

BRITISH COLUMBIA OPERATORS DIGEST A NEWSLETTER FOR WATER AND WASTEWATER OPERATORS

NOVEMBER 2003 • NUMBER 107

Mandatory Water Certification

he new Drinking Water Protection Regulations were passed by the provincial government this past May. These regulations are part of the Drinking Water Protection Act and replace the Safe Drinking Water Regulation. It was ten years ago that legislation was passed requiring wastewater treatment facility classification and phased in operator certification. The EOCP has long advocated mandatory classification and certification for water supply including treatment and distribution.

Some highlights of the Drinking Water Protection Regulations (DWPR) include:

- mandatory system classification and operator certification
- applies to all water systems (estimated at over 3300 in BC)
- drinking water officers will become the decision makers
- construction permits required
- operating permits required, which will include terms and conditions
- public notification re: non potable water
- disinfection of all surface water
- monitoring of total and fecal coliforms, and/or E coli
- emergency response plans
- well flood proofing
- system assessment and assessment response plans

The key aspect to operators of course is the requirement for certification. The DWPR specifies that the EOCP's program of classification and certification as the method to be followed. There will be a phase in period similar to the past implementation of wastewater treatment facility classification and operator certification.

By January 1, 2005 small water systems and class I and II systems must be classified with an

equal level of operator certification. By January 1, 2006 class III water systems must be classified with the equal level of operator certification. In other words, if a municipality operates a class III water treatment plant it must have the plant classified and employ a level III water treatment operator by 2006. It is the same if the municipality operates a class III water distribution system. It requires classification and a level III water distribution operator again by 2006. The DWPR does not indicate a compliance date for class IV systems but indicates a different date may be established. This date would presumable be established in consultation with the Drinking Water Officer.

The DWPR can be found on the BC government web site at: http://www.qp.gov.bc.ca/ statreg/reg/D/200_2003.htm

Following is Section 12 of the regulations regarding classification and certification.

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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:

> Environmental Operators Certification Program 219 – 3823 Henning Drive Burnaby, B.C. V5C 6P3

> > Phone: 604 874-4784 Fax: 604 874-4794 Toll Free: 1-866-552-3627 email: eocp@eocp.org Web: www.eocp.org

Ms. Barbara Striegler, Executive Assistant Ms. Kim Eames, Office Assistant

Business card sized advertisement space is available at \$50.00 per issue or \$175.00 for four issues. GST and PST included. For other sized advertisements, please contact the Editor.

The Environmental Operators Certification Program is a charter member of the Association of Boards of Certification, and is a Registered Society with over 2,400 active members.

2002/2003 BOARD OF DIRECTORS

Joe McGowan – Chairman Bernie Taekema – Secretary Bill Hyslop – Industrial Waste Leo Albrecht – CEU Assessment Al Lane – Facilities Classification Don Gare – Newsletter Mike Gosselin – Newsletter Eric Jackson – Treasurer Bob Smith – Director at Large

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Implementation of CEU's for Certificate Renewal

Several submissions have been received at the EOCP office regarding the article in the March 2003 issue of the Operator Digest regarding operator certificate renewal. The article noted that the Board is considering a policy that will require continuing education units as a condition for renewal of operator certificates. The concept of requiring continuing education is to ensure that BC operators remain well trained and are capable of operating their facilities in a responsible and profession-al manner.

The Board has reviewed renewal requirements of other provinces and states, and the average requirement is 24 hours training for each 2 year period. This means that an operator would be required to undertake training equivalent to a total of 24 hours during each two year period for each certificate that he holds and wishes to renew. Without the training, the operator's certificate would lapse.

Since the article was published, some supportive and some non-supportive responses have been received. Please feel free to respond to the article and provide us with your views on this important topic. A decision will be made at a future meeting of the EOCP Board.



A 30" main fails near the Chlorination Plant in Campbell River. -Derek Bowen

BOARD BUSINESS BRIEFS

BOARD MEETING - MAY 12, 2003, LANGARA COLLEGE

Business from the Board meeting held at the Operator Symposium at Langara College, May 12, 2003. Directors present: Joe McGowan (Chair), Al Lane, Eric Jackson, Don Gare, Kevin Ramsay, Bill Hyslop, Bernie Taekema. Absent: Leo Albrecht and Kevin McLuskey.

Treasurers Report

Eric Jackson, Treasurer presented a detailed report which included the following totals:

Cash and Bank Accounts	\$ 23,949.82
Canaccord Capital Investment	8,642.22
Money Market Investment	29,492.68
Total Investments	88,134.90
Total Assets	\$ 112,084.72

Election Results:

Joe McGowan, employer and Bill Hyslop, consultant remain by acclamation in their positions. Don Gare and Mike Gosselin were elected to the Board each for a 2 year position. Five operators ran for 2 operator positions. There were 290 ballots received; 1 ballot spoiled.

- Don Gare: elected 140 votes; Mike Gosselin: elected 121 votes; Doug Brereton: 93 votes; Kevin McLuskey: 119 votes; Rob Mellander: 70 votes.
- Joe McGowan, Chairman, reported that mandatory water certification has been announced by the Ministry of Health with regulations currently being developed. The Walkerton Report has recommended that continuing education be implemented for renewal of certificates. This is in place in most certification programs and is being looked at by the EOCP. The EOCP ran an article in the Digest re CEU requirement for validity and received several responses mostly positive, some negative.
- The BCWWA annual conference in Penticton was hugely successful with 850 delegates attending. Maitland Smith from the David S. MacKay Environmental Centre in Vernon was presented the Vic Terry Award.
- Thirty year pins and lifetime memberships were awarded to Melvin Clisby, Allan Kraus and Errol Franson.
- A presentation was given to the Board by Bob Smith who is chairing a BCWWA committee on online training. He requires feedback from the EOCP. Online training would not be linked with certification which is a different issue from training.
- A MOTION WAS PASSED to spend \$8,000 to develop a set of Wastewater Treatment Level I-IV exams.

- Directors were all asked to peruse a copy of the "Constitution" so that resolutions can be reached to update the document to meet the Program's needs.
- The office has purchased a HP 1200 laser printer.

The EOCP web page is being redesigned by "Blue Fish Design" in Sechelt.
It is hoped



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Certification Association will be formed and Canada will develop national standards for water and wastewater operators.

- A MOTION WAS PASSED that Bill Hyslop will accompany Bob Smith to the CWWA meeting in Toronto in June with the intention of spearheading this committee.
- Al Lane will make revisions to the Program Guide for next meeting.
- A MOTION was passed to buy the hardware and software required for EOCP to mark exams and provide summary sheets to a limit of \$10,000.
- It was suggested that the addition of a "Member at Large" be appointed to the EOCP Board to replace Kevin Ramsay who served as Education Director and BCWWA liaison person. Kevin is no longer working in the field.
- EOCP will work with BCWWA to produce an exam schedule for the fall and the New Year. *Continued*

30 YEAR OPERATORS



Left to right: Joe McGowan (EOCP Chairman) with 30 year lifetime membership recipients: Melvin Clisby and Allan Kraus at Langara College, May 2003. Errol Franson was also awarded his 30 year lifetime membership,

BOARD BUSINESS BRIEFS (Continued)

BOARD MEETING - OCTOBER 6, 2003, BURNABY EOCP OFFICE

Business from the Board meeting held at the Burnaby EOCP office, October 6, 2003. Directors present: Joe McGowan (Chair), Al Lane, Eric Jackson, Don Gare, Bill Hyslop, Bernie Taekema; Mike Gosselin. Absent: Leo Albrecht and Bob Smith. Joe McGowan, chairman, welcomed new Directors - Mike Gosselin and Bob Smith.

