



BRITISH COLUMBIA OPERATORS DIGEST

A NEWSLETTER FOR WATER
AND WASTEWATER OPERATORS

JANUARY 2005 • NUMBER 109

EOCP Holds the Line on Renewal Fees and Extends CEU Deadline

As more and more operators join the program, the staff has worked diligently (and moved to larger office space) to handle the increased workload. As a not-for profit society we have very few ways we can cover the increased costs. After much discussion of the options, the EOCP Board of Directors has decided to hold the line on fees for one more year (the last increase was 1997). Renewal notices have been mailed.

The EOCP Board has also revisited the timing of implementation of the on-going continuing education (CEU) requirement.

We have received considerable comment with respect to CEU's as a requirement for operator re-certification. While there has been full support of the requirement by many people, we have also heard that scheduling and budgeting for this initial phase may cause hardship for a number of individuals and employers.

We have therefore decided to extend the implementation phase, recognizing that a number of individuals and employers have already begun their compliance. The date for



BMID Mission Creek Intake

completion of the first 2.4 CEU requirement (1.2 CEU's for Small Water System and Small Wastewater System operators) has been extended from January 1, 2007 to January 1, 2008.

This means that a certified operator has from September 1, 2004 to January 1, 2008 to accumulate 2.4 CEU's of approved training, as described in the earlier announcements. For further information and/or clarification please contact the EOCP office directly at 604-874-4784 or 1-866-552-3627.

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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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The Environmental Operators Certification Program is a charter member of the Association of Boards of Certification, and is a Registered Society with over 2,800 active members.

2004/2005 BOARD OF DIRECTORS

Joe McGowan – Chairman
Bernie Taekema – Secretary
Leo Albrecht – CEU Assessment
Don Gare – Newsletter
Eric Jackson – Treasurer
Bob Smith – Education
Mike Gosselin – Facilities Classification
Scott Fry – Director
Pat Miller – Director

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New Executive Director

A familiar face around the EOCB Board Office has a new title and job as the EOCB Executive Director – Dr. Bill Hyslop. The continued growth of the Program with the resulting work load was judged to exceed the physical and technical abilities of the current EOCB staff. In May, Bill resigned as a Board Director and was hired as the new EOCB Executive Director.



Bill has been a Director of the EOCB for 27 years, and was currently the longest serving director of the organization. He holds a Ph.D. from the University of Victoria in Environmental Chemistry, has managed professional staff in three laboratories, was one of the co-founders and the president of NovaTec Consultants Inc., a group of scientists and engineers involved with specialty water and wastewater assignments that were beyond the usual scope of most engineering firms. He was responsible for the company's business plan, personnel issues, and business development.

He has taught as a guest lecturer in the Faculty of Graduate Studies at the University of British Columbia and the undergraduate Chemistry Department at the University of Victoria. He has trained dozens of treatment system operators in one-on-one situations and has presented classroom training sessions to hundreds of operators on behalf of the BCWWA and others at venues such as the UBC Water and Waste Schools.

He has been an active member of the BCWWA for thirty years and was president in 1988-89. As a past president, he sits on a panel providing advice to each year's association president. He has been a member of the program advisory committees for the Malaspina College Water & Wastewater Operators Program, the Kwantlen College Environmental Protection Technology Program, and the BCIT Environmental Engineering Technology Program. Bill is currently a Director of CCHREI and has been instrumental in developing the mechanism now in place to create an appropriate

Continued on page 9

BOARD BUSINESS BRIEFS

BOARD MEETING – OCTOBER 4, 2004 EOCP OFFICE, BURNABY

Directors present: Joe McGowan (Chair), Eric Jackson, Don Gare, Mike Gosselin, Leo Albrecht, Bernie Taekema, Bob Smith, Pat Miller, Scott Fry and Executive Director – Bill Hyslop.

Chairman's Report

Joe McGowan began by welcoming the two new Board members, Pat Miller of Sun Peaks Resort and Scott Fry of the Sunshine Coast Regional District. He then described the many changes that have occurred during the past year. MOHS has identified EOCP as the body to carry out certification and classification for the new Drinking Water Protection Regulation. The Drinking Water Protection Act and Regulation are clear as to what the requirements are. It is up to the five Health Authorities in BC to bring the regulation into force,

Many of the very small water purveyors do not fit well into the new regulation. MOHS is looking at having the Drinking Water Officers give a Water Safe course to cover these small water purveyors.

MOH hired a consultant to undertake surveys of all levels of water operators and their employers to ask questions about what they think of BCWWA training courses, the EOCP certification process, and the MOHS and Health Authority procedures throughout the province. The results will be available soon.

EOCP has been asked to take on a huge increase in workload for the MOHS. We have significant challenges in doing this. MOHS contracted a consulting firm to assist EOCP with development of a Business Plan. Bob Smith and Bill Hyslop are currently working on this Plan which when completed will be taken to the EOCP Board for approval.

EOCP has met and will be meeting with several more Health Regions to explain who the EOCP is and what we are doing.

CEU's

Most of the 37 courses given by the BCWWA between January and July were SWS courses and even more will be given during the fall.

The board reaffirmed the need for on-going CEU's for recertification and discussed some of the details for implementation.

BCWWA Liaison

The BCWWA AGM is getting so large that only two venues can accommodate the annual conference – Whistler and

Penticton. Penticton is the venue for the upcoming conference.

Coincidentally, EOCP (Joe, Bob, and Bill) participated in a drinking water stakeholders' meeting in Penticton to improve communications among MOHS, WLAP, BCWWA, WSA, IHA, & BCGWA.

Facilities Classification

72 facilities were classified between May and October 2004. Many more have recently been sent in for classification – mostly small water system classifications.

The facility classification templates are to be made public in the near future. To be discussed further.

Treasurer's Report

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

Cash and Bank Accounts	\$ 158,859.69
Total Investments	\$ 10,599.11
Total Assets	\$ 169,458.80

Executive Director Report

Bill Hyslop, Executive Director is currently working with MOHS and the contractor they hired on a Business Plan for the EOCP. It will identify separate sources of revenue and expenses in each area of activity of the program.

He and Bob Smith recently met with the Drinking Water Leadership Council to advance the information exchange between the EOCP and many Health jurisdictions.

Bill recently attended the CCHREI national steering committee to Canadianize the "Need to Know" through an occupational analysis. Timeline will be more than a year – all provinces and the three territories are involved. Bob Smith also attended the meeting as a representative of the CWWA.

Our new computer system is up and running well. Discussions regarding database programming are ongoing. It is intended that there be a link to the website whereby operators may log on to find their personal information including CEU's, etc. and MOHS, Drinking Water Officers, and MWLAP could obtain facility classification and operator certification information.

Once exam question categories are entered into the LXR Marking System, we will schedule further training to produce small system summary sheets.



