water distribution system that serves 12,000 people. Don is certified at Level III, Water Distribution. His duties include prv maintenance, pump repair, chlorine changes, laboratory work, locates and SCADA supervision. The water system includes:

- 14 pressure reducing stations
- 3 balancing reservoirs
- 11 storage reservoirs
- 8 pump stations
- 2 chlorination stations (Main Reservoir & Garnet Valley)
- 1 well
- 5600 service connections
- summer flows 25 MGD and winter flows 1.5 MGD

Along with his duties as an operator he also serves as the District's Safety Officer. He is responsible for minimizing the number of workplace injuries through the creation of effective safety and injury prevention programs, site inspection and safety training.



Don Rajacich

Don has been married for 27 years to Anne and is the proud father of four: Kristi, Curtis, Jace and Adria. Don is looking forward to retirement from the District when he plans to consult in the safety field.

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# CERTIFICATION QUIZ - WATER DISTRIBUTION

These questions are representative of those found in actual certification exams.

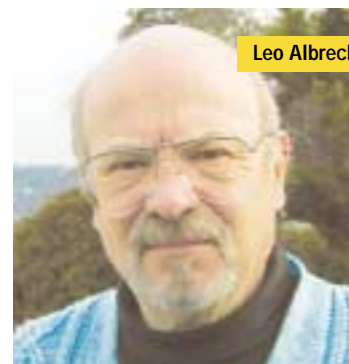
1. **The difference between the static groundwater and the pumping level is:**
  - a) Radius of Influence
  - b) Drawdown
  - c) Cone of Depression
  - d) Watershed
2. **One indication of corrosive water is a high concentration of:**
  - a) Algae odors
  - b) Carbon dioxide
  - c) Carbonates
  - d) Total Dissolved Solids
3. **Cathodic protection means protection against:**
  - a) Contamination
  - b) Corrosion
  - c) Hardness
  - d) Infiltration
4. **The primary reason for the use of a dry barrel fire hydrant is to:**
  - a) Allow easy maintenance of the hydrant
  - b) Keep the barrel from rusting
  - c) Minimize water hammer
  - d) Keep the hydrant from freezing
5. **The component parts of a well include all of the following *except*:**
  - a) Sanitary seal
  - b) Well screen
  - c) Pressure switch
  - d) Cement grout
6. **At the same barometric pressure, the amount of dissolved oxygen in cold water tends to be \_\_\_\_\_ the amount of dissolved oxygen in warm water.**
  - a) Less than
  - b) More than
  - c) More or less than (depending on the biological oxygen demand)
  - d) The same as
7. **Which of the following is the principle constituent in water that causes corrosion of metals?**
  - a) Alkalinity
  - b) Dissolved oxygen
  - c) Hydrogen sulfide
  - d) Sodium chloride
8. **What term describes water that is suitable for drinking?**
  - a) Potable
  - b) Palatable
  - c) Colorless
  - d) Clean
9. **A pump delivering 288, 000 gallons in 24 hours operates at what average flow rate?**
  - a) 100 gpm
  - b) 200 gpm
  - c) 1000 gpm
  - d) 12000 gpm
10. **Velocity of flow in mains is usually expressed in terms of:**
  - a) Feet per second
  - b) Gallons per minute
  - c) Liters per foot
  - d) Meters per day
11. **The basic unit of electrical power is the:**
  - a) Amps
  - b) Ohm
  - c) Volt
  - d) Watt
12. **A standpipe is 84 inches in diameter and 20 feet high. How many US gallons are in the standpipe when the water is 16 feet deep?**
  - a) 615
  - b) 763
  - c) 4603
  - d) 5754
13. **Disease causing bacteria are known as:**
  - a) Coil forms
  - b) Blue green algae
  - c) Non pathogenic
  - d) Pathnogenic
14. **The treatment process designed to kill pathnogenic organisms is:**
  - a) Disinfection
  - b) Oxidation
  - c) Pasteurization
  - d) Sterilization
15. **Lead in drinking water can result in:**
  - a) Prostate cancer in men
  - b) Impaired mental function in children
  - c) Stomach and intestinal disorders
  - d) Reduced white blood cell count

Answers on page 12.

## LEO ALBRECHT

**A**fter twenty-eight years with the City of Kamloops, Leo Albrecht retired this past December. He spent twenty-four of those years in utility operations, with the past sixteen in wastewater treatment. Leo is well known to operators in BC and the Yukon, having taught many wastewater courses. He has spent fourteen years with the BCWWA's Operator Education Committee and is currently Chair of that Committee. He is also an EOCB Board Director, and has been on the Board for twelve years.

Leo plans to continue with his involvement in operator training and certification with both organizations, and will be available as a consultant for operator education and training. As spring approaches, Leo looks forward to the upcoming fly fishing season.



Leo Albrecht

## Annual Dues – How Does this Benefit Me?

**D**o you ever wonder what happens to the \$40.00 you or your employer pay to the EOCB every year for annual dues? Have you ever asked yourself how does that \$40.00 benefit me? “What do I get out of it?” and “What are they used for?” are good questions that should be asked routinely.

Some of the benefits may be obvious such as maintaining your standing with the EOCB as a certified operator, being able to phone up Barb at our Vancouver office to ask a question about exams, certification levels, etc. and hopefully reading good articles in the Digest newsletter. But there are other benefits that may not be as obvious.