Treasurers Report

Eric Jackson, Treasurer presented a detailed report which included the following totals:

Cash and Bank Accounts	\$ 74,899.17
Canaccord Capital Investment	9,146.14
Money Market Investment	52,047.06
Total Investments	61,092.37
Total Assets	\$ 136,092.37

- The Chairman reported upcoming meetings with MOH, MWLAP and BCWWA in the next 2 days. There is a lot of confusion regarding the new "Drinking Water Regulations" among individual water purveyors. EOCP is meeting with Barry Boettcker of MOH on what government policy is re the new regulations and what EOCP's role will be.
- Interest has been shown by the MOH re competency and certification of people working with onsite sewage systems different from the conventional municipal systems. Certification of ground water drillers and pump installers is to be looked at as well.
- EOCP is meeting tonight with BCWWA hoping to find a new approach to scheduling courses and providing exams.
- EOCP is meeting tomorrow with Dale Wetter of MWLAP re developing Operating Plans for wastewater treatment plants and what the qualifications will be for people to be eligible to develop these plans.
- EOCP will be moving in a different direction in the near future and expanding our duties. CEU's will be an upcoming large issue. Office staff will change with a lot more policing of our procedures. We may need to hire an Executive Director.
- BCWWA has cancelled many courses this fall. It is felt that the water courses are not getting registrants because the MOH does not have their regional drinking water officers in place. Courses will be planned for later in September next year.
- BCWWA's plans to schedule 5 venues next year for courses: Prince George, Kelowna, Kamloops, Nanaimo and Cranbrook.

- The May Operator School will be held at either SFU or UBC.
- Web-based training is on hold as it has not been successful in Montana and other states.
- BCWWA is planning a Top-Ops competition at the BCWWA annual Whistler conference in May 2004. It will be a game show format with 3 operators per team (can be a combination of different facilities and municipalities). There will be 1 WD, 1 WWC, 1 WWT or WT operator on each team with up to 12 teams competing. The first team to ring in and answer questions correctly will win. Operators do not have to be certified to participate.
- A colour printer has been purchased for the EOCP office. Memory has been added to both computers as well as a new anti-virus program.
- The average CEU requirement for validity from other certification programs is 24 hours for a 2 year period. The EOCP Board endorses this concept. EOCP must put forth notice of when this will be implemented. It was suggested that notice be sent at the end of 2004 to operators at dues renewal time. A committee of 3 Directors will be formed to plan how to proceed.
- The Canadian Institute of Water and wastewater will split into 2 committees - certification and training as 2 different entities. A first draft of "need to know" summaries is due January 2004 through CCHREI to identify qualifications for operators in each of the four main categories.
- EOCP will negotiate with Gerald Samuels to develop a new set of wastewater treatment Level I IV exams by early 2004.
- The new website design will be completed this week with a new look and updated information.
- An order has been placed for the purchase of a scanner and software for marking exams and producing summary sheets. The scanner will take 3 to 4 weeks for delivery. Software is ready now. Training period will be 2 days.
- Revision of the EOCP "Constitution" is ongoing.
- Directors to send all changes to the EOCP office for the Program Guide. A draft will be sent out to Directors for perusal.
- The CEU requirement for certificate renewal is hoped to weed out operators not working in the field.
- Directors and office staff will continue to invigilate Level I-IV exams. Invigilators will only be hired for SWS and SWWS exams. Anyone who provides water to others is defined as a water system operator.
- The next opportunity to give the 2 OUC bursary awards will be in January 2004 to 2nd year students of the Water Quality Technology course.

Mandatory Water Certification (Continued from page 1)

QUALIFICATION STANDARDS FOR PERSONS OPERATING WATER SUPPLY SYSTEMS

- 12 (1) In this section, "Environmental Operators Certification Program" means the program of classification and certification for water supply system operators established in British Columbia by the Environmental Operators Certification Program Society.
 - (2) Subject to subsections (3) and (5), a person is qualified to operate, maintain or repair a water supply system if the person is certified by the Environmental Operators Certification Program for the class of system as classified under the Environmental Operators Certification Program.
 - (3) Subsection (2) applies as follows:
 (a) on January 1, 2005 if the water supply system is classified as level 1 or level 2 or requires a small system certification;

(b) on January 1, 2006 if the water supply system is classified as level 3.

(4) Despite subsection (3), an operating permit may establish a different date on which subsection (2) applies to a water supply system.

(5) Subsection (2) does not apply to a person with specialist knowledge immediately relevant to maintenance or repair of a water supply system and who works under the direct supervision of a person certified by the Environmental Operators Certification Program.

With these new regulations, the EOCP will see further and rapid growth. Many operators in municipal water systems have seen the 'writing on the wall' so to speak, and have voluntarily certified to the level of the system they operate. However, there are still many small water systems in the province that will be challenged to comply with the new DWPR including the classification and certification aspects.

For further information on the Drinking Water Protection Regulations, or any questions relating to facility classification, operator certification or receiving the appropriate applications; please call Barb or Kim at the EOCP office.

BRITISH COLUMBIA PLACE NAMES

How well do you know British Columbia? Feel like a challenge?

Across

- 1. Wood
- 2. Caesar's "C"
- 5. Amusement
- 7. Tea Kettle
- 11. Home to Mica Dam
- 12. Sets Fire to Water
- 14. Willy
- 15. Gold Rush Rest (with 2A)
- 17. Evergreen
- 20. Sea Dropping
- 22. Toolman's Neighbour
- 23. Horse Buggy
- 25. Water or Snow
- 26. Cove
- 27. Alp-Like
- 28. Ocean
- 30. Mountain Range at 56' 40" N/ 128' 30" W
- 32. English
- 33. Tall Carving
- 34. Swimmer

Down

- 1. _____ Saver
- 2. Aquatic Mammal
- 3. Ringer's Cove
- 4. Sequoia
- 6. Mother ____
- 7. Forest
- 8. Direction
- 9. 2000lb Shield
- 10. Shalom
- 12. Provincial Monogram
- 13. Separates Victoria, BC from Seattle, Washington
- 15. Sense of Purpose
- 16. Feline's Cove
- 18. Ferngully
- 19. Heat
- 21. Woman at a Forge
- 24. Stove
- 25. Ocean Border
- 29. Talk
- 31. Garfunkel or Miller for Short



Operator Program: BCWWA Whistler Conference May 2004

TWO DAYS OF OPERATOR CHALLENGE EVENTS & EDUCATIONAL WORKSHOPS

hartered busses will leave Lower Mainland (as long as numbers warrant) on Sunday morning for Whistler and return on Tuesday afternoon. A pre-packaged program Waste Water Plant tour, Water for People Walk-a-thon, Top Ops Competition, Specialty Pumping System Challenge, Four Operator Workshops, AGM Registration (including all associated meals & refreshments), as well as two nights hotel accommodation (sharing) at The Crystal Lodge all for \$399.

OPERATORS CHALLENGE Two days of Action Packed Events Monday May 3rd - Tuesday May 4th

TOP OPS

Three member teams (may be from same utility or from several utilities) compete in a fast paced skill testing question & answer format on topics derived from the Environmental Operators Certification Program's question databank. Operators with water & wastewater experience will test their knowledge in a "friendly competition" against their peers on rapid-fire questions posed by an EOCP moderator & a three member EOCP judging committee will validate responses.

Teams will compete for trophies & awards to be presented on Tuesday May 4 th .

Specialty Pumping System Challenge

Three operators test their team's maintenance skill, dexterity and knowledge pertaining to a A Flygt Dry Pit Submersible pumping system.

With emphasis on safety, skill and time related efficiency, each three member team will be required to properly isolate all energy sources, perform maintenance functions including removal, installation and rebuilding or upgrading of various parts. An O&M manual, including specifications, and data on wet well size, run times, cycles, and inlet elevation will be provided in order to properly perform designated tasks along with completion of a work sheet.

ITT Flygt graciously agreed to provide their model 3102 pump as the prototype for teams to use in this competition.

The pump will be moved from utility to utility province wide so that teams can practice in advance of the AGM competition. GVRD's Water Environmental Federation team has agreed to come to Whistler and perform a "demonstration only" event (and not compete) for all of the first year competition teams

WORKSHOPS

There will be four specialty workshops on:

Water Treatment

 Covering detailed treatment processes and systems, emerging technologies, mathematics and complex chlorine and chemical problem solving involving flow and filtration rates, enhanced safety components, troubleshooting tips and maintenance details and management practices.

Supervisory Skills for Operators

 Including core concepts in supervising in a water/wastewater utility, management & communication, conflict resolution, coaching & mentoring, performance assessment, customer service and budgeting & control.

Wastewater Treatment

• Covering aspects of, organic & inorganic activity in wastewater through all stages of treatment, lift station and wastewater treatment operation management, management principles & concepts, operational and maintenance control options as well as safety program administration.

Wastewater Collection

• This workshop will cover operations of a wastewater collection system including advanced design theory & practical applications.

Continuing Education Units (CEUs) will apply.