PLANT PROFILE: BLACK MOUNTAIN IRRIGATION DISTRICT Water Treatment Plant

SUPPLY WATER

The Black Mountain Irrigation District water treatment plant receives its water from Mission Creek. The watershed, which feeds Mission Creek, consists of 5 lakes of which Belgo Lake and Greystoke Lake are the largest supplier. Water quality in Mission Creek is normally within the Guidelines for Canadian Drinking Water Quality (GCDWQ) throughout the year except during spring run-off where rainfall and snowmelt can change water quality drastically.

Water enters the treatment process through a dual piping system consisting of two 900 mm diameter pipes and slide gates.



Fish Screens

1. INTAKE

Water is first coarsely screened at Mission Creek to protect the intake valves from objects such as logs, branches or large rocks and to prevent these objects from entering the process. Water enters the treatment process through a dual piping system consisting of two 900 mm diameter pipes and slide gates.



Water Treatment Plant

Black Mountain Irrigation District had encountered water quality problems in the past in Mission Creek, especially in 1997 when heavy rains and mudslides upstream of the intake produced poor water quality conditions. Black Mountain Irrigation District took a proactive role in determining the most feasible plan to treat each year's spring run-off and maintain drinking water standards within the Guidelines for Canadian Drink Water Quality (GCDWQ). A water treatment facility was designed and built to provide the necessary means of treating Mission Creek water.

WATER TREATMENT PROCESS

OPERATION

The Black Mountain Irrigation District operates a Class IV water treatment plant and water distribution system. They both require use of a SCADA system although manual control of the plant and system is possible in the case of an emergency.

The plant has produced some very good results since its construction. These include; reduction in total organic carbon (TOC) by 50% (TOC can produce trihalomethanes when combined with chlorine), reduction in turbidity in the water distribution system of less than 1 NTU even though turbidity in Mission Creek can exceed 150 NTU, and reduction of colour as well. Black Mountain Irrigation District continues to provide quality drinking water to their customers.



Pre-sedimentation Grit Pond

2. GRIT POND

Water enters the grit pond and flows slowly through it allowing heavier particles such as sand and silt to settle out. Once the water reaches the end of the grit pond, process water for the

plant is screened through 1.5 mm fish screens and excess water is bypassed and discharged through a fish channel that allows fish and floating debris to flow back into Mission Creek.

3. RAPID MIX

Process water is metered by 2 magnetic flow meters. From this point, it enters the one of 2 rapid mixer tanks where coagulant (Isopac) is added along with a cationic polymer. Water and coagulants are then rapid mixed for upwards of 1 minute.



4. FLOCCULATORS

Flocculation begins at the first of 3 flocculation tanks with anionic polymer addition taking place in the second flocculation tank. By the time the process water reaches the third flocculation tank, floc forms and is clearly visible.

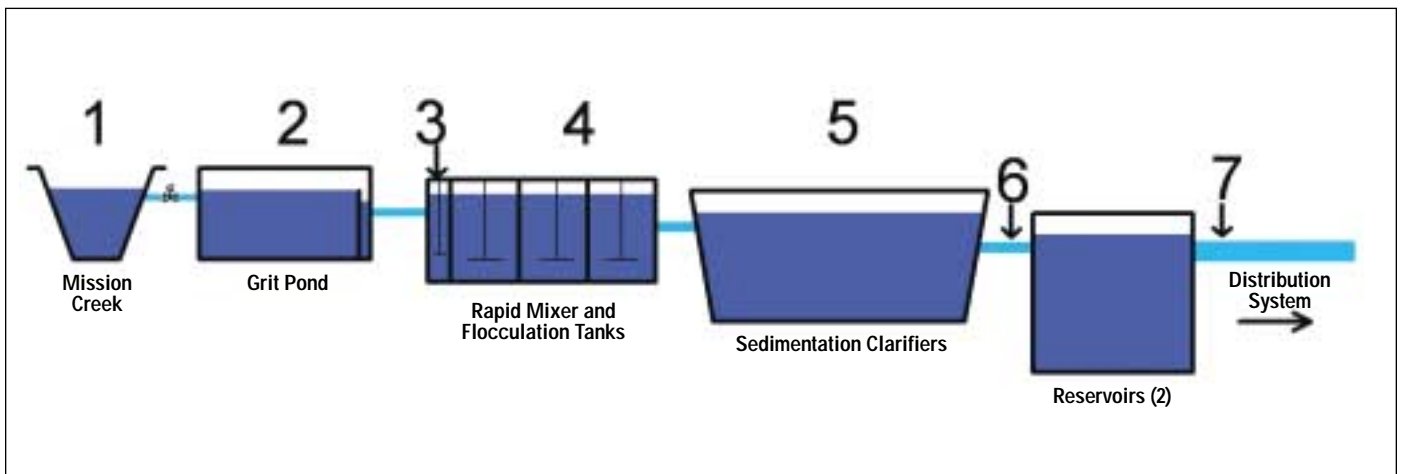
5. SEDIMENTATION CLARIFIERS

The water then enters one of 2 clarifiers for sedimentation. Water flows through the clarifiers through a HDPE baffle curtain. The curtain creates a “plug” flow through the clarifier and

PROCESS

Grit Pond	
Volume:	3600 m3
Retention Time:	0.83 hours
Dimensions (m):	90 x 20 x 2
Rapid Mixer 2 (1 per train)	
Volume:	31 m3
Retention Time:	1 minute
Flocculator Tanks 6 (3 per train)	
Volume per tank:	250 m3
Retention time:	10 minutes
Dimensions (m):	7 x 7 x 6
Clarifiers 2 (1 per train)	
Volume of clarifier:	10692 m3
Retention time:	7 hours at peak flow
Dimensions (m):	100 x 35 x 6
Reservoirs 2	
Volume of reservoirs:	190000 m3
Distribution System	
Pressure Reducing Stations:	13
Additional Supply:	Scotty Creek Intake
Additional Supply from Wells:	3
Booster Stations:	3

TREATMENT PLANT SCHEMATIC



Clarifier



allows clear water to flow through it and the sludge to settle out. Once the sludge settles out of the water, the sludge is collected and pumped to a sludge holding pond where it is further processed. The clear water from the top of the clarifier is diverted to the first of 2 balancing reservoirs.

6. pH ADJUSTMENT

Prior to the treated water entering the first of 2 reservoirs, pH adjustment must occur for corrosion control. Caustic soda is added to the clarified water to provide water with a minimum alkalinity of at least 15 mg/L and a pH of 7.5.

7. DISINFECTION

Once the water has moved through Steven’s and Hadden Reservoir and given further time to settle out particulate matter, chlorine disinfection occurs. A fine screening process occurs at this point to screen out any material that may have entered either reservoir and from here the water enters the distribution system.