Are you aware that the EOCB, and by extension every certified operator, is associated with almost all the other provinces and states in North America through being a member of the Associated Boards of Education? Big deal? Well it actually is. Because of this association there are reciprocity agreements with many of these provinces and states which enable an operator to move from a plant in one province or state to a similar plant in another without having to start the whole certification process over. In other words, if an operator at a Level III waste water treatment plant in the Fraser Valley moves to a Level III wastewater treatment plant in Red Deer, Alberta, he/she would not be required to write any exams to prove their competency.

Another benefit is that through the process of becoming a certified operator you have demonstrated the ability to meet and maintain a professional standard. As most of you are aware, this is recognized by a vast majority of municipalities and other jurisdictions operating water and wastewater facilities by their requirement to hire only certified operators. Many municipalities and regional districts pay hourly premiums for each certificate an operator holds. The value of certified operators is also being recognized by senior levels of government who are

requiring certified operators in applicable legislation. .

So what are the dues used for? They are used to pay rent for the EOCB office, pay office staff, rent/purchase equipment for the office, produce the Digest newsletter and EOCB website, and pay for travel and meeting expenses. The dues alone would not cover all these expenses but it is a significant part. Of interest is the fact that EOCB dues are among the lowest of any of the larger organizations in the province and your Board has no plans to raise them in the immediate future. The last increase in dues was seven years ago in 1996, when they were raised from \$30.00 to \$40.00. Compare this to the Applied Science Technologists and Technicians of BC who pay \$250 per year or the Registered Professional Biologists who pay \$225 per year. Operators obviously know a deal when they see one as there are 2,200 certified operators in BC at this time.

—Bernie Taekema, EOCB Director



Wastewater Level IV class at Lulu WWTP in 2002.

# KEVIN RAMSAY – EOCB Board Director

**T**he waterworks industry is something that Kevin is extremely passionate about. With recent Canadian waterborne disease outbreaks, this emerging field has placed the industry, through the media, in the public forefront. Kevin has been involved with these issues for many years and is currently actively involved in establishing government models for safe drinking water in British Columbia and Canada.

Kevin’s employment started with the City of Surrey, involved with infrastructure design and computer modelling of water systems. A 1984 move to the District of West Vancouver brought many challenges, including design, construction, maintenance, planning and a five-year stint as Waterworks Superintendent. In 1994, Kevin moved to the City of Vancouver and has held the positions of Safety Program Supervisor, Yards Superintendent, Manager of Container Operations, and is currently the Manager of Waterworks Operations.

Kevin has developed and instructed various management and engineering courses for UBC, Capilano College, The Local Government Management Association, BCIT, the American Waterworks Association, and the BC Water & Waste Association. Over the years he has taught thousands of students throughout North America.

Kevin is currently a past-president of the BC Water & Waste Association, British Columbia Director for the Canadian Water



& Waste Association, Education Chair for the Canadian Water & Waste Association, Examiner for the Applied Science Technologists & Technicians Of B.C., and Director (since 1996) for the B. C. Environmental Operators Certification Program.

*Editor’s Note: In February, Kevin took on a new challenge with the City of Vancouver, as Manager of Streets Operations, and will be stepping down as an EOCB Director.*

## CRD – UV PLANT

**T**he Capital Regional District is about to build North America’s biggest ultraviolet water disinfection plant as its third line of defence to keep Greater Victoria’s drinking water safe.

“The ultraviolet plant will become the third part of our multi-barrier approach to keep our water system one of the safest in North America,” commission chair Nils Jensen said. “We already have two barriers in place: control and ownership of the water supply area lands and the reconfigured disinfection plants which protect against bacteria and viruses.”

The commission has awarded a \$12-million contract to Knappett Construction Ltd. of Victoria to build the ultraviolet plant near the existing disinfection plants: one serving Greater Victoria, located at Japan Gulch, just outside Goldstream Park and another at Charters Creek serving Sooke and East Sooke.

Two-thirds of the cost, or \$8 million, will come from the Canada/British Columbia Infrastructure Program.

Dr. Richard Stanwick, Chief Medical Health Officer for Vancouver Island, commended the water commission for its continuing efforts to improve water treatment. “Clean drinking water is essential for a safe and healthy community,” he said. “The CRD has already adopted the U.S. Environmental Protection Agency standards for drinking water quality which are higher than any Canadian guidelines. “

Construction is expected to begin in February, and the ultraviolet plant is expected to be completed before the end of the year. An ultraviolet disinfection system uses ultraviolet light to inactivate parasites such as Giardia and Cryptosporidium.