Certified Operators attending the conference will receive 1.2 CEUs and 0.6 CEUs for attending the Technology Transfer Seminar. Please check at the Certification (EOCP) booth for CEU credit forms, have them signed by the session Chairs and submit at the address shown on the form. Operator Certification exams may be written on Tuesday May 4 th , 2004 - 1:00pm - 4:30pm in the Boardroom in the Convention Centre, inquire at BCWWA registration desk as to meeting room (Operators must be pre-registered with the EOCP. Please call 604.874.4784. Barb Striegler, EOCP staff will oversee exams.

Please Visit BCWWA website early in 2004 for additional details on the Operator Certification Exams

CERTIFICATION QUIZ - WATER TREATMENT

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

- 1. Which of the following well types is most protected from surface water contamination?
 - A. Artesian well
 - B. Infiltration gallery
 - C. Rock well
 - D. Shallow Well
- 2. What is the pressure in psi at the bottom of a standpipe filled to a height of 47 feet?
 - A. 10.0
 - B. 15.0
 - C. 20.3
 - D. 108.5
- 3. One US gallon per minute equals ____ US gallons per day? A. 24
 - B. 60
 - C. 550
 - D. 1440
- 4. Which of the following elements cause hardness in water?
 - A. sodium and potassium
 - B. nitrogen and sulfur
 - C. fluoride and oxygen
 - D. calcium and magnesium
- 5. Chlorine demand increase when _____ increases?
 - A. Alkalinity
 - B. Organic matter
 - C. Phosphate concentration
 - D. pH
- 6. How many US gallons of water are in a tank 84 inches in diameter by 20 feet high, when the water is 16 feet deep?
 - A. 615
 - B. 763
 - C. 4603
 - D. 5754

7. The electrical load placed on a single circuit

- A. Is not affected by the addition of one more motor.
- B. Is of no interest to the operator
- C. May be increased to any level and no damage will be done
- D. Should be limited by the maximum current rating of the wiring

8. Chlorine is most commonly used in water treatment for?

- A. Disinfection
- B. Corrosion prevention
- C. pH increase
- D. Stabilization

9. Sedimentation is a process that _____ suspended matter.

- A. Settles
- B. Coagulates
- C. Flocculates
- D. Filters
- 10. What effect will the addition of lime, caustic soda or soda ash have on the pH of water?
 - A. Stabilize
 - B. Lower
 - C. Increase
 - D. Have no effect

11. The flow of electrical current is measured in

- A. Amperes
- B. Ohms
- C. Volts
- D. Watts

12. pH is a measure of?

- A. conductivity
- B. water's ability to neutralize acid
- C. hydrogen ion activity
- D. dissolved solids

13. Killing of pathogenic organisms in water treatment is called?

- A. Disinfection
- B. Oxidation
- C. Pasteurization
- D. Sterilization

14. Small gaseous chlorine leaks in and around a chlorinator can be detected by the use of?

- A. Ammonia
- B. Hypochlorite
- C. Lime
- D. Soda ash

15. A major health risk associated with nitrites and nitrates is?

- A. Cancer
- B. Acute respiratory disease
- C. "blue baby" syndrome
- D. reduced IQ in children

Answers are on page 12.

PLANT PROFILE: City of Penticton Water Treatment Plant

he City of Penticton is located at the southern end of the Okanagan Valley close to the US border. It has Okanagan Lake to the north and Skaha Lake to the south. It is well known for its sunny beaches, friendly people, wineries, and as home to the Canadian Ironman Triathlon. The City's population is approx. 32,550 and the water distribution system has 8,100 service connections. The idea for a water treatment plant was conceived in 1986 after several Giardiasis outbreaks and implemented in 1997.

OVERVIEW

The original water system was built in the 1920's and consisted of one source, Penticton Creek. The water system was later updated to include pumping from Okanagan Lake during seasonal water quality changes. It has a main storage dam, Greyback, and separate domestic and irrigation systems. Because of the separate systems, construction of a smaller facility was feasible.

The \$20,000,000 project included the cost of the treatment plant, construction of pipelines, upgrading a pressure reducing station and Okanagan Lake pump station.

PLANT

Two primary sources, Penticton Creek and Okanagan Lake, feed the plant. This allows for the flexibility to choose which source is the best according to quality, supply capacity, pumping costs, and energy savings. The facility is a multi-barrier system that consists of intake structure, flash/rapid mix, coagulation, flocculation, sedimentation, filtration, and disinfection.

Intake

Classification	
Class IV Water Treatment Plant	
Specifications	
Nominal Capacity:	60 ML/day
Hydraulic Capacity:	100 ML/day
Average Daily Flow:	21.4 ML/day
Peak Flow:	52.4 ML/day
Minimum Flow:	10.4 ML/day

- Removal of large objects such as logs, leaves, fish and other large foreign objects, done by screening.
- Penticton Creek is fed to the plant by gravity from a reservoir.
- Okanagan lake water is pumped in a dedicated line directly to plant.



Flash/Rapid Mixing Tanks

The primary purpose of the flash mix process is to rapidly mix and equally distribute the coagulant chemical throughout the raw water.

• Specifications

Tanks: 4 (2 per train)

Volume: 12.6 m³/train

- Large propellers do the mechanical mixing. Coagulant mixing is achieved in approximately 20 seconds.
- Raw water is pre-chlorinated (Cl2) here to help aid in coagulation and settling.
- The coagulant, Polyhydroxy Aluminum Chloride, is added and mixed rapidly as the raw water enters the facility. The mixing process must be complete and uniform to achieve the proper results.

Coagulation/Flocculation Tanks

Coagulation is the process of clumping fine particles into larger particles, this increase is size and density will allow for removal by settling, skimming and filtering. Flocculation is the process of gentle mixing; this brings the particles together to increase size.

• Specifications

Tanks: 6 (3 per train) Volume: 670 m³/train

- Flocculation tank is a continuation of the mixing process without the velocity.
- The mechanical flocculators are vertical propellers
- Flocculation basins are baffled to prevent short-circuiting of the water

Sedimentation Tanks (Plate Settlers)

Removal of large particles that have densities higher then water by settling thus reducing the loading of filters. This is achieved by decreasing the velocity to almost zero so gravity can settle out impurities.

- Specifications
 - Tanks: 1 Volume: 1355 m³

- The sedimentation basin uses plate settlers. These high rate settlers were developed to increase the efficiency of the sedimentation basin
- As water enters the basin, it travels up the plates, decreasing the velocity and increasing the surface area. Settling is achieved by gravity.
- Sludge is collected at the bottom of the settling tank and is removed and discharged to sanitary sewer. It can also be centrifuged.

Filtration

Filtration is the removal of particulate impurities and floc by passing the water through a filter bed. The impurities can consist of suspended materials (fine silts/sand and clay), colour and biological (bacteria).

Specifications

Number of Filters	6
Filtration Rate	18 m/hr
Filter Size	4.5 m X 10 m
Filter Depth	1.83 m
Medium Type	Anthracite
Backwash Rate	650 L/sec or 300m ³
Air Scour Rate	46 m³/min

- Water flows through 6 mono-medium (anthracite) gravity filters, which is one of the first installations of its type in Canada.
- Filter run times vary from 48 to 100 hours depending on water source and quality.
- Run time before backwashing a filter is determined by a combination of particle counts, turbidity, and head loss, and is done by mechanical means. This consists of blowers for air scour and vertical turbine pumps for backwash water

Disinfection

Disinfection is the selective destruction of pathogenic organisms.

Specifications

Clearwell 6681m³ Pre & Post Cl₂





- Post chlorination is applied to meet distribution needs. Post chlorination allows for protection of the distribution system and reservoirs.
- Full treatment of the water allows the chlorine dose to be significantly lower than it would be if chlorine disinfection were the only form of treatment.

Continued

INFLUENT (Average)	Turbidity (NTU)	Alkalinity (mg/l)	Hardness (mg/l)	pH (- Log H+)	Color (Apparent)	Color (True)
Raw Creek Water	1.78	17	17	7.51	58.0	46.0
Raw Lake Water	0.24	113	119	8.16	5.4	3.2
EFFLUENT (Average)	Turbidity (NTU)	Alkalinity (mg/l)	Hardness (mg/l)	pH (- Log H+)	Chlorine Residual (mg/l)	Temperature (°C)
Distribution System	0.09	75	80	7.6	0.47	11.3

LAB DATA

OPERATION

The City of Penticton Water Treatment Plant and distribution system are operated and maintained by highly trained and certified operators. The plant contains a modern laboratory where water quality is monitored; which in turn assists the operators to adjust the plant performance to meet or exceed Canadian Drinking Water Standards.