PLANT PARAMETERS

Design capacity	105 ML/day 1200 LPS
Average Flow 2002	54 ML/day 625 LPS
Peak Flow 2002	115 ML/day 1350 LPS

WATER QUALITY PARAMETERS

Mission Creek (April to July Annually)			
	Low	High	Average
Turbidity (NTU)	0.9	270	18
Colour (TCU)	23	68	44
pH	6.7	7.7	7.3
Alkalinity (mg/L)	10	31	20
Particle Counts (#>2µ/ml)	2100	35000	9000
Treated Water			
Coagulant Dose (mg/L)	21	44	30
Caustic Dose (mg/L)	3	7	4
Turbidity (NTU)	0.5	1.7	1
Colour (TCU)	5	11	5
pH	7.1	8.1	7.6
Alkalinity (mg/L)	13	25	18
Particle (#>2µ/ml)	250	1100	600

NEW BOARD DIRECTORS

The May 2004 EOCB Board election saw two new operators elected to the Board; Pat Miller from Kamloops and Scott Fry from Robert’s Creek on the Sunshine Coast.

Pat has worked in the water/wastewater industry since 1994 and is employed by Sun Peaks Utilities Co. Ltd. Becoming certified in 2002, Pat holds WT-I, WD-II and WWT-I and is working towards her other Level II’s. She is actively involved in the industry serving on the Small Water Systems Committee for BCWWA. Pat’s interest lies in assisting operators from smaller systems (fewer than 10,000 people) to meet the certification levels that are required for today’s utility positions. Pat also serves on a number of “not for profit” Boards.



As Scott says, he “Graduated from the Water Quality program at OUC in 1999, and did not pass GO but went directly to work for the GVRD at the Lulu and Annacis Island wastewater treatment plants. Decided to get out of the city and took a position as a wastewater technician for the Sunshine Coast Regional District in 2002. Since then, I’ve moved up 2 feet in the world and am employed as a water technician. Currently hold a MWWT III and WD I certificate and am working towards a WT I. Enjoy hiking, kayaking, mountain biking, crashing motorcycles, and raising chickens. The hair is currently a natural colour.”



OPERATOR PROFILE – Ted Bashaw

Ted began working at Black Mountain Irrigation District as a water treatment plant operator in March 2002 after working 13 years as an operator in Drayton Valley, Alberta. His love of the Okanagan brought Ted and his family out to Kelowna in 2000 where he worked a couple of years in the construction industry.

Ted is an operator at Black Mountain Irrigation District's Class 4 Water Treatment Facility in Kelowna. He is an EOCPC Certified Operator holding a WD II, and WT II along with Chlorine Handler certification.

In his spare time Ted enjoys getting out on the lake and working on his landcruiser. He is married to Colleen and has 2 grown children, Nathan and Jessica.



Ted Bashaw



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2004 BCWWA Victor M. Terry Award

OPERATOR OF THE YEAR – DENNIS DUGAS

The Vic Terry Award is a BC Water and Waste Association award that recognizes an operator who has demonstrated ingenuity and proficiency in plant operation or maintenance. The Environmental Operators Certification Program makes nominations for the award. This year's award was presented to Dennis Dugas at the BCWWA Annual Conference held in Whistler in May.

Dennis has been with the District of Port Hardy for 20 years but not with Epcor that long. He has seen many changes during his career in Port Hardy. He has been involved with numerous upgrades to the wastewater treatment plants as well as the building of a Class 3 Dissolved Air Floatation Water Treatment Plant.

Dennis instructs various safety courses and is actively involved in the work site safety program. As well, he was among the first municipal employees in the province to work under a Public Private Partnership when Epcor Waters Services took over the operations of the District of Port Hardy water and wastewater system.

Dennis has been a member of the EOCP for 28 years and holds WWT-II, WD-III, WT-II, WWC-1 and Chlorine Handler certificates. He has been a big supporter of the EOCP and will become a lifetime member in 2006.

Dennis has a wife Louise, three children and grandchildren as well. He volunteers throughout the community including manning the phone lines for the crisis centre. His hobbies are spending time with his grandchildren, running his bed and breakfast, and golfing.



EOCP Chairman Joe McGowan presenting the Vic Terry Award to Dennis Dugas at the BCWWA Conference in Whistler

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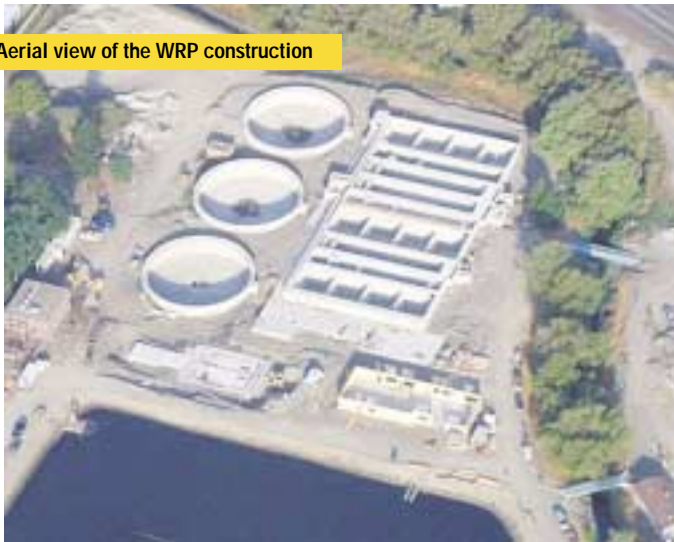
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PROJECT NEWS

CITY OF VERNON'S NEW WATER RECLAMATION PLANT UPDATE

Aerial view of the WRP construction



Bioreactor tank construction



New administration building



Construction of Vernon's new Water Reclamation Plant is well underway. Construction began in September 2002 and was expected to be completed in late 2004. Once construction is complete, commissioning of the new facility will take place.

The new plant will be a state of the art Biological Nutrient Removal (BNR) facility capable of treating 27,000 m³/day of wastewater, which is approximately double current flow. The new plant will be able to handle wastewater generated by approximately 70,000 people.

The budget for the project is \$29.2 million. To date, approximately 70% of the total budget has been committed to construction contracts either completed or underway and equipment under order. The project is currently on budget.

The existing W.R.P. will be decommissioned once the new facility is operational. A majority of the existing W.R.P. will ultimately be demolished.

NEW EXECUTIVE DIRECTOR *Continued from page 2*

Canadian standard for water and wastewater operators certification and training.

He is friends with, or on a first name basis with many provincial MOH, Health Authority, and WLAP officials. He maintains industry related contacts throughout Canada and the United States. He has worked for over twenty-seven years on behalf of

the Board to facilitate progress of the Board's objectives with these government departments.

Bill currently operates Banyan Services which provides expert water and wastewater treatment design, troubleshooting, and operational services including operator training to a wide variety of clients throughout the world.