– Capital Regional District

# NEW MEMBERS AND UPGRADES

Congratulations to the following new operators and those operators who have upgraded their certification level.  
July 1, 2002 to December 31, 2002

CERT. NO.	NAME		CITY	CERT. NO.	NAME		CITY
4100	Acker, Brian	WWC I	<i>Prince Rupert, BC</i>	4086	Clark, Petty	SWS	<i>Prince Rupert, BC</i>
3407	Acton, Dave	WD II	<i>Vernon, BC</i>	4058	Clarke, Shantelle	MWWT I	<i>Kelowna, BC</i>
3376	Aldrich, Michael	WD I	<i>Kamloops, BC</i>	4049	Connelly, Michael	SWS	<i>Cranbrook, BC</i>
4065	Allen, Duane	WD I	<i>Sparwood, BC</i>	1372	Craig, Randy	MWWT IV	<i>Penticton, BC</i>
3406	Allingham, Jack	WD III	<i>Lake Country, BC</i>	3104	Crandell, Ronald	CH	<i>Rossland, BC</i>
3708	Allingham, Ted	WD II	<i>Oyama, BC</i>	1016	Davidson, Ian	OIT WD	<i>Vancouver, BC</i>
4119	Amato, Giuseppe (Joe)	OIT WD	<i>Vancouver, BC</i>	1972	De Crane, Kim	MWWT II	<i>Port Alice, BC</i>
4119	Amato, Giuseppe (Joe)	WWC I	<i>Vancouver, BC</i>	3192	De Santis, Lino	OIT WD	<i>Vancouver, BC</i>
4043	Anderson, Brian	WT I	<i>Penticton, BC</i>	3635	Deacon, Fred	MWWT I	<i>Windermere, BC</i>
4015	Andrews, Robert	SWWS-L	<i>Taylor, BC</i>	1529	DeJong, Eric	WD III	<i>Peachland, BC</i>
4120	Antifeau, Mark	WWC I	<i>Burnaby, BC</i>	3127	Di Stasio, Tony	OIT WD	<i>Coquitlam, BC</i>
3394	Arinzol, Gustav	OIT WWT	<i>New Westminster, BC</i>	4039	Dick, David	SWS	<i>Ashcroft, BC</i>
1831	Athwal, Parwinder	WWC II	<i>Surrey, BC</i>	4014	Donnelly, Kevin	WD I	<i>North Vancouver, BC</i>
3299	Atwood, Paul	WD II	<i>Pemberton, BC</i>	4031	Dubois, Paul	MWWT I	<i>Vernon, BC</i>
3807	Bachewich, Ronald	WD I	<i>Kelowna, BC</i>	897	Duckett, Ken	WWC II	<i>Surrey, BC</i>
4066	Backmann, Eli	WD I	<i>Cedar, BC</i>	4064	Duckworth, David	SWS	<i>Okanagan Falls, BC</i>
1191	Banman, Mike	OIT WD	<i>Richmond, BC</i>	4056	Edgars, Donald	SWS	<i>Duncan, BC</i>
3468	Barlow, Paul	WD II	<i>Kamloops, BC</i>	4019	Eggers, Travis	SWS	<i>Fort St. John, BC</i>
4044	Bashaw, Edwin	WD I	<i>Kelowna, BC</i>	228	Elliott, Jim	MWWT IV	<i>Union Bay, BC</i>
4044	Bashaw, Edwin	WT I	<i>Kelowna, BC</i>	3046	Ellison, Todd	WD II	<i>Burnaby, BC</i>
954	Bateman, Lionel	WD III	<i>Kelowna, BC</i>	1933	Emery, Kent	WD II	<i>Abbotsford, BC</i>
3828	Battersby, Blake	SWWS-L	<i>Whitehorse, Yukon</i>	3388	Enns, Derek	MWWT II	<i>Kelowna, BC</i>
4085	Beaubien, Frank	SWS	<i>Telkwa, BC</i>	3626	Erickson, James	WD II	<i>Lumby, BC</i>
4121	Beler, Susan	OIT WWT	<i>Nanaimo, BC</i>	4038	Etherington, Todd	WD I	<i>North Vancouver, BC</i>
4101	Benjamin, Fricker	WWC I	<i>Prince Rupert, BC</i>	4069	Etty, Marshall	WD I	<i>Valemount, BC</i>
1176	Bennett, John	SWS	<i>Massett, BC</i>	3047	Faint, Rowan	WWC II	<i>Kamloops, BC</i>
4016	Biederstadt, Peter	SWS	<i>Prince George, BC</i>	1925	Favali, Roy	MWWT II	<i>Vernon, BC</i>
4110	Billy, Thomas	SWS	<i>Quathiaski Cove, BC</i>	4045	Fearn, Matthew	WT I	<i>Vernon, BC</i>
4067	Blatta, Scott	WD I	<i>Vancouver, BC</i>	4107	Finnigan, Darrell	MWWT I	<i>Merritt, BC</i>
3860	Boe, Clinton	WD I	<i>Lister, BC</i>	4111	Flemming, Paul	SWS	<i>Quathiaski Cove, BC</i>
3379	Bosley, Daniel	MWWT II	<i>Parksville, BC</i>	4070	Forsyth, Bruce	WD I	<i>Black Creek, BC</i>
2069	Boyd, Glen	MWWT I	<i>Port McNeill, BC</i>	4092	Fredericks, Robert	SWS	<i>Mackenzie, BC</i>
4047	Brockholm, Luke	SWS	<i>Penticton, BC</i>	3146	Freeman, Neale	WD I	<i>Duncan, BC</i>
3359	Brown, Dean	WD II	<i>Surrey, BC</i>	4032	Gaudet, Daniel	MWWT I	<i>Nanaimo, BC</i>
4068	Brown, Shaun	WD I	<i>Langley, BC</i>	4102	Geismar, John	WWC I	<i>Prince Rupert, BC</i>
4048	Brown, Warren	SWS	<i>Lytton, BC</i>	4040	Gellatly, James	SWS	<i>D'arcy, BC</i>
1454	Campbell, John	WWC II	<i>Surrey, BC</i>	4131	Gentile, Gerry	OIT WD	<i>Richmond, BC</i>
1454	Campbell, John	WD II	<i>Surrey, BC</i>	4151	Gibson, Ronald	OIT WWT	<i>Vernon, BC</i>
3409	Campbell, Richard	OIT WD	<i>Surrey, BC</i>	4034	Gleig, Derek	MWWT I	<i>Coquitlam, BC</i>
4122	Cannon, Warren	OIT WWT	<i>Ucluelet, BC</i>	1978	Gold, David	WD III	<i>Naramata, BC</i>
4116	Carlick, Andy	SWS	<i>Atlin, BC</i>	3233	Gosse, Gordon	CH	<i>Chetwynd, BC</i>
1126	Carlson, David	WD III	<i>Naramata, BC</i>	1205	Grieve, Glen	WT I	<i>Fruitvale, BC</i>
4012	Carlson, James	WWC I	<i>Prince George, BC</i>	3965	Grove-White, Stan	MWWT I	<i>Kamloops, BC</i>
1536	Carter, Brian	WD IV	<i>Port Coquitlam, BC</i>	4123	Halfpenny, Corey	OIT WD	<i>Abbotsford, BC</i>
1973	Castellano, Domenic	WD II	<i>Nakusp, BC</i>	1710	Hall, Brent	MWWT III	<i>Port Moody, BC</i>
3444	Charles, Alex	WWC II	<i>Surrey, BC</i>	4035	Hansen, Karl	WWC I	<i>Tofino, BC</i>
4083	Chess, Michael	SWS	<i>North Vancouver, BC</i>	4071	Harding, Stacey	WD I	<i>Kelowna, BC</i>
4106	Christou, Peter	MWWT I	<i>Salmon Arm, BC</i>	4112	Hardy, Randy	SWS	<i>Comox, BC</i>