POINTS OF INTEREST

Staff

- Dave Evanchu, WT-III, WWT-I
- Greg Mealing WT-III, WWT-I
- Brent Edge, WT-III, WWT-III
- Brian Edge, WT-III, WWT-II
- Bruce Stickland, Electrician/WT-I

Distribution System

- 160 Kilometers of water mains
- 900+ fire hydrants
- 5 reservoirs
- 8100+ service connections
- Treatment plant provides protection against Giardia Lamblia, Cryptosporidium, water borne bacteria, and viruses.
- Facility is primary run with blended water from Penticton Creek and Okanagan Lake.
- Blended water requires no pH adjustment.
- Modern SCADA system can control both water treatment facility and remote water supply system from a single location.
- A diesel generator provides backup power with the ability to run plant at full load capacity.
- All laboratory work is done internally, including microbiological tests of which there are approx. 1000/yr.

— By Kevin McLuskey









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JWC Environmental: Muffin Monster/Channel Monster Grinders Auger Monster Screening System for Headworks or Pumping Stations Honey Monster Septage Receiving & Billing System Screenings Washer Monster

<u>G.A. Industries:</u> GOLDEN ANDERSON VALVES Specializing in Automatic Control Valves for Water and Wastewater Applications since 1885 Also: Air Valves & Swing Check Valves

DIRECTOR PROFILE – Eric Jackson

Education:

Graduation from BC Institute of Technology in 1967 in Chemical and Metallurgical Technology

Experience:

- 3 years with McMillan Bloedel Research Ltd. in Vancouver
- 1 year with TW Beak Environmental Consultants, Vancouver
- 6 years with Min. of Water, Land and Air Protection, Vernon
- 25 years with City of Vernon as Director of Water Reclamation
- 1 year with Terasen Utility Services as a Water and Wastewater Consultant

EOCP Certification:

- Obtained WWT Level 1 certificate (#283) in March 1978
- Obtained WWT Level 2 certificate in December 1978
- Obtained WWT Level 3 certificate in June 1980

EOCP Board Experience:

- First elected to EOCP Board in May 1981. Total of 23 years on Board except for a brief time in 1990.
- Responsibilities on Board include Treasurer and Director for the constitution and by-laws.



Personal Details:

- Married for 32 years with daughters aged 30, 27 and 21, and a son aged 24.
- Lived in Vernon for past 32 years.
- Collects old cameras and has over 500. Current interests are to work on slowing down and mixing semi-retirement with consulting work.



OPERATOR PROFILES – Frank Valentim, Dave Evanchu

rank Valentim has been employed with the City of Kelowna for 11 years. Prior to that he worked for the G.V.R.D. and the Capitol Regional WWTP (A.B.), bringing a total of 29 years experience in the wastewater field to Kelowna. Frank is certified in WWT III, WT I, WD I, WWC I and a certified Millwright.

Duties included day to day operations and millwright duties as required at both of the City's wastewater facilities. He also heads the preventative maintenance program including conception, design and updates for the system.

In his spare time Frank and his wife, Coreen, enjoy river and lake kayaking. They have done this for over 30 years and raised their two boys on the river. The majority of their kayaking is in class II and III white water. In 2004 they are planning a kayak trip to the Kootenay River and the Byron Lake chain.



ave grew up in Edmonton and spent several summers visiting the Okanagan enjoying the warm climate and the people he met. In 1981, to fulfill a lifelong dream, Dave moved to Penticton. Years later he decided to widen his horizons and take on a challenge that led him to a return to school.



In 1993, Dave was accepted into the Water Quality

Technology Program a Okanagan University College. During his co-op work terms, Dave was employed at the GVRD Lulu Island Wastewater Treatment Plant. He graduated in 1995 and continued seasonal work at the Lulu Island WWTP.

In 1997, Dave applied for a position with the City of Penticton at the new Penticton Water Treatment Plant. Dave's current job is a Water Treatment Operator. He is certified as a Level III Water Treatment operator and a Level I Municipal Wastewater Treatment operator. His daily duties at the Penticton WTP include laboratory analysis, calibration of process analyzers, equipment maintenance, reservoir level, and chemical and flow adjustment as required.

Dave and his wife Sandy have been married for twelve years and have one daughter, Julie. On weekends Dave and Sandy can be found roaming the roads of BC taking in the sites on their sport bike.

CERTIFICATION QUIZ ANSWERS:

Answers: 1. A, 2. C, 3. D, 4. D, 5. B, 6. C, 7. D, 8. A, 9. A, 10. C, 11. A, 12. C, 13. A, 14. A, 15. C.



Phone: (604) 942-0288 Fax: (604) 942-5858 Email: bg@bgcontrols.com Website: www.bgcontrols.com

ABB TURBIDITY, D.O. PH & CONDUCTIVITY ANALYZERS, MAGNETIC FLOWMETERS CAPITAL CONTROLS/FISCHER & PORTER CHLORINATORS CLORTEC ONSITE HYPOCHLORITE SYSTEMS SENS 'N SEND/OMNEX RADIO MODEMS SIRCO EFFLUENT SAMPLERS OHMART VEGA LEVEL & OPEN CHANNEL FLOW DREXELBROOK SLUDGE BLANKET LEVEL



NEWLY CLASSIFIED OR UPDATED FACILITIES

Facility No	Facility Name	Classification / Level	City/Province
273	Airport Blackburn Lagoon	MWWT I	Prince George, BC
204	Alexis Creek Wastewater Treatment Facility	MWWT I	Williams Lake, BC
20	Alouette River Correctional Facility	SWWS-M	Maple Ridge, BC
42	Annacis Island Wastewater Treatment Facility	MWWT IV	Delta, BC
654	Apex Circle Small Water System	SWS	Penticton, BC
506	B.C. Rail Prince George Wastewater Treatment Facility	IWWT II	Prince George, BC
272	BCR Lagoon	MWWT I	Prince George, BC
431	Beaver Creek Water Distribution System	WD II	Port Alberni, BC
661	Black Mountain Irrigation District Water Treatment Plant	WT IV	Kelowna, BC
126	Black Mountain Irrigation District	WD IV	Kelowna, BC
665	Bluewater Park Small Water System	SWS	Bowen Island, BC
302	Chemainus Sewage Treatment Facility	MWWT III	Chemainus, BC
676	Cherry Creek Waterworks District	WD III	Port Alberni, BC
212	City of Armstrong Wastewater Treatment Facility	MWWT II	Armstrong, BC
684	City of Chilliwack Water System	WD IV	Chilliwack, BC
289	City of Cranbrook Lagoon	MWWT I	Cranbrook, BC
674	City of Fort St. John Water Treatment Plant	WT III	Fort St. John, BC
680	City of Grand Forks Water System	WD III	Grand Forks, BC
32	City of Greenwood Sewage Treatment Facility	MWWT II	Greenwood. BC
36	City of Kelowna Pollution Control Centre	MWWT IV	Kelowna, BC
39	City of Kimberley Pollution Control Centre	MWWT III	Kimberley, BC
84	City of Kimberley Wastewater Collection System	WWC II	Kimberley, BC
83	City of Kimberley Water Distribution System	WD III	Kimberley, BC
679	City of Merritt Community Water System	WD II	Merritt. BC
37	City of Merritt Wastewater Treatment Facility	MWWT III	Merritt, BC
12	City of Nelson Sewage Treatment Facility	MWWT II	Nelson, BC
14	City of Penticton Advanced Wastewater Treatment Facility	MWWT III	Penticton, BC
93	City of Port Alberni Sewage Lagoon	MWWT I	Port Alberni, BC
44	City of Revelstoke Sewage Treatment Facility	MWWT II	Revelstoke, BC
271	Clearwater Sewage Lagoon	MWWT I	Clearwater. BC
677	Columere Waterworks Limited	SWS	Fairmont Hotsprings, BC
101	Comox Valley Water Pollution Control	MWWT IV	Courtenay, BC
206	Crofton Sewage Treatment Facility	MWWT II	Crofton, BC
275	Danson Lagoon	MWWT I	Prince George, BC
342	District of Elkford Wastewater Treatment Facility	MWWT I	Elkford, BC
230	District of Fort St James Sewage Treatment Facility	MWWT II	Fort St James, BC
30	District of Houston Wastewater Treatment Facility	MWWT II	Houston, BC
200	District of Hudson's Hope Wastewater Treatment Facility	MWWT I	Hudson's Hope, BC
3	District of Kitimat Pollution Control Centre	MWWT I	Kitimat BC
327	District of Logan Lake, Wastewater Treatment Facility	MWWT I	Logan Lake BC
348	District of Mackenzie Sewage Lagoons	MWWT I	Mackenzie BC
340	District of Mackenzie Water Distribution System	WD II	Mackenzie, BC
667	District of New Hazelton Water Distribution System	WD II	New Hazelton BC
668	District of New Hazelton Water Treatment Plant	WT II	New Hazelton, BC
400	District of Port Edward Water Pollution Control Center	MWWT I	Port Edward BC
470 647	District of Salmon Arm Water Distribution System	WDIV	Salmon Arm BC
512	District of Samon Ann Water Distribution System		Nanaimo BC
207	Duncan /North Cowichan Joint Board - Sowage Lagoons		Duncan BC
664	Faglecliff Small Water System	SWS	Bowen Island RC
651	Faulder Water System - RDOS	SWS	Penticton RC
303	Fort Fracer Lagoons	SWWS-M	Fort Fraser RC
662	Fort Frager Small Water System	SWV	Burne Lake BC
002	run maser sindii water system	3773	Duill's Lake, DC