NEW MEMBERS AND UPGRADES

Congratulations to the following new operators and those operators who have upgraded their certification level.
January 1 to June 15, 2004

CERT. NO.	NAME	CITY	CERT. NO.	NAME	CITY
3744	Abercrombie, Murray	SWWS-L <i>Quathiaski Cove, BC</i>	4457	Bourne, Ian	CH <i>Nelson, BC</i>
4543	Acton, Shawn	SWS <i>Qualicum Beach, BC</i>	4632	Bradley, Ken	SWS <i>Kitimat, BC</i>
4757	Ahlers, David	WWC I <i>Victoria, BC</i>	4563	Bradley, Lorne	SWS <i>Sicamous, BC</i>
3527	Alexander, Christopher	WD II <i>North Vancouver, BC</i>	4643	Brady, Jeremy	SWS <i>Kitimat, BC</i>
3011	Alfred, Cecil	SWS <i>Smithers, BC</i>	4629	Braithwaite, John	WWC I <i>North Vancouver, BC</i>
4683	Allen, John	SWS <i>Harrison Hot Springs, BC</i>	4548	Breault, Norm	SWS <i>Port Coquitlam, BC</i>
4487	Allingham, Andrew	OIT WD <i>Oyama, BC</i>	4680	Brechin, Albert	SWS <i>Lindell Beach, BC</i>
4735	Allison, Robert	WD I <i>New Westminster, BC</i>	4736	Brenton, Bruce	WD I <i>Port Moody, BC</i>
3718	Amaral, Delson	WWC II <i>Victoria, BC</i>	4532	Brooks, Keith	SWS <i>White Rock, BC</i>
4119	Amato, Giuseppe (Joe)	WD I <i>Vancouver, BC</i>	4679	Brown, Russell	SWS <i>Chilliwack, BC</i>
4562	Angermann, Gunter	SWS <i>Blind Bay, BC</i>	4707	Brown, Steven	WD I <i>Surrey, BC</i>
3989	Anthony, Gordon	SWWS-L <i>Chase, BC</i>	54	Byrne, Robert	SWS <i>Vernon, BC</i>
4213	Aronetz, Cameron	WWC I <i>Surrey, BC</i>	4737	Campagna, Rick	WD I <i>Langley, BC</i>
4705	Arrigo, Steve	WWC I <i>Richmond, BC</i>	4696	Carolsfeld, Nicol	SWS <i>Victoria, BC</i>
4630	Arruda, Manuel	SWS <i>Kitimat, BC</i>	4619	Carriere, Kelly	WT I <i>Kitimat, BC</i>
4686	Arthur, Carlos	SWS <i>Abbotsford, BC</i>	4701	Carter, Rob	SWS <i>Garibaldi, BC</i>
3358	Arvay, Mervin	WD II <i>Courtenay, BC</i>	4609	Casavant, Gerry	MWWT I <i>Westbank, BC</i>
4621	Atkinson, Mike	OIT WT <i>Kelowna, BC</i>	4575	Casey, Alan	OIT WD <i>Powell River, BC</i>
3299	Atwood, Paul	WWC II <i>Pemberton, BC</i>	3234	Cassidy, Bruce	WD I <i>Cache Creek, BC</i>
4695	Ayres, Thomas	SWS <i>Saturna Island, BC</i>	3815	Castagna, Marco	WD II <i>Delta, BC</i>
4143	Bach, Ken	CH <i>Dawson City, Yukon</i>	1973	Castellano, Domenic	WWC II <i>Nakusp, BC</i>
4642	Bachmann, Roland	SWS <i>Kitimat, BC</i>	4708	Cathcart, Glen	SWS <i>Anmore, BC</i>
4595	Baetz, Alan	WD I <i>Surrey, BC</i>	1964	Caulton, Mark	WD III <i>Garibaldi Highlands, BC</i>
4706	Bakay, Kevin	MWWT I <i>Summerland, BC</i>	3439	Chan, Kenneth	WD II <i>Port Coquitlam, BC</i>
1630	Baker, Curtis	WWC I <i>Ladysmith, BC</i>	1720	Chapman, Dean	CH <i>Grand Forks, BC</i>
1630	Baker, Curtis	MWWT I <i>Ladysmith, BC</i>	4709	Chapman, Jason	SWS <i>Ross River, Yukon</i>
3467	Barber, Brian	WD II <i>Cawston, BC</i>	3131	Chartrand, Dale	MWWT I <i>Smithers, BC</i>
4044	Bashaw, Edwin	WD II <i>Kelowna, BC</i>	4503	Chase, Ron	WT I <i>Terrace, BC</i>
4366	Baytaluke, Harold	SWS <i>Sparwood, BC</i>	1193	Chisholm, Robert	MWWT I <i>Kamloops, BC</i>
3462	Beaton, Wesley	WWC II <i>Victoria, BC</i>	4512	Choroszewski,	MWWT I <i>Fernie, BC</i>
4214	Beckett, Stephen	WWC II <i>Pitt Meadows, BC</i>	4512	Choroszewski,	WD I <i>Fernie, BC</i>
4214	Beckett, Stephen	WWC I <i>Pitt Meadows, BC</i>	4509	Christiansen, Kal	WWC I <i>North Vancouver, BC</i>
4631	Begin, Archie	SWS <i>Kitimat, BC</i>	4738	Clark, Renee	WD I <i>Coldstream, BC</i>
4694	Belcher, James	SWS <i>Fernie, BC</i>	4513	Collins, Mark	SWWS-L <i>Fort Fraser, BC</i>
3058	Bell, George	WWC I <i>Williams Lake, BC.</i>	4521	Conant, Ralph	SWS <i>Hillcrest, Alberta</i>
1328	Benjamin, Mark	WT I <i>Chilliwack, BC</i>	4613	Cook, Gary	WT I <i>Kitimat, BC</i>
3286	Benson, Bruce	WD II <i>Fort Steele, BC</i>	4710	Cook, Glenn	WWC <i>Nanaimo, BC</i>
4608	Berger, Daryl	MWWT I <i>Vanderhoof, BC</i>	3491	Cootes, Daniel	WD II <i>Ucluelet, BC</i>
4520	Bernier, Claude	SWS <i>Sparwood, BC</i>	3850	Crowther, Kelly	WWC I <i>Pitt Meadows, BC</i>
4620	Bhullar, Lakhbir	WT I <i>Kitimat, BC</i>	4194	Cunningham, Adam	WD I <i>Keremeos, BC</i>
2052	Birkedal, Melvin	WD I <i>Montrose, BC</i>	3285	Curnow, Greg	WD I <i>Merritt, BC</i>
1629	Bissenden, Dean	WWC I <i>Brentwood Bay, BC</i>	3285	Curnow, Greg	WWC I <i>Merritt, BC</i>
4320	Blair, Karen	WT I <i>Burns Lake, BC</i>	1786	Danyluk, Gerry	WD II <i>Kamloops, BC</i>
3627	Blanchard, Bryne	WWC I <i>Marysville, BC</i>	3635	Deacon, Fred	WD II <i>Windermere, BC</i>
3627	Blanchard, Bryne	CH <i>Marysville, BC</i>	1073	DeJong, Paul	SWS <i>Kitimat, BC</i>
4682	Boehm, Helmut	SWS <i>Langley, BC</i>	3809	Delaire, Raymond	MWWT II <i>Chilliwack, BC</i>
4681	Bolton, Paul	SWS <i>Cultus Lake, BC</i>	1932	Desroches, Leo	MWWT II <i>Carmacks, Yukon</i>
3861	Botterill, Patrick	WD I <i>Cranbrook, BC</i>	1932	Desroches, Leo	WWC I <i>Carmacks, Yukon</i>