# NEW MEMBERS AND UPGRADES (Continued)

Congratulations to the following new operators and those operators who have upgraded their certification level.  
July 1, 2002 to December 31, 2002

CERT. NO.	NAME		CITY	CERT. NO.	NAME		CITY
4072	Hassett, Daniel	WD I	<i>Edgewater, BC</i>	1960	Little, Randy	MWWT I	<i>Gibsons, BC</i>
4059	Hawthorne, Mark	MWWT I	<i>Vernon, BC</i>	3191	Lofgren, Jeffrey	OIT WD	<i>Maple Ridge, BC</i>
4129	Hazelwood, Keith	WD I	<i>Port Coquitlam, BC</i>	1361	Long, Steve	WD II	<i>Mission, BC</i>
4018	Heistad, Rudy	SWS	<i>Ft. St. John, BC</i>	4096	Lundstrom, Bryan	SWS	<i>Kitimat, BC</i>
4022	Helson, Tom	SWS	<i>Prince George, BC</i>	3123	MacDougall, Grant	WD I	<i>Langley, BC</i>
4091	Hendry, Carman	SWS	<i>Terrace, BC</i>	4090	MacKenzie, Gordon	SWS	<i>Terrace, BC</i>
885	Hidlebaugh, Douglas	WD II	<i>Kelowna, BC</i>	4075	Madden, Donald	WD I	<i>Powell River, BC</i>
3037	Hiebert, Timothy	WD II	<i>Osoyoos, BC</i>	1505	Mandryk, Bob	WD II	<i>Kelowna, BC</i>
4060	Holman, Kevin	MWWT I	<i>Vernon, BC</i>	1265	Manson, Donald	WT I	<i>Revelstoke, BC</i>
3019	Holmes, Donald	WWC II	<i>Coquitlam, BC</i>	4061	Markholm, Tim	WD I	<i>Nakusp, BC</i>
3586	Holtom, Malcolm	MWWT I	<i>Kelowna, BC</i>	1838	Markle, Stuart	WD II	<i>Kelowna, BC</i>
4073	Hoskins, Rick	WD I	<i>Kelowna, BC</i>	4076	Marklund, Rodney	WD I	<i>Merritt, BC</i>
3412	House, Mark	OIT WD	<i>Richmond, BC</i>	4023	Marlow, Brian	SWS	<i>Prince George, BC</i>
4074	Howard, Bobby	WD I	<i>New Hazelton, BC</i>	3603	Marsolais, Luc	MWWT I	<i>Chilliwack, BC</i>
3595	Howard, Jr., Richard	WD I	<i>South Hazelton, BC</i>	3603	Marsolais, Luc	WWC I	<i>Chilliwack, BC</i>
4137	Huffman, James	MWWT I	<i>Vernon, BC</i>	4050	Martel, Danny	SWS	<i>Moose Jaw, SK</i>
4046	Huhn, Calvin	WT I	<i>Logan Lake, BC</i>	4097	Mathee, Gert	SWS	<i>Kitimat, BC</i>
1615	Hunt, Sheryl	MWWT II	<i>Kelowna, BC</i>	3448	McBeth, Steve	WWC II	<i>Surrey, BC</i>
1475	Hurford, John	MWWT III	<i>North Vancouver, BC</i>	1744	McDonald, Charlie	WT I	<i>Saltspring Island, BC</i>
4124	Hutchinson, Gerry	WD I	<i>Nanaimo, BC</i>	482	McGill, Stephen	WD II	<i>Westbank, BC</i>
3375	Ieraci, Domenico	WWC II	<i>Coquitlam, BC</i>	3181	McIntyre, Thomas	WD II	<i>Mission, BC</i>
875	Imrie, Mike	MWWT III	<i>Grand Forks, BC</i>	3801	McKenzie, Neil	WD II	<i>Kelowna, BC</i>
4115	James, Ted	SWS	<i>Carcross, Yukon</i>	1397	McLean, Cid	MWWT IV	<i>Penticton, BC</i>
4062	Jenkins, Alex	SWS	<i>Sechelt, BC</i>	1378	McLean, Colin	WD III	<i>Abbotsford, BC</i>