NEWLY CLASSIFIED OR UPDATED FACILITIES

Facility No Facility Name

Facility No	Facility Name	Classification / Level	City/Province
189	Fort Nelson Wastewater Treatment Facility	MWWT I	Fort Nelson, BC
660	Fraser Regional Correctional Centre Small Wastewater System-	SWWS-M	Maple Ridge, BC
648	Gillies Bay Small Water System	SWS	Gillies Bay, BC
86	JAMES Pollution Control Centre	MWWT IV	Abbotsford, BC
681	Kitsumkalum Water Treatment Plant	WT II	Terrace, BC
663	Knutsford Knoll Modular Park Small Wastewater System	SWWS-M	Knustford, BC
199	Lac La Hache Wastewater Treatment Facility	MWWT I	Williams Lake, BC
5	Lansdowne Road Wastewater Treatment Facility	MWWT IV	Prince George, BC
4	Lulu Island Wastewater Treatment Facility	MWWT IV	Richmond, BC
18	Mamquam Wastewater Treatment Facility	MWWT II	Squamish, BC
513	Maxwell Baha'I Sewage Treatment Facility	MWWT I	Shawnigan Lake, BC
8	Nanaimo Pollution Control Centre	MWWT III	Nanaimo, BC
475	Newstech Recycling Ltd. Partnership Wastewater Treatment	IWWT III	Coquitlam, BC
328	Okanagan Falls Wastewater Treatment Facility	MWWT II	Okanagan Falls, BC
650	Olalla Water System - RDOS	SWS	Penticton, BC
191	Pine Valley Wastewater Treatment Facility	MWWT I	Williams Lake, BC
672	Queen Charlotte City Water System	WD II	Queen Charlotte, BC
671	Queen Charlotte City Water Treatment Plant	WT II	Queen Charlotte, BC
505	Ridgeview RV Resort - Wastewater Treatment Facility	SWWS-M	Kelowna, BC
666	Robson-Raspberry Improvement District	WD I	Robson, BC
326	Rolla Sewage Treatment Facility	SWWS-L	Rolla, BC
287	Shelley Road Sludge Lagoons	MWWT I	Prince George, BC
670	Silvermere Wastewater Treatment Plant	SWWS-M	Mission, BC
673	Stillwood Camp and Conference Centre Wastewater Treatment	SWWS-M	Lindell Beach. BC
344	Sunset Point Sewage Treatment Facility	MWWT I	West Vancouver. BC
678	Sunset Ranch Water System	SWS	Kelowna. BC
51	Town of Creston Sewage Treatment Facility	MWWT IV	Creston. BC
40	Town of Gibsons Wastewater Treatment Facility	MWWT III	Gibsons, BC
65	Town of Ladysmith Wastewater Treatment Facility	MWWT III	Ladysmith, BC
243	Town of Osovoos Aerated Lagoons	MWWT I	Osovoos. BC
340	Town of Princeton Wastewater Treatment Facility	MWWT II	Princeton, BC
343	Town of Princeton Water Distribution System	WD III	Princeton, BC
352	Tumbler Ridge Wastewater Treatment Facility	MWWT I	Tumbler Ridge
683	Union Bay Improvement District	WD II	Union Bay, BC
50	Village of Ashcroft Wastewater Treatment Facility	MWWT II	Ashcroft, BC
241	Village of Burns Lake Sewage Lagoon	MWWT II	Burns Lake, BC
11	Village of Cache Creek Pollution Control Centre	MWWT II	Cache Creek, BC
478	Village of Carmacks Sewage Treatment Facility	MWWT II	Village of Carmacks, YT
131	Village of Keremeos Wastewater Treatment Facility	MWWT II	Keremeos BC
675	Village of Lions Bay Water System	WD II	Lions Bay, BC
266	Village of Lytton Wastewater Treatment Facility	MWWT I	Lytton BC
322	Village of Montrose Sewage Treatment Facility	MWWT II	Montrose BC
320	Village of Police Coupe Wastewater Treatment Facility	MWWT I	Pouce Coupe BC
31	Village of Salmo Wastewater Treatment Facility	MWWT III	Salmo BC
660	Village of Silverton Small Water System	SWS	Silverton BC
00	West Langley Wastewater Treatment Facility	MWWT III	Langley BC
274	Western Acres Lagoon/Wetland	MWWT I	Prince George RC
470	Western Puln -Port Alice Industrial WWT Facility	IWWT IV	Port Alice RC
203	Wildwood Wastewater Treatment Facility	MWWT I	Williams Lake RC
200	What was water meanient facility	141 44 44 1 1	Williams Lake, DC