NEW MEMBERS AND UPGRADES

Congratulations to the following new operators and those operators who have upgraded their certification level.
January 1 to June 15, 2004

CERT. NO.	NAME	CITY	CERT. NO.	NAME	CITY
4711	Dexel, Dennis	MWWT I Kelowna, BC	4653	Galt, Evan	SWWS-L Deroche, BC
4505	Dobson, Randolph	WT I Kitimat, BC	3015	Garner, Jeremy	WWC I Charlie Lake, BC
4570	Dodd, Dennis	SWS Blind Bay, BC	3535	Gaudet, Glenn	WD II Lazo, BC
4504	Dodd, Paul	WT I Kitimat, BC	4131	Gentile, Gerry	WWC I Richmond, BC
4712	Douglas, David	SWS Surrey, BC	4323	George, Dan	SWWS-L Burns Lake, BC
4596	Drozda, Timothy	WD I Surrey, BC	1817	George, David	WD II Trail, BC
4713	Dubnov, Shawn	WWC I Richmond, BC	1613	Giesler, Jeff	WWC I Chilliwack, BC
4533	Dureen, Melvin	SWS Chilliwack, BC	4551	Giroux, Garth	SWS Mission, BC
4584	Durnford, Garland	WWC I Fort St. John, BC	4515	Good, Harry	SWS Kitwanga, BC
4754	Durocher, Lee	MWWT I Courtenay, BC	4676	Gosling, Douglas	SWS Abbotsford, BC
4714	Dykstra, Mike	OIT WD Anmore, BC	4361	Gosling, Jason	CH Nanaimo, BC
4739	Eastman, James	WD I 150 Mile House, BC	3233	Gosse, Gordon	OIT WWC Chetwynd, BC
4610	Edney, Colin	MWWT I Enderby, BC	4644	Graham, Michael	SWS Terrace, BC
4678	Ehrenholz, Daniel	SWS Chilliwack, BC	4716	Grant, Thomas	WWC I Richmond, BC
4476	Elia, Gino	CH Fernie, BC	4698	Grasswick, Hugh	SWS Saturna Island, BC
4740	Endo, Mark	WD I Surrey, BC	3266	Gray, Ronald	WD II Coquitlam, BC
967	Engelberts, Joe	WD III Williams Lake, BC	4588	Green, Thomas	SWS Cecil Lake, BC
4741	English, Reine	WD I Sooke, BC	4225	Greenough, Benjamin	CH Queen Charlotte City, BC
3388	Enns, Derek	OIT WD Kelowna, BC	4384	Greenwood, Michael	WWC I Victoria, BC
3388	Enns, Derek	WWC I Kelowna, BC	3964	Grill, Martin	CH Nelson, BC
4697	Estabrook, Alfred	SWS Galiano Island, BC	4535	Groh, Ortwin	SWS Chilliwack, BC
4715	Evans, Shawn	WD I Pitt Meadows, BC	4756	Hackett, Allan	CH Powell River, BC
4553	Exner, Alan	SWWS-M Kelowna, BC	4744	Hackwood, Brian	WD I Nanaimo, BC
4553	Exner, Alan	SWS Kelowna, BC	4496	Haizimsque, Shannon	SWS Burns Lake, BC
4522	Fedorek, Norris	SWS Elkford, BC	4745	Hale, Brian	WD I Qualicum Beach, BC
4554	Feist, Michael	SWS Duncan, BC	968	Hale, Wayne	WD I Prince George, BC
4554	Feist, Michael	SWWS-M Duncan, BC	4654	Hall, Glenn	SWWS-L Lake Errock, BC
672	Filip, Bruce	CH Marysville, BC	4363	Hamilton, Sandy	WWC I Chilliwack, BC
672	Filip, Bruce	WD II Marysville, BC	4598	Hanna, Bruce	WD I Langley, BC
1022	Finlay, Scott	WD I Port Coquitlam, BC	4035	Hansen, Karl	WD II Tofino, BC
4107	Finnigan, Darrell	MWWT II Merritt, BC	4612	Harper, David	WT I Kitimat, BC
3459	Firlotte, Micheal	WT I Penticton, BC	3404	Harris, Tim	WD II Anmore, BC
3459	Firlotte, Micheal	OIT WD Penticton, BC	4611	Harrison, James	WT I Kitimat, BC
3942	Fitzgerald, Dwayne	WD II Surrey, BC	3523	Harry, Ernest	WWC I Powell River, BC
4677	Flokstra, Clarence	SWS Surrey, BC	4523	Haukaas, Brian	SWS Elkford, BC
4493	Floyd, Naziel	SWS Smithers, BC	4129	Hazelwood, Keith	WWC I Port Coquitlam, BC
4534	Fooks, Barry	SWS Chilliwack, BC	4498	Heidt, Dustin	WD I Port Coquitlam, BC
1956	Ford, Robert	WD II Logan Lake, BC	4746	Hermesen, Gary	WD I Saanichton, BC
4688	Forknall, Charles	SWS Quesnel, BC	1368	Heyink, John	WD II Burns Lake, BC
4742	Forrest, Darin	WD I Duncan, BC	3944	Hightower, John	WD II Coquitlam, BC
4549	Forster, Ben	SWS Mission, BC	3279	Hill, Ian	WD II Revelstoke, BC
4597	Fortin, Eric	WD I Port Moody, BC	4685	Hlookoff, Josh	SWS Port Coquitlam, BC
4576	Fralick, Warren	WD I Cranbrook, BC	4675	Hock, Miles	SWS Langley, BC
4633	Francis, Bart	SWS Kitimat, BC	4717	Hodgson, David	WD I Maple Ridge, BC
4489	Frank, Wilfred	SWWS-L Tofino, BC	3204	Hoffman, Donald	WWC I Port Moody, BC
4188	Franks, Terry	WWC I Dawson City, Yukon	4556	Hollings, Raymond	SWS Shawnigan Lake, BC
4550	Frantzen, George	SWS Lillooet, BC	4556	Hollings, Raymond	SWWS-M Shawnigan Lake, BC
3146	Freeman, Neale	CH Duncan, BC	4511	Hollis, Robert	SWS Kingsgate, BC