4010	Jmayoff, Greg	SWS	<i>Lytton, BC</i>	3102	McLuskey, Kevin	WT I	<i>Summerland, BC</i>
4024	Johnson, David	SWS	<i>Simoon Sound, BC</i>	1455	McMillan, Dan	MWWT III	<i>Summerland, BC</i>
4094	Johnston, Robert	SWS	<i>Kitimat, BC</i>	2086	McMillan, William	WD I	<i>Kelowna, BC</i>
4055	Jones, Daniel	SWS	<i>Port Renfrew, BC</i>	3100	Metcalfe, David	WD III	<i>Kelowna, BC</i>
4033	Jones, Stephen	MWWT I	<i>Sidney, BC</i>	3867	Miller, Carl	WD I	<i>Sparwood, BC</i>
1341	Kallen, Tony	WD I	<i>Parksville, BC</i>	3725	Mills, Philip	WD I	<i>Edgewater, BC</i>
4108	Karr, Robert	OIT WT	<i>Chase, BC</i>	3725	Mills, Philip	WWC I	<i>Edgewater, BC</i>
989	Kelder, Mike	OIT WD	<i>Surrey, BC</i>	4077	Millwater, Terry	WD I	<i>Salmon Arm, BC</i>
3132	Kennedy, John	MWWT III	<i>Penticton, BC</i>	1839	Mitchell, Mike	WD II	<i>Winfield, BC</i>
3985	Kilby, Fred	WWC II	<i>Surrey, BC</i>	1816	Moore, Don	WD II	<i>Vernon, BC</i>
3447	Knowles, Dennis	WWC II	<i>Surrey, BC</i>	1403	Munts, Marlon	WWC I	<i>Prince Rupert, BC</i>
1581	Kohout, Henry	WD III	<i>Kelowna, BC</i>	1718	Murphy, Michael	MWWT IV	<i>Pitt Meadows, BC</i>
4118	Komish, Clane	SWWS-L	<i>Watson Lake, Yukon</i>	4026	Murray, Donald	SWS	<i>Garden Bay, BC</i>
1232	Kozin, Serge	MWWT II	<i>Vernon, BC</i>	3631	Myles, Terry	WD II	<i>Sparwood, BC</i>
4025	Krantz, Gerry	SWS	<i>Garden Bay, BC</i>	4089	Neigel, Allan	SWS	<i>Dease Lake, BC</i>
3225	Kunstar, Aaron	WD II	<i>Kelowna, BC</i>	4127	Nigh, Tim	WD I	<i>Vancouver, BC</i>
4020	Lancaster, Sheree	MWWT I	<i>Summerland, BC</i>	3121	Nitschke, Bruce	OIT WD	<i>North Delta, BC</i>
1722	Lane, Rodney	OIT WD	<i>Surrey, BC</i>	3042	Normand, Clifford	WD II	<i>Okanagan Falls, BC</i>
3401	Lang, Richard	CH	<i>Port Alberni, BC</i>	4051	Nystoruk, Kenneth	SWS	<i>Barriere, BC</i>
4114	Lanigan, Kelly	SWWS-L	<i>Whitehorse, Yukon</i>	4104	O'Connor, Patrick	WWC I	<i>Prince Rupert, BC</i>
4114	Lanigan, Kelly	SWS	<i>Whitehorse, Yukon</i>	3802	Ough, Jason	WD III	<i>Kelowna, BC</i>
1597	Lannan, Robert	WT I	<i>Saltspring Island, BC</i>	3398	Parsons, William	WWC I	<i>Prince Rupert, BC</i>
4103	Larsen, Kenneth	WWC I	<i>Prince Rupert, BC</i>	4037	Paul, Mel	WT I	<i>Kamloops, BC</i>
4095	Levesque, Daniel	SWS	<i>Kitimat, BC</i>	1245	Pavan, Bruno	MWWT IV	<i>Surrey, BC</i>

# NEW MEMBERS AND UPGRADES

Congratulations to the following new operators and those operators who have upgraded their certification level.  
July 1, 2002 to December 31, 2002