CERT. NO.	NAME		СІТҮ	CERT. NO.	NAME		СІТҮ
4171	Abernethy, Doug	SWS	Prince George, BC	4316	Brown, Michelle	SWS	Burns Lake, BC
3348	Ackerman, Robert	WD II	Richmond, BC	4200	Brummund, Trevor	SWS	Prince George, BC
3407	Acton, Dave	CH	Vernon, BC	4199	Brunelle, Martin	SWWS-L	150 Mile House, BC
3408	Agecoutay, Lisbeth	WWC II	Port Coquitlam, BC	4199	Brunelle, Martin	SWS	150 Mile House, BC
3408	Agecoutay, Lisbeth	OIT WD	Port Coquitlam, BC	4191	Bruno, Tommaso	OIT WD	Vancouver, BC
4195	Agnew, Anna Maria	MWWT I	Whistler, BC	3465	Burbidge, Scott	WD II	Richmond, BC
4140	Allard, Norman	SWS	Cranbrook, BC	144	Burger, Wayne	WD II	Chilliwack, BC
4065	Allen, Duane	MWWT I	Sparwood, BC	3149	Burkowsky, Curtis	MWWT III	Chilliwack, BC
4158	Allingham, Colin	MWWT I	Kitimat, BC	1736	Byrne, Martin	WD III	Port Alberni, BC
3914	Allman, Sid	MWWT II	Powell River, BC	3421	Caissie, Jerry	WWC II	Pitt Meadows, BC
4327	Anderson, Roy	WD I	Sooke, BC	109	Campbell, Gord	WD III	Chilliwack, BC
3989	Anthony, Gordon	WD I	Chase, BC	4122	Cannon, Warren	CH	Ucluelet, BC
4120	Antifeau, Mark	MWWT I	Burnaby, BC	3167	Cantelo, John	OIT WD	Vancouver, BC
4120	Antifeau, Mark	OIT WD	Burnaby, BC	3270	Carnduff, Donald	OIT WWC	New Westminster, BC
4213	Aronetz, Cameron	WD I	Surrey, BC	3332	Carter, Wade	WD II	Powell River, BC
4139	Atwater, Greg	SWS	Chase, BC	4318	Case, Danny	SWS	Fort Ware, BC
4143	Bach, Ken	WWC I	Dawson City, Yukon	338	Case, Doug	CH	Langley, BC
4143	Bach, Ken	WD I	Dawson City, Yukon	4319	Casimer, Chris	SWS	Vanderhoof, BC
3137	Baird, Kenneth	SWS	Delta, BC	4135	Chase, Richard	SWS	Bowen Island, BC
1191	Banman, Mike	WWC II	Richmond, BC	4222	Chernenkoff, John	MWWT I	Crescent Valley, BC
4198	Barker, Terry	SWWS-L	Blind Bay, BC	4307	Chirkoff, Paul	OIT WWT	Vernon, BC
4328	Barnes, James	WD I	North Vancouver, BC	4106	Christou, Peter	WT I	Kitimat, BC
3528	Barstow, Murray	CH	Richmond, BC	4106	Christou, Peter	WWC I	Kitimat, BC
4366	Baytaluke, Harold	OIT WWT	Sparwood, BC	4106	Christou, Peter	WD I	Kitimat, BC
1003	Beaton, Barry	WD II	Coquitlam, BC	3438	Chu, Alfred	WD II	Coquitlam, BC
4214	Beckett, Stephen	WD I	Pitt Meadows, BC	4201	Clairmont, Guy	SWS	Blind Bay, BC
3058	Bell, George	WD II	Williams Lake, BC	4206	Clyde, Nelson	SWS	Terrace, BC
4227	Bennett, Stephen	SWS	Kamloops, BC	3532	Collins, Brian	WD II	Port Moody, BC
4301	Benson, Darren	SWS	North Vancouver, BC	4181	Collins, John	SWS	Merritt, BC
4223	Bentley, Keith	MWWT I	Heffley Creek, BC	4358	Colonna, Kerry	WD I	Invermere, BC
3716	Berg, Allan	WWC I	Hazelton, BC	4202	Cook, Joseph	SWS	Prince George, BC
1915	Berglund, Mike	OIT WD	Port Coquitlam, BC	4334	Corden, Richard	WD I	Surrey, BC
4356	Bissett, Clint	WD I	Delta, BC	4189	Cottrill, Timothy	WD I	Keremeos, BC
3463	Black, Leonard	WD II	North Vancouver, BC	4179	Crow, Keith	SWS	Keremeos, BC
4320	Blair, Karen	SWS	Burns Lake, BC	4373	Cruickshank, Steven	SWS	Comox, BC
4180	Bob, Jacob	SWS	Merritt, BC	4326	Csomor, Natalia	CH	Qualicum Beach, BC
3860	Boe, Clinton	CH	Lister, BC	4326	Csomor, Natalia	WD	Qualicum Beach, BC
3175	Bonnar, Steve	WD II	Chilliwack, BC	4194	Cunningham, Adam	OIT WD	Keremeos, BC
1814	Borrill, Douglas	WT II	Barriere, BC	3510	Cusano, Nick	WD II	North Vancouver, BC
4321	Boston, Richard	SWS	Dog Creek, BC	4331	Daley, Wayne	SWS	Fort St. James, BC
1867	Boyles, Terence	WD II	Cobble Hill, BC	3483	Darbyshire, Peter	WD I	Christina Lake, BC
4333	Brass, John	WD I	Chilliwack, BC	2048	Davidson, Peter	WWC II	Whistler, BC
4302	Brennen, John	SWS	Fanny Bay, BC	3273	Davis, Gordon	WT I	Revelstoke, BC
1270	Brereton, Doug	MWWT IV	Pemberton, BC	1972	De Crane, Kim	IWWT III	Port Alice, BC
4105	Brommeland, Darwin	SWS	Kelowna, BC	1952	De Jong, Harold	WT II	Fort Nelson, BC
1024	Brooks, John	WDI	Prince George, BC	3437	Deacon, Daniel	OTT WWC	Surrey, BC
1416	Bround, Chris	WD II	New Westminster, BC	3437	Deacon, Daniel	WD II	Surrey, BC
3554	Brown, Jim	WTT	Lytton, BC	3635	Deacon, Fred	WDI	Windermere, B.C.

CERT NO.	r. NAME		CITY	CERT. NO.	NAME		CITY
152	9 DeJong, Eric	WWC II	Peachland, BC	3130	Gehrer, Christopher	SWS	Langley, BC
413	8 Derrickson, Krista	CH	Westbank, BC	4170	Gehring, Ronald	SWS	Maple Ridge, BC
413	8 Derrickson, Krista	OIT WD	Westbank, BC	4172	Gehring, Shane	SWS	Maple Ridge, BC
413	8 Derrickson, Krista	SWS	Westbank, BC	4102	Geismar, John	СН	Prince Rupert, BC
432	2 Desjarlais, Corey	SWS	Southbank, BC	4323	George, Dan	SWS	Burns Lake, BC
358	5 Dhami, Randheir	MWWT I	Duncan, BC	3862	Giesbrecht, George	SWWS-L	Williams Lake, BC
419	2 Donaldson, Eric	OIT WD	Vancouver, BC	3862	Giesbrecht, George	WD I	Williams Lake, BC
420	3 Douglas, Vickie	SWS	Maple Ridge, BC	3536	Giroux, Daniel	WD II	Richmond, BC
102	0 Douville, Robin	WD II	Creston, BC	4361	Gosling, Jason	WWC I	Nanaimo, BC
193	8 Drews, Glenn	MWWT III	Kelowna, BC	4226	Govett, Blake	SWS	Kamloops, BC
154	Dugas, Dennis	WT II	Port Hardy, BC	4162	Gower, Barry	SWS	Chilliwack, BC
154	Dugas, Dennis	WT I	Port Hardy, BC	3464	Grant, James	WD I	Victoria, BC
436	0 Duke, Lawrence	WWC I	Port Alberni, BC	1858	Grant, Richard	WD II	Mission, BC
138	2 Dunphy, Malcolm	CH	Aldergrove, BC	4225	Greenough, Benjamin	WT I	Queen Charlotte City, BC
417	4 Edgar, Terry	SWS	Port Alberni, BC	4190	Greer, Terry	WD I	Port Coquitlam, BC
508	Edge, Brent	WT III	Penticton, BC	1205	Grieve, Glen	WT II	Fruitvale, BC
111	5 Edge, Brian	WT III	Penticton, BC	3548	Griffith, Lionel	MWWT I	Richmond, BC
433	5 Edge, Corey	WD I	Delta, BC	3964	Grill, Martin	MWWT I	Nelson, BC
437	2 Eirikson, Ross	SWS	Merville, BC	1897	Gustafson, Darrell	WWC II	Fort Nelson, BC
433	6 Escudero, Manuel	WD I	North Vancouver, BC	4123	Halfpenny, Corey	OIT WWC	Abbotsford, BC
403	8 Etherington, Todd	WD II	North Vancouver, BC	1710	Hall, Brent	MWWT IV	Port Moody, BC
406	9 Etty, Marshall	CH	Valemount, BC	4363	Hamilton, Sandy	WDI	Chilliwack, BC
326	8 Fasciglione, Vito	WD II	Surrey, BC	2072	Hannestad, Kent	WTII	Port Coquitlam, BC
326	8 Fasciglione, Vito	OIT WWC	Surrey, BC	4337	Hansen, Dave	WDI	Comox, BC
192	5 Favali, Roy	CH	Vernon, BC	4035	Hansen, Karl	WDI	Tofino, BC
854	Ferguson, Michael		North Vancouver, BC	4314	Harry, Austin Jr.	SWS	Fort St. James, BC
410	7 Finnigan, Darrell	CH	Merritt, BC	3523	Harry, Ernest	WDI	Powell River, BC
410	4 Flanagan, Glenn	SWS	Prince George, BC	4338	Hartley, Brian		Saltspring Island, BC
205	5 Form Dotor	5WW5-W	Vancourier PC	4190	Hayes, Mark		Summeriana, DC
205	5 Forall, Peter		Valicouver, DC	1207	Hera, Seigirieu		Oliver, DC
110	3 Franklin Kotyk	SWS	Montrosa BC	1205	Hardsman Christopha		Vancouwar BC
/18	8 Franks Torry	WD I	Dawson city Vukon	1295	Herschmiller Michael		North Vancouver RC
410	3 Fraser Jack	SWWS-I	Smithers RC	4215	Herschmiller Michael	CH	North Vancouver, BC
410	3 Fraser Jack	SWS	Smithers RC	3037	Highert Timothy	MWWT I	Osovoos RC
400	2 Fredericks Robert	SWWS-M	Mackenzie BC	3270	Hill Ian	WDI	Revelstoke BC
301	2 Fry Scott	WD I	Sechelt BC	4187	Hill, James	WDI	Chilliwack, BC
177	5 Gagnon, Richard	WDI	100 Mile House, BC	772	Hoehn. Tom	MWWTI	Powell River, BC
177	5 Gagnon, Richard	OIT WT	100 Mile House, BC	1087	Hogg, Graham	WD I	Kelowna. BC
390	5 Gailey. Neil	CH	Chemainus. BC	1759	Horin. Jerry	SWS	Sardis. BC
390	5 Gailey, Neil	WWC I	Chemainus, BC	3595	Howard, Ir., Richard	WTI	South Hazelton. BC
432	9 Galbraith, Arthur	WD I	Vancouver, BC	4046	Huhn, Calvin (Kellv)	IWWT I	Logan Lake, BC
419	7 Galway, Colin	WD I	Surrey, BC	4221	Humphries, Rouse	MWWT I	Kamloops, BC
301	5 Garner, Jeremy	MWWT I	Fort St. John, BC	1615	Hunt, Sheryl	WD I	Kelowna, BC
308	5 Gatt, Ray	WD II	Powell River, BC	4216	Hunter, Ronald	WD I	Abbotsford, BC
403	2 Gaudet, Daniel	WT I	Brackendale, BC	4332	Ilachtchouk, Nikolai	WD I	Burnaby, BC
403	2 Gaudet, Daniel	WD I	Brackendale, BC	4193	Inglis, Lorne	OIT WD	Maple Ridge, BC
416	0 Gehman, Regan	SWS	Cultus Lake. BC	4210	Inkster, Richard	SWS	Terrace. BC