NEW MEMBERS AND UPGRADES

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January 1 to June 15, 2004

CERT. NO.	NAME	CITY	CERT. NO.	NAME	CITY
3019	Holmes, Donald	WD II <i>Coquitlam, BC</i>	4617	Langegger, Michael	WT I <i>Kitimat, BC</i>
3586	Holtom, Malcolm	MWWT II <i>Kelowna, BC</i>	4670	Lawn, Andrew	SWS <i>Abbotsford, BC</i>
4628	Holway, Terry	SWS <i>Haines Junction, Yukon</i>	3196	LeBlanc, Paul	WWC I <i>Coquitlam, BC</i>
4599	Homes, Christopher	WD I <i>Surrey, BC</i>	4552	Legault, Ray	SWS <i>Hope, BC</i>
4618	Horianopoulos, Angie	WT I <i>Kitimat, BC</i>	4518	Leon, Lana	SWWS-L <i>Anahim Lake, BC</i>
1759	Horin, Jerry	CH <i>Sardis, BC</i>	4507	Lepisto, Arnie	WT I <i>Kitimat, BC</i>
3595	Howard, Richard	MWWT I <i>South Hazelton, BC</i>	4455	Leslie, Ian	MWWT I <i>Vanderhoof, BC</i>
4634	Howell, Jason	SWS <i>Kitimat, BC</i>	4095	Levesque, Daniel	WT I <i>Kitimat, BC</i>
4747	Howie, Thomas	WD I <i>North Vancouver, BC</i>	4669	Linklater, Gordon	SWS <i>Rosedale, BC</i>
4137	Huffman, James	MWWT II <i>Vernon, BC</i>	4668	Liske, Gordon	SWS <i>Hope, BC</i>
4557	Hughes, Fiawna	SWS <i>Lumby, BC</i>	4573	Litke, August	SWS <i>Salmon Arm, BC</i>
4557	Hughes, Fiawna	SWWS-M <i>Lumby, BC</i>	4573	Litke, August	SWWS-L <i>Salmon Arm, BC</i>
4718	Huie, Kevin	WWC I <i>Vancouver, BC</i>	4159	Logan, Rob	WD I <i>Cultus Lake, BC</i>
4490	Hyzims, Trevor	SWS <i>Kitkatla, BC</i>	3040	Looker, Bryan	WD II <i>Ucluelet, BC</i>
4490	Hyzims, Trevor	SWWS-M <i>Kitkatla, BC</i>	4689	Lorenz, Michael	SWS <i>Quesnel, BC</i>
3375	Ieraci, Domenico	CH <i>Coquitlam, BC</i>	1392	Lundman, Ian	MWWT III <i>Lantzville, BC</i>
3375	Ieraci, Domenico	WD III <i>Coquitlam, BC</i>	4096	Lundstrom, Bryan	WT I <i>Kitimat, BC</i>
4536	Jackson, Alan	SWS <i>Saanichton, BC</i>	4720	Lupichuk, Wayne	WD I <i>Maple Ridge, BC</i>
4564	Jackson, Roy	SWS <i>Spences Bridge, BC</i>	1918	Lynden, Tim	WWC I <i>Delta, BC</i>
3324	James, Jennifer	WD II <i>Whistler, BC</i>	1156	MacPhail, Donald	OIT WT <i>Vancouver, BC</i>
4577	Janum, Garnet	WD I <i>Valemount, BC</i>	4075	Madden, Donald	CH <i>Powell River, BC</i>
4186	Janzen, David	WD II <i>Oliver, BC</i>	4635	Maier, Harry	SWS <i>Kitimat, BC</i>
3572	Jensen, Arne	WD II <i>Ucluelet, BC</i>	4561	Malchow, Brian	SWWS-L <i>Fraser Lake, BC</i>
4655	Jimmie, Alvin	SWWS-L <i>Chilliwack, BC</i>	4561	Malchow, Brian	SWS <i>Fraser Lake, BC</i>
4674	Johnsen, Clifford	SWS <i>Manning Park, BC</i>	4600	Manaignre, David	WD I <i>Surrey, BC</i>
4324	Johnson, William	SWWS-L <i>Alkali Lake, BC</i>	4558	Manson, Gordon	SWWS-M <i>Falkland, BC</i>
4519	Johnson, Willis	SWWS-L <i>Bella Coola, BC</i>	4571	Manuel, Dennis	SWS <i>Wells, BC</i>
3886	Johnston, Brian	WD II <i>North Saanich, BC</i>	4571	Manuel, Dennis	SWWS-L <i>Wells, BC</i>
4506	Johnston, Ralph	WT I <i>Terrace, BC</i>	4623	Manwaring, Elvira	WD I <i>Vanderhoof, BC</i>
4094	Johnston, Robert	WT I <i>Kitimat, BC</i>	4624	Manwaring, Greg	WD I <i>Vanderhoof, BC</i>
4565	Jones, Ronald	SWS <i>Chase, BC</i>	4525	Marchi, Mark	SWS <i>Sparwood, BC</i>
4524	Jones, Ronald	SWS <i>Elkford, BC</i>	3345	Marietta, Helen	WT I <i>Richmond, BC</i>
4673	Kask, Glen	SWS <i>Mission, BC</i>	4076	Marklund, Rodney	WWC I <i>Merritt, BC</i>
3923	Kelly, Shawn	WWC II <i>Burnaby, BC</i>	3007	Marr, Andrew	MWWT IV <i>Vernon, BC</i>
704	Kennedy, Barry	WD III <i>Chilliwack, BC</i>	3603	Marsolais, Luc	WD II <i>Chilliwack, BC</i>
1945	Kimble, Willard	MWWT IV <i>Surrey, BC</i>	4616	Martin, Paul	WT I <i>Terrace, BC</i>
1958	Koczukur, Joseph	WD I <i>Harrison Hot Springs, BC</i>	4492	Mason, Godfrey	SWS <i>Kitkatla, BC</i>
4748	Korinetz, Geoff	WD I <i>Port Coquitlam, BC</i>	4566	Mason, Scott	SWS <i>Kamloops, BC</i>
4622	Koroll, John	OIT WD <i>Kamloops, BC</i>	4097	Matthee, Gert	WT I <i>Kitimat, BC</i>
4672	Kostur, Joseph	SWS <i>Mission, BC</i>	4721	Mayberry, Richard	WWC I <i>Richmond, BC</i>
4671	Kostur, Steven	SWS <i>Coquitlam, BC</i>	3134	McBride, Douglas	WWC II <i>Kamloops, BC</i>
1539	Krentz, Brian	WWC II <i>Langley, BC</i>	4743	McCarthy, Michael	WD I <i>Coquitlam, BC</i>
4578	Kuraoka, Garth	WD I <i>Lumby, BC</i>	1533	McCorkindale, Neil	WWC I <i>Maple Ridge, BC</i>
4719	LaBelle, Timothy	IWWT I <i>Garibaldi Highlands, BC</i>	4684	McDonald, Brian	SWS <i>Coquitlam, BC</i>
3237	Laboucane, Victor	CH <i>Queen Charlotte, BC</i>	3800	McDonald, Christian	MWWT I <i>Pemberton, BC</i>
4495	Lainchbury, David	SWS <i>Fort St. James, BC</i>	4185	McDonald, Duncan	WD II <i>Elkford, BC</i>
3593	Lancaster, Terry	WD II <i>Cranbrook, BC</i>	4502	McEnhill, William	WT I <i>Kitimat, BC</i>
4645	Lange, Oliver	SWS <i>Kitimat, BC</i>	4545	McGarry, Shirley	SWS <i>Pitt Meadows, BC</i>