CERT. NO.	NAME		CITY	CERT. NO.	NAME		CITY
3449	Peacock, Steven	WWC II	<i>Surrey, BC</i>	4080	Toma, Marianne	WD I	<i>Lake Country, BC</i>
3522	Pelkey, Albert	SWS	<i>Saanichton, BC</i>	4117	Tonnensen, William	SWWS-M	<i>Carmacks, Yukon</i>
4152	Pelkey, Ignatious	MWWT I	<i>Saanichton, BC</i>	673	Tooms, Roger	WWC II	<i>Terrace, BC</i>
4028	Perich, Michael	SWS	<i>Cranbrook, BC</i>	4054	Treadway, George	SWS	<i>Merritt, BC</i>
1901	Perkins, Keith	WT I	<i>Surrey, BC</i>	4088	Tree, Colin	SWS	<i>Prince Rupert, BC</i>
4084	Phillips, Charles	SWS	<i>Dease Lake, BC</i>	4099	Tucceri, Robert	SWS	<i>Kitimat, BC</i>
3337	Popp, Gary	CH	<i>Halfmoon Bay, BC</i>	4042	Vaughan, Bruce	SWS	<i>Lillooet, BC</i>
719	Preston, Pete	WD II	<i>Kelowna, BC</i>	1069	Waldick, Will	WT I	<i>Courtenay, BC</i>
1509	Primeau, Anne	MWWT II	<i>Agassiz, BC</i>	1069	Waldick, Will	MWWT I	<i>Courtenay, BC</i>
1216	Radford, Chris	WD III	<i>Golden, BC</i>	4130	Ward, Nathan	MWWT I	<i>Victoria, BC</i>
3389	Ralph, James	WT I	<i>Fort McMurray, BC</i>	886	Weaden, Adrian	WD III	<i>Kelowna, BC</i>
4041	Redan, Wayne	SWS	<i>Lillooet, BC</i>	4081	Webb, Richard	WD I	<i>Canoe, BC</i>
977	Regush, Patrick	MWWT I	<i>Chase, BC</i>	3188	Webber, Bryan	OIT WD	<i>Port Coquitlam, BC</i>
718	Reynolds, Kevin	WD II	<i>Kelowna, BC</i>	3545	Wellington, Ryan	WT I	<i>Salt Spring Island, BC</i>
3737	Ricciuti, Daniel	WD I	<i>Summerland, BC</i>	4082	Whipps, Steven	WD I	<i>Lantzville, BC</i>
4036	Rix, Robert	WWC I	<i>Qualicum Beach, BC</i>	4125	Wiatr, Roman	WD I	<i>Port Alberni, BC</i>
4087	Robertson, Glenn	SWS	<i>Kitimat, BC</i>	3450	Wierda, Harry	WWC II	<i>Abbotsford, BC</i>
3596	Sam, Kenny	WT I	<i>Fort St. James, BC</i>	637	Wike, Chris	CH	<i>Garibaldi Highlands,</i>
4063	Sandberg, Larry	IWWT I	<i>Port Hardy, BC</i>	1163	Wilkie, Shane	WD III	<i>Cumberland, BC</i>
3182	Sawatzky, Brian	WD II	<i>Abbotsford, BC</i>	4128	Willis, Gordon	WD I	<i>Port Coquitlam, BC</i>
4017	Schneider, Edwin	SWS	<i>Vanderhoof, BC</i>	1841	Witzke, Robin	WD II	<i>Winfield, BC</i>
3231	Schori, Martin	WD I	<i>Oliver, BC</i>	4057	Young, Kevin	MWWT I	<i>Powell River, BC</i>
4136	Scott, Brian	MWWT I	<i>Grindrod, BC</i>	2034	Young, Rosanne	SWS	<i>Bamfield, BC</i>
3397	Sedman, Kenneth	WD II	<i>Kelowna, BC</i>	4113	Zapp, Kenneth	SWS	<i>Port Hardy, BC</i>
4021	Seibert, Steven	SWS	<i>Williams Lake, BC</i>				
4027	Seymour, Ernest	SWS	<i>Ladysmith, BC</i>				
4052	Shaw, Malcolm	SWS	<i>Golden, BC</i>				
4013	Sherwood, Dean	WD I	<i>North Vancouver, BC</i>				
3518	Skead, Terence	CH	<i>Enderby, BC</i>				
3816	Smith, Dave	WD II	<i>Prince George, BC</i>				
1218	Smith, Loren	WWC I	<i>Port Alberni, BC</i>				
4098	Snell, Kenneth	SWS	<i>Kitimat, BC</i>				
3939	Soong, George	OIT WT	<i>Vancouver, BC</i>				
4029	Spyksma, Peter	SWS	<i>Ft. Steele, BC</i>				
3966	Steinhammer, Jimmy	IWWT I	<i>Logan Lake, BC</i>				
4105	Stewart, Tina	WWC I	<i>Prince Rupert, BC</i>				
1344	Stoker, Brian	MWWT III	<i>North Vancouver, BC</i>				
4109	Stowell, Christian	OIT WD	<i>Penticton, BC</i>				
1491	Stuart, Brad	MWWT II	<i>Kelowna, BC</i>				
1840	Sundstrom, Larry	WD II	<i>Peachland, BC</i>				
4093	Sweeney, Trevor	MWWT I	<i>Aldergrove, BC</i>				
4053	Swinhoe, Robert	SWS	<i>Fort Steele, BC</i>				
4030	Taylor, Gerald	SWS	<i>Mayne Island, BC</i>				
3638	Thesen, Melvin	MWWT II	<i>Invermere, BC</i>				
4078	Thevarge, Duane	WD I	<i>D'Arcy, BC</i>				
3219	Thomas, Michael	WD II	<i>Osoyoos, BC</i>				
3441	Thurston, Robert	SWS	<i>Keremeos, BC</i>				
4079	Tiernan, Mabelle	WD I	<i>Kelowna, BC</i>				



Hot tapping tees and valves to a main.