CERT. NO.	NAME		CITY	CERT. NO.	NAME		CITY
1723	Jacques, Joseph	WD I	Pitt Meadows, BC	4309	Mahood, Patrick	MWWT I	Kelowna, BC
3324	James, Jennifer	WWC I	Whistler, BC	4182	Mann, Sukhvir	WWC I	Mission, BC
4352	Janssen, William	WD I	Cobble Hill, BC	3987	Manuel, Daniel	WD I	Merritt, BC
4186	Janzen, David	WD I	Oliver, BC	4147	Marconato, John	OIT WWC	Vancouver, BC
4224	Jenkin, Anthony	WT I	Trail, BC	4351	Martin, Dexter	SWWS-L	Fort St. James, BC
4311	Jennings, Ryan	WD I	Saanich, BC	4342	Mason, Wesley	WD I	West Vancouver, BC
3572	Jensen, Arne	WD I	Ucluelet, BC	1213	Massier, Larry	WT II	Abbotsford, BC
4308	Jewell, Joe	MWWT I	Port Hardy, BC	1896	Matias, Joe	MWWT III	Merritt, BC
4010	Jmayoff, Greg	MWWT I	Lytton, BC	1896	Matias, Joe	CH	Merritt, BC
1824	Johnson, Kenneth	OIT WWC	White Rock, BC	3190	Maximuk, Gregory	OIT WD	Port Coquitlam, BC
4324	Johnson, William	SWS	Alkali Lake, BC	4217	McColl, Terry	WD I	Harrison Hot Springs, BC
3087	Jones, Brian	WT I	Langley, BC	1533	McCorkindale, Neil	OIT WWC	Maple Ridge, BC
4339	Jones, Thomas	WD I	Qualicum Beach, BC	4185	McDonald, Duncan	WD I	Elkford, BC
4161	Jonigkeit, Peter	SWS	Toms Lake, BC	4204	McKay, Douglas	SWS	Terrace, BC
4303	Jukes, Hiram	SWS	Delta, BC	4340	McKay, Keith	WD I	Union Bay, BC
3275	Kalinczuk, John	MWWT I	Sicamous, BC	3334	McKerr, James	WD II	Comox, BC
989	Kelder, Mike	WWC II	Surrey, BC	1490	McLean, Robin	OIT WT	Winfield, BC
4166	Kidd, Jeffery	SWWS-M	Prince George, BC	4313	McLennan, Roderick	WD I	Victoria, BC
4166	Kidd, Jeffery	SWS	Prince George, BC	4341	McNab, Alan	WD I	Comox, BC
3971	King, Keith	SWWS-L	Prince George, BC	4153	McNeil, Gregory	SWS	Agassiz, BC
4354	Kingsbury, James	WT I	Agassiz, BC	1461	Mealing, Greg	WT III	Penticton, BC
4167	Klassen, Warren	SWS	Taylor, BC	301	Mercer, Allan	WWC I	Nanaimo, BC
4167	Klassen, Warren	SWWS-L	Taylor, BC	3551	Michaud, Richard	SWWS-L	Williams Lake, BC
4312	Kuroda, Ken	WD I	Penticton, BC	2019	Michell, Clayton	WT I	Smithers, BC
3216	Kylmala, Senja	MWWT III	Richmond, BC	3867	Miller, Carl	CH	Sparwood, BC
3237	Laboucane, Victor	WT II	Queen Charlotte, BC	3982	Miller, Patricia	WT I	Sun Peaks, BC
876	Laidman, Alan	WT I	Penticton, BC	3982	Miller, Patricia	WD I	Sun Peaks, BC
3963	Lamb, Russell	WD I	Smithers, BC	3201	Mills, Arthur	OIT WWC	New Westminster, BC
3798	Lamming, Dean	СН	McBride, BC	3950	Montague, Eli	WWC I	Richmond, BC
3401	Lang, Richard	WD II	Port Alberni, BC	2020	Moore, Floyd	WT I	Hazelton, BC
1597	Lannan, Robert	WWC I	Saltspring Island, BC	2020	Moore, Floyd	SWS	Hazelton, BC
3799	Lapointe, Mike	WD II	Logan Lake, BC	4132	Morgan, Paul	SWS	Bowen Island, BC
1570	Laskiwski, Richard	WWC II	Surrey, BC	4150	Morris, Mark	WD I	Surrey, BC
4149	Latimer, Wayne	WD I	Port Moody, BC	2027	Morrison, Jerry	WT II	Hazelton, BC
3935	Laurence, Mike	WWC II	Coquitlam, BC	2027	Morrison, Jerry	SWS	Hazelton, BC
3935	Laurence, Mike	OIT WD	Coquitlam, BC	1133	Morton, Gary	OIT WWC	New Westminster, BC
4229	Leclerc, Denis	SWS	Maple Ridge, BC	3307	Mossop, Scott	WTI	Kelowna, BC
1658	Lefebvre, Sean	WD III	Port Hardy, BC	3307	Mossop, Scott	WD II	Kelowna, BC
3904	Legroulx, Denis	WD II	Surrey, BC	3541	Moxin, Greg	WD II	Richmond, BC
3537	Lockwood, Gerry	WWC I	Mission, BC	4343	Moyle, Travis	WD I	Squamish, BC
4001	Loewen, Marcus	SWWS-L	Dease Lake, BC	1435	Myles, Ross	WD I	North Vancouver, BC
4159	Logan, Rob	SWS	Cultus Lake, BC	3473	Nadeau, Daniel	MWWTI	Lone Butte, BC
3040	Looker, Keith	WDI	Ucluelet, BC	1726	Nees, Roy	OIT WD	Port Coquitlam, BC
4144	Lowe, Jason	WWCI	Vancouver, BC	4141	Nicholas, Joseph	SWS	Windermere, BC
4144	Lowe, Jason	OIT WD	Vancouver, BC	4310	Nickel, Hardy	SWS	Prince George, BC
3123	MacDougall, Grant	WWC II	Langley, BC	4146	Nolan, Kenneth	OIT WD	North Vancouver, BC
4304	Maclver, John	SWS	Maple Ridge, BC	4146	Nolan, Kenneth	WWC I	North Vancouver, BC
3349	Mah, Roger	WD II	Vancouver, BC	3098	O'Neill, Conor	MWWT III	Richmond, BC