NEW MEMBERS AND UPGRADES

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January 1 to June 15, 2004

CERT. NO.	NAME	CITY	CERT. NO.	NAME	CITY
4526	McHarg, Garth	SWS <i>Elkford, BC</i>	4539	Paul, Chadley	SWS <i>Agassiz, BC</i>
4527	McHugh, Donald	SWS <i>Radium Hot Springs, BC</i>	4637	Paulson, Gary	SWS <i>Kitimat, BC</i>
4646	McIsaac, Doug	OIT <i>Kitimat, BC</i>	3449	Peacock, Steven	WD I <i>Surrey, BC</i>
4647	McKay, Bruce	SWS <i>Kitimat, BC</i>	4559	Pearce, Catherine	SWWS-M <i>Vernon, BC</i>
4648	McKay, Christopher	SWS <i>Kitimat, BC</i>	3043	Pecsi, Laszlo	CH <i>Port Moody, BC</i>
1705	McKechnie, Tracy	OIT WWC <i>Kelowna, BC</i>	4344	Peebles, Blair	WWC I <i>Sparwood, BC</i>
1705	McKechnie, Tracy	WD I <i>Kelowna, BC</i>	4589	Pelly, Buford	SWS <i>Creston, BC</i>
3334	McKerr, James	WWC I <i>Comox, BC</i>	4574	Perrault, Jason	CH <i>Kimberley, BC</i>
3472	McKinlay, Michael	WD II <i>Duncan, BC</i>	4574	Perrault, Jason	OIT WD <i>Kimberley, BC</i>
1847	McLean, Joseph	WD II <i>Burnaby, BC</i>	4626	Phelps, Kevin	SWS <i>Whistler, BC</i>
4542	McLeod, Gerald	SWWS-L <i>Merritt, BC</i>	3879	Pickering, Lorne	WD I <i>Golden, BC</i>
4537	Menzies, Ken	SWS <i>Abbotsford, BC</i>	4638	Pirrotta, Joe	SWS <i>Kitimat, BC</i>
4722	Merke, David	WWC I <i>Richmond, BC</i>	4699	Plucinak, Chester	SWS <i>Mayne Island, BC</i>
4755	Meyer, Craig	OIT WWT <i>White Rock, BC</i>	4724	Plucinak, Diane	SWS <i>Mayne Island, BC</i>
3867	Miller, Carl	MWWT I <i>Sparwood, BC</i>	3525	Podmaroff, Brett	WWC II <i>Maple Ridge, BC</i>
4601	Miller, Don	WD I <i>Aldergrove, BC</i>	4750	Poole, Delbert	WD I <i>Delta, BC</i>
3982	Miller, Patricia	WD II <i>Sun Peaks, BC</i>	4656	Pottle, Sandra	SWS <i>Galiano Island, BC</i>
3725	Mills, Philip	WD II <i>Edgewater, BC</i>	4703	Potyondi, John	SWS <i>Mission, BC</i>
4544	Mooney, Ronald	SWS <i>Qualicum Beach, BC</i>	1755	Powell, Adam	WD I <i>Chilliwack, BC</i>
4132	Morgan, Paul	WD I <i>Bowen Island, BC</i>	4725	Pretzer, Jason	OIT WD <i>Maple Ridge, BC</i>
4592	Morley, David	SWS <i>Cranbrook, BC</i>	4704	Price, Jay	SWS <i>Surrey, BC</i>
4579	Morphet, Scott	WD I <i>Pemberton, BC</i>	4317	Prince, Tania	SWWS-L <i>Fort St. James, BC</i>
4579	Morphet, Scott	WWC I <i>Pemberton, BC</i>	1943	Raincock, Grant	MWWT IV <i>Richmond, BC</i>
4546	Morton, Bruce	SWS <i>Pitt Meadows, BC</i>	3389	Ralph, James	MWWT II <i>Port Hardy, BC</i>
4749	Moyes, Brian	WD I <i>Surrey, BC</i>	4540	Ratzlaff, Jonathan	SWS <i>Abbotsford, BC</i>
4667	Muller, Nickolaus	SWS <i>Langley, BC</i>	4726	Reason, Doug	SWS <i>Mission, BC</i>
3212	Mummery, Christopher	CH <i>Marysville, BC</i>	4009	Reimer, Gil	MWWT I <i>Terrace, BC</i>
3212	Mummery, Christopher	WD II <i>Marysville, BC</i>	4664	Restall, Robert	SWS <i>Mission, BC</i>
4636	Munro, Brian	SWS <i>Kitimat, BC</i>	4388	Reutelsterz, Alfred	OIT WT <i>Telkwa, BC</i>
4585	Nadeau, Brenda	WD I <i>Maple Ridge, BC</i>	4586	Richter, Curtis	WWC I <i>Cranbrook, BC</i>
4585	Nadeau, Brenda	WWC I <i>Maple Ridge, BC</i>	4586	Richter, Curtis	CH <i>Cranbrook, BC</i>
4649	Nagel, Ken	SWS <i>Kitimat, BC</i>	4639	Roberts, Ross	SWS <i>Chetwynd, BC</i>
4572	Ned, Ronnie	SWS <i>Lillooet, BC</i>	3566	Robertson, Darren	WD I <i>Moberly Lake, BC</i>
3133	Nelson, Ryan	WD I <i>Burns Lake, BC</i>	3566	Robertson, Darren	SWWS-L <i>Moberly Lake, BC</i>
4650	Newton, Scott	SWS <i>Kitimat, BC</i>	4751	Rogers, Murray	WWC I <i>Saanichton, BC</i>
4538	Nicholson, Donald	SWS <i>Chilliwack, BC</i>	4751	Rogers, Murray	WD I <i>Saanichton, BC</i>
4666	Nielsen, Larry	SWS <i>Chase, BC</i>	4640	Ross, Stephen	SWS <i>Kitimat, BC</i>
4665	Nowak, Christian	SWS <i>Agassiz, BC</i>	4702	Rowe, Bleu	SWS <i>Hudson's Hope, BC</i>
1524	Oliver, Michael	WD III <i>Vancouver, BC</i>	4727	Ryder, Michael	WT I <i>Taylor, BC</i>
1528	Olson, Timothy	WWC I <i>Powell River, BC</i>	3803	Salamandyk, Earl	CH <i>Grand Forks, BC</i>
3730	Oscarson, David	CH <i>Kimberley, BC</i>	3984	Sallows, Shannon	MWWT II <i>Richmond, BC</i>
3922	Pagdin, Ross	WWC II <i>Courtenay, BC</i>	4491	Sampare, Cliff	SWWS-M <i>South Hazelton, BC</i>
4602	Parker, Daryl	WD I <i>Surrey, BC</i>	3244	Sandhu, Harry	WWC II <i>Victoria, BC</i>
3114	Parker, David	MWWT I <i>Crofton, BC</i>	4728	Santos, Manuel	WD I <i>Pitt Meadows, BC</i>
4508	Parlee, Jason	WT I <i>Kitimat, BC</i>	1077	Sarabun, Byron	WWC I <i>Jaffray, BC</i>
4723	Parsons, Ronald	WD I <i>Maple Ridge, BC</i>	3633	Sarabun, Roy	CH <i>Fernie, BC</i>
4393	Pasqua, Claudio	CH <i>Vancouver, BC</i>	3633	Sarabun, Roy	WD II <i>Fernie, BC</i>
4567	Pattison, Floyd	SWS <i>Houston, BC</i>	4729	Saunby, Grant	WD I <i>Pitt Meadows, BC</i>