## BCWWA AND EOCP MEETING

**A**s you can see from other articles in this issue of the Digest, there is a lot of activity in BC regarding Operator certification and training. A few years back I wrote that things were changing at a faster rate than at any time before. Little did I know, that that period of great activity was actually the calm before the storm!! In the past two years, training opportunities for Operators have multiplied faster than ever envisioned, and with more training available, the demand for additional, and more advanced training continues to grow. Where once there was only one or two, and sometimes three Operator training opportunities in major centers throughout BC, there are now dozens per year, ranging in location from the Peace River country to remote communities on Vancouver Island with limited access.

The primary force behind most of the training remains the BCWWA who have developed training modules in each of the four major categories of water treatment, water distribution, wastewater collection and wastewater treatment, as well as an excellent course on small water systems. With the training has developed a huge demand for opportunities to write certification exams. Many other Operator certification organizations only hold one or two exam sessions per year in select locations. In 2002, the EOCP held over 70 separate exam sessions.

The current discussion in Canada about the possibility of requiring evidence of on going training to maintain certification, as is the case in most of the US (see Eric Jackson's article on this) has stimulated discussion on what training would be appropriate, and where it will be available. Any way things shake out, the demand for training is going to substantially multiply beyond what exists now. We have seen that as Operators are able to access training, they then request to write certification exams. Those who are not certified, see the writing on the wall, and want to enter into the Program, and those currently certified, desire to increase their level of qualification. It appears that the more that is offered, the more that is desired.

With phenomenal growth, comes opportunities, but not without the occasional problem. In 2001 and 2002, we experienced co-ordination and funding problems trying to meet the incredible demand for examinations. In an effort to maintain the pace of Operator training and honor earlier agreements entered into with the BCWWA, who were the primary delivery agency for most of



Rear (left to right): Joe McGowan, Don Degan, Jim Levin, Bernie Taekema, Eric Jackson. Front (left to right): Inder Singh, Harlan Kelly, Bill Hyslop.

the Operator training, we began to experience some communications difficulties that threatened to reduce the level of service both the EOCP and BCWWA would be able to provide to Operators.

Recognizing that both agencies were experiencing growing pains, a joint meeting of senior Directors of each organization was held in December to identify each other's perception of possible problems, and to work out an understanding of who would do what, and when, and how costs would be addressed. As is typical of people who have great respect for each other, and believe in a common goal, the issues were presented in a straight-forward manner, and after a brief discussion, an agreement was reached as to how each agency would work to complement the activities of the other. Recognizing that change within our industry is happening at an ever increasing rate, it was further agreed to meet on a regular basis to address the challenges that are certain to arise.

The December meeting reinforced my belief that the Directors of both the EOCP and BCWWA are committed to maintaining the highest possible level of water and wastewater operator training and certification levels in Canada.

*– Joe McGowan, EOCP Board Chair*





Al Lane (EOCP Director) and Kenneth Kerri (California State University Sacramento) at the ABC Annual Conference.

**A**l Lane attended the annual Association of Boards of Certification (ABC) Annual Conference in Albuquerque, NM in January. The conference theme was "Advancing Certification – the Next Step". Among the topics at the conference were improving the certification program, comparisons of certification programs, distant education using online studies, facility classification, and examinations. The EOCP is unique among certifying agencies in the US and Canada in that the program is not government funded.

The EOCP is a charter member of ABC and uses ABC exams for four categories - water distribution, water treatment, wastewater collection and wastewater treatment. The EOCP pays a fee for every ABC exam taken by an operator.



#### [OPERATOR RE-CERTIFICATION continued from page 1](#)

***The Association of Boards of Certification (ABC) of which BC is a charter member, recommends 24 hours per 2 year renewal for all categories of certification.***

The concept of requiring continuing education credits is to ensure that operators remain well trained, and are capable of operating their facilities in a responsible and professional manner. Many governments, including the federal government, have decided to review and re-evaluate their positions regarding legislation, training, monitoring and reporting requirements of water and wastewater operators. This follows recent illnesses and deaths in water utilities in Saskatchewan, Ontario, and in other areas.

The issue of continuing education for re-certification was discussed at a recent National Workshop on Training, Education and Certification for water and wastewater treatment operators. Representatives from federal, provincial territorial, aboriginal and professional organizations agreed that training and continuing education both require attention in a timely fashion, with input from all participants.

***The EOCP is seeking input from operators and others, regarding this initiative.*** Suggestions on the concept, amount of training required, and any other aspects are welcomed. Submissions can be e-mailed to [eoep@eoep.org](mailto:eoep@eoep.org) or mailed to:

EOCP  
219-3823 Henning Drive,  
Burnaby, BC V5C 6P3

*– Eric Jackson, EOCP Director*

Mark and Craig each received \$500 bursaries from the EOCP, which were presented at the Okanagan University College in Kelowna this past November. Two bursaries are awarded annually by the EOCP to deserving students entering their second year in the Water Quality Technology Program.

Left to right: Mark Hayes, Eric Jackson (EOCP Director), Craig Drake.