CERT. NO.	NAME		СІТҮ	CERT. NO.	NAME		CITY
3347	Oud, Wayne	WD I	Smithers, BC	4370	Shiel, Gilbert	SWS	Shalath, BC
3148	Paradis, Jean	MWWT II	Whistler, BC	4330	Simons, David	SWS	Prince George, BC
4154	Parsey, Rodney	SWS	Agassiz, BC	3909	Simpkins, Lee	WD II	Deroche, BC
4228	Paulsen, Edward	SWS	Princeton, BC	4177	Sinclair, Daryl	SWS	Lytton, BC
3911	Pavitt, Kevin	SWS	Maple Ridge, BC	3646	Sivertson, Robert	SWWS-L	Dease Lake, BC
4134	Payne, Sean	SWS	Fort St. John, BC	1259	Skwarczynski, Rob	WWC I	Nanaimo, BC
1042	Peebles, Robert	MWWT I	Whistler, BC	1259	Skwarczynski, Rob	WWC II	Nanaimo, BC
1774	Peters, Michael	MWWT II	Langley, BC	4325	Smaaslet, Melvin	SWS	Fort Ware, BC
4220	Petrie, Glen	OIT WWT	Mackenzie, BC	4346	Smele, Rodney	WD I	North Vancouver, BC
3811	Poitras, Terry	WWC II	Abbotsford, BC	4145	Smith, Douglas	OIT WD	Coquitlam, BC
4168	Poland, Dave	SWS	Golden, BC	4145	Smith, Douglas	WWC I	Coquitlam, BC
4371	Pope, Richard	SWS	Shawnigan Lake, BC	4347	Smithers, Todd	WD I	Burnaby, BC
4345	Popescu, Marius	WD I	Richmond, BC	4218	Soderstrom, Corey	WD I	Chilliwack, BC
372	Porath, Ronald	SWS	Kamloops, BC	3939	Soong, George	OIT WD	Vancouver, BC
3686	Potter, Kevin	WD I	Salmon Arm, BC	1966	Soros, Ross	WD II	Maple Ridge, BC
4317	Prince, Tania	SWS	Fort St. James, BC	3674	Speed, Terry	SWWS-L	Celista, BC
1216	Radford, Chris	MWWT II	Golden, BC	4305	Spindor, Donald	SWS	Maple Ridge, BC
1571	Rasmuson, Gerry	MWWT III	Salmon Arm, BC	4374	Springer, Ernie	SWS	Port McNeill, BC
4009	Reimer, Gil	OIT WD	Terrace, BC	426	Staats, Archie	MWWT III	Mill Bay, BC
4367	Reynolds, Guy	WWC I	Langley, BC	1386	Steele, Mark	MWWT I	Sechelt, BC
3737	Ricciuti, Daniel	WD II	Summerland, BC	1180	Stepaniuk, Ronald	WT I	Saltspring Island, BC
3592	Ridley, Colin	CH	Hartley Bay, BC	4133	Stevenson, Julian	SWS	Bowen Island, BC
1310	Ridley, Scott	WD II	North Vancouver, BC	4348	Stevenson, Leslie	WD I	Langley, BC
3566	Robertson, Darren	SWS	Moberly Lake, BC	3789	Stewart, Bill	WD I	Christina Lake, BC
3885	Roblin, Dave	SWS	Lytton, BC	4306	Swain, Robert	SWS	Burnaby, BC
4211	Ross, David	WD I	Sicamous, BC	4148	Tallarico, Giuseppe	OIT WD	Vancouver, BC
4211	Ross, David	OIT WWT	Sicamous, BC	4148	Tallarico, Giuseppe	OIT WWC	Vancouver, BC
4211	Ross, David	CH	Sicamous, BC	3544	Talmey, Patrick	WWC I	Richmond, BC
3890	Royer-Collard, Graham	WD I	Victoria, BC	4183	Taverner, Andrew	MWWT I	Vancouver, BC
3260	Ruf, Mark	OIT WWC	Port Coquitlam, BC	4157	Teasdale, David	WT IV	Kamloops, BC
4207	Russell, Grant	SWS	South Hazelton, BC	4349	Ternent, Stewart	WD I	Mission, BC
835	Samis, Kim	OIT WWC	West Vancouver, BC	934	Tetlock, Daniel	SWS	Richmond, BC
4209	Sampson, Robert	SWS	Hazelton, BC	3638	Thesen, Melvin	WD I	Invermere, BC
4357	Sandberg, Lorne	IWWT I	Port Hardy, BC	1316	Theunisz, Edward	WT I	Saltspring Island, BC
4357	Sandberg, Lorne	MWWT I	Port Hardy, BC	3060	Thomas, John	MWWT II	Kelowna, BC
3261	Santorelli, Gino	WD II	Vancouver, BC	3219	Thomas, Michael	MWWT I	Osoyoos, BC
3990	Saul, Francis	WD I	Chase, BC	3168	Thompson, Peter	OIT WD	Delta, BC
4369	Saul, Harold	SWS	Mount Currie, BC	1617	Thorburn, Brian	WT II	Kelowna, BC
4155	Sawatsky, Richard	OIT WWT	Prince George, BC	4176	Thorndyke, Paul	SWS	Shawnigan Lake, BC
1974	Sayewich, Douglas	WTI	Heffley Creek, BC	3441	Thurston, Robert	WTI	Keremeos, BC
4169	Scanlon, Scott	SWS	Dawson Creek, BC	4350	Toews, Rudy	WD I	Yarrow, BC
3602	Schneider, Harvey	MWWT II	Richmond, BC	3461	Tonelli, Montgomery	WWC I	Lytton, BC
3602	Schneider, Harvey	CH	Richmond, BC	673	Tooms, Roger	WD III	Terrace, BC
3172	Seabrook, Jarvis	WD II	Sooke, BC	1521	Trapp, Tim	WDI	Mackenzie, BC
4178	Shackelly, roger	SWS	Merritt, BC	4300	Tung, Te-Yu	IWWT I	Coquitlam, BC
1595	Shea, Sean	WT II	Tumbler Ridge, BC	4175	Turnbull, Walter	SWS	Spences Bridge, BC
3351	Shepherd, Bryan	WD II	Richmond, BC	4365	Typusiak, Robert	OIT WWT	Oliver, BC
3090	Shepherd, Dennis	CH	Hudson's Hope, BC	1187	Valcourt, Maurice	WD III	Kelowna, BC

Congratulations to the following new operators and those operators who have upgraded their certification level. January 1st, 2003 to September 30, 2003

CERT. NO.	NAME		СІТҮ	CERT. NO.	NAME		CITY
4184	Van Den Born, Audie	WD I	Westbank, BC	3587	Welz, David	OIT WWC	Parksville, BC
3569	Vanjoff, Lee	MWWT I	Grand Forks, BC	942	White, Ken	WT II	Dawson Creek, BC
3129	Vester, Clint	OIT WD	Burnaby, BC	3882	Wiebe, Robert	MWWT I	Golden, BC
1656	Villa, Roy	WD I	Victoria, BC	4219	Wilkins, David	WD I	Quesnel, BC
1656	Villa, Roy	MWWT II	Victoria, BC	4212	Williams, June	WT I	Granisle, BC
1942	Villanueva, Arvel	WT II	Vancouver, BC	1721	Williamson, Ronald	WD I	Grand Forks, BC
1951	Villeneuve, John	WD II	Fort Nelson, BC	4208	Wilson, Taylor	SWS	Kitimat, BC
1057	Walkey, Shane	WT II	Sechelt, BC	4359	Wolfe, Randy	WD I	Maple Ridge, BC
321	Wallace, Bill	MWWT III	Brentwood Bay, BC	3546	Wood, Stewart	CH	Qualicum Beach, BC
4364	Walsh, Dennis	WD I	Castlegar, BC	4315	Wright, Deonne	SWS	Burns Lake, BC
4130	Ward, Nathan	MWWT II	Victoria, BC	3395	Wright, Herbert	CH	Parksville, BC
3958	Watson, Robert	WWC I	Mission, BC	4205	Wynnyk, Adrian	SWS	Sorrento, BC
3958	Watson, Robert	WWC II	Mission, BC	4142	Young, Wade	SWS	Grinrod, BC
3587	Welz, David	CH	Parksville, BC	4362	Zukowsky, Douglas	WWC I	Richmond, BC



BC WATER & WASTE ASSOCIATION FALL 2003 CALENDAR

DATE	COURSE	LOCATION
November 10–14, 2003	Wastewater Collection Level I	Whitehorse
November 17–21, 2003	Wastewater Collection Level II	Whitehorse
November 24 & 25, 2003	Small Water System	Whitehorse
November 27 & 28, 2003	Small Wastewater System	Whitehorse
December 1–5, 2003	Water Distribution Level I	Sun Peaks

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

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 or Mastercard.

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

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