# PHOTO CONTEST

Here's another chance to win an EOCP cap. Send in a photo that can be published in the Digest. The only rule is that the photo should be representative of operators or the work they do. The photo can be of operators, water/wastewater plants or anything similar. Email a jpeg or mail a photo to the Editor by May 1st. Three winners will receive caps, and have their photos in the Digest.



New SCRD Water Plant

The construction of the new \$7 million water treatment plant on the Sunshine Coast started in February. The plant is being built in Sechelt by the Sunshine Coast Regional District. The plant process will include coagulation, dissolved air floatation, and rapid filtration. Included is pH adjustment, UV and chlorine disinfection with the plant capacity at 25 million litres/day. Construction is scheduled for completion by the end of 2003.

The photo shows the site of the new plant – adjacent to the concrete reservoir. To follow the construction, go to the SCRD web page at: [www.scrd.bc.ca](http://www.scrd.bc.ca)

# WORD GAME ANSWERS FROM LAST ISSUE

Winners for the last issue of the Word Games (BC Towns and Cities) were: Derek Bowen, Campbell River; Donald Smith, District of Salmon Arm; and Boe Clinton from the Erickson Improvement District.

1. Unseasoned timber
2. Bill's water
3. A path in the woods
4. Go to first base
5. A great Queen
6. Type of lock
7. Mission Impossible
8. Very possible
9. What a blacksmith needs
10. A bird's home
11. Springs eternal
12. A feline carpet
13. Newly wedded female's town
14. A praiseworthy feature
15. Magnificent cutlery
16. Underground water supply
17. Fishy part of the body
18. A monk's car
19. A New England pub
20. Needles and pins
21. Exchanging moccasins
22. A cold slap
23. Raised level ground
24. Charles' weight
25. Ice cream and fix the fire

- Greenwood
- Williams Lake
- Trail
- Balfour
- Victoria
- Yale

- Likely
- Armstrong
- Crowsnest
- Hope
- Kitimat
- Bridesville
- Merritt
- Grand Forks
- Wells
- Salmon Arm
- Abbotsford
- Boston Bar

- Shuswap
- Chilliwack
- Terrace
- Princeton
- Revelstoke

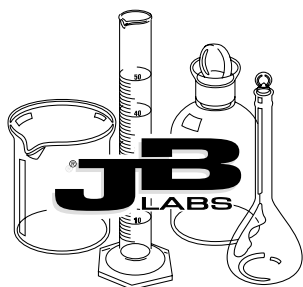
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# UPCOMING EVENTS

## BC WATER & WASTE ASSOCIATION 2003 CALENDAR

DATE	COURSE	LOCATION	DURATION	COST
March 31-April 1	Small Water Systems	Kamloops	Two days	\$378.52
March 31-April 1	Small Wastewater Systems	Kamloops	Two days	\$378.52
March 31-April 4	Water Treatment I	Kamloops	Five days	\$530.00
March 31-April 4	Water Distribution I	Kamloops	Five days	\$530.00
March 31-April 4	Wastewater Treatment I	Kamloops	Five days	\$530.00
March 31-April 4	Chlorine Handling	Kamloops	Five days	\$530.00

### SPRING OPERATOR SYMPOSIUM

May 12-16	Water Treatment I	SFU	Five days	\$530.00
May 12-16	Water Treatment II	SFU	Five days	\$530.00
May 12-16	Water Distribution I	SFU	Five days	\$530.00
May 12-16	Water Distribution II	SFU	Five days	\$530.00
May 12-14	Supervisory Skills for Operators	SFU	Three days	\$421.79
May 12-16	Water Distribution III	SFU	Five days	\$530.00
May 12-16	Wastewater Collection III	SFU	Five days	\$530.00
May 12-16	Wastewater Treatment I	SFU	Five days	\$530.00
May 12-16	Cross Connection Control	SFU	Five days	\$530.00
May 12-16	Chlorine Handling	SFU	Five days	\$530.00
May 13-14	Small Water Systems	SFU	Two days	\$378.52
May 15	Applied Computer Skills I	SFU	One day	\$205.48
May 16	Applied Computer Skills II	SFU	One Day	\$205.48
May 15	Math I	SFU	One Day	\$205.48
May 16	Math II	SFU	One Day	\$205.48
June 2-3	Confined Space	Cranbrook	Two days	\$378.52
June 2-6	Water Distribution III	Cranbrook	Five days	\$530.00
June 2-6	Wastewater Collection II	Cranbrook	Five days	\$530.00
June 2-6	Wastewater Treatment II/III	Cranbrook	Five days	\$530.00

Please phone BCWWA @ 604 433-4389 for information on the above courses or check their website at [www.bcwwa.org](http://www.bcwwa.org).

Simon Fraser University Website [www.sfu.ca](http://www.sfu.ca)

Accommodations at SFU [www.sfu.ca/conference-accommodation](http://www.sfu.ca/conference-accommodation) • Phone: 604 291-4503 • Fax: 604 291-5598

## EOCP CERTIFICATION EXAMINATIONS

Operators wishing to write certification exams must apply to the EOCP by written application complete with job description no later than two weeks prior to the exam session. Exam fees are payable to the EOCP office before the time of writing and may be paid by VISA.

Ph. (604) 874-4784 Fax: (604) 874-4794 Toll Free: 1-866-552-3627