NEW MEMBERS AND UPGRADES

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January 1 to June 15, 2004

CERT. NO.	NAME	CITY	CERT. NO.	NAME	CITY
4730	Savage, Brian	WD I <i>Maple Ridge, BC</i>	4529	Takkinen, Mike	SWS <i>Fernie, BC</i>
4753	Savage, Roy	WD I <i>Pitt Meadows, BC</i>	4148	Tallarico, Giuseppe	WD I <i>Vancouver, BC</i>
4687	Sawicki, Calvin	SWS <i>Kimberley, BC</i>	4582	Tassone, Bruno	WD I <i>Castlegar, BC</i>
1752	Schade, Arnold	MWWT II <i>Nanaimo, BC</i>	4732	Tewes, Klaus	SWS <i>Mayne Island, BC</i>
4514	Schienze, Hal	SWS <i>Maple Ridge, BC</i>	1316	Theunisz, Edward	WD II <i>Saltspring Island, BC</i>
4651	Scholz, Bernie	SWS <i>Kitimat, BC</i>	1407	Thiessen, Victor	WD II <i>Abbotsford, BC</i>
4516	Schooner, Percy	SWS <i>Bella Coola, BC</i>	4530	Thomson, Jay	SWS <i>Sparwood, BC</i>
4516	Schooner, Percy	SWWS-L <i>Bella Coola, BC</i>	4176	Thorndyke, Paul	MWWT I <i>Shawnigan Lake, BC</i>
3292	Schultz, Jerry	WWC I <i>Lister, BC</i>	4604	Thornton, Mark	WD I <i>Maple Ridge, BC</i>
4580	Semenzin, Garry	WD I <i>Kimberley, BC</i>	4517	Tomma, James	SWWS-M <i>Chase, BC</i>
4580	Semenzin, Garry	CH <i>Kimberley, BC</i>	4517	Tomma, James	SWS <i>Chase, BC</i>
3080	Senior, Charles	WD I <i>Courtenay, BC</i>	4641	Tremblay, Fred	SWS <i>Kitimat, BC</i>
3925	Serena, Frank	WWC II <i>Burnaby, BC</i>	4583	Tricker, Al	WD I <i>Chetwynd, BC</i>
4690	Sewell, David	SWS <i>Prince George, BC</i>	4607	Trottier, Kevin	WWC I <i>Kelowna, BC</i>
4587	Shaw, David	WWC I <i>Qualicum Beach, BC</i>	3354	Tuason, Castel	WD II <i>Delta, BC</i>
1595	Shea, Sean	WD I <i>Tumbler Ridge, BC</i>	4099	Tucceri, Robert	WT I <i>Kitimat, BC</i>
4603	Sherstone, Mark	WD I <i>White Rock, BC</i>	4733	Tucker, Andrew	OIT WWT <i>Whistler, BC</i>
4662	Shishido, Naoyuki	SWS <i>Harrison Hot Springs, BC</i>	4734	Tulev, John	WWC I <i>Vancouver, BC</i>
4652	Silva, David	SWS <i>Kitimat, BC</i>	4660	Van Esch, Andy	SWS <i>Chilliwack, BC</i>
2085	Simon, Lane	WWC I <i>Comox, BC</i>	4659	Van Esch, John	SWS <i>Chilliwack, BC</i>
3062	Smerychynski, Anthony	MWWT IV <i>Vancouver, BC</i>	4658	Vetter, Albert	SWS <i>Mission, BC</i>
4627	Smith, Jay	SWS <i>Carcross, Yukon</i>	3594	Videto, Kyle	WD II <i>Cranbrook, BC</i>
3158	Smith, Johnny	WT II <i>Skidgate, BC</i>	4501	Voykim, Paul	WT I <i>Kitimat, BC</i>
4547	Smith, Richard	SWS <i>Chilliwack, BC</i>	4752	Walker, Keith	WD I <i>Port Coquitlam, BC</i>
4098	Snell, Kenneth	WT I <i>Kitimat, BC</i>	4691	Wanamaker, Brian	SWS <i>Prince George, BC</i>
4409	Sonnenberg, Blaine	SWWS-L <i>Agassiz, BC</i>	4130	Ward, Nathan	WD I <i>Nelson, BC</i>
1367	Soros, Alf	MWWT II <i>Vernon, BC</i>	4693	Warder, Kenneth	SWS <i>Dawson Creek, BC</i>
1966	Soros, Ross	CH <i>Maple Ridge, BC</i>	3545	Wellington, Ryan	WD II <i>Salt Spring Island, BC</i>
4528	Spence, Kimbol	SWS <i>Elkford, BC</i>	4560	Wenzel, Bud	SWWS-M <i>Calgary, AB</i>
4594	Stabeck, Gavin	WD I <i>Kamloops, BC</i>	4560	Wenzel, Bud	SWS <i>Calgary, AB</i>
1679	Stachoski, Dale	WD II <i>Maple Ridge, BC</i>	4500	Wiebe, Cameron	WT I <i>Kitimat, BC</i>
4541	Stade, Douglas	SWS <i>Agassiz, BC</i>	3882	Wiebe, Robert	WD I <i>Golden, BC</i>
4661	Stadel, Brent	SWS <i>Langley, BC</i>	3882	Wiebe, Robert	OIT WD <i>Golden, BC</i>
1053	Stahl, David	WD I <i>Surrey, BC</i>	4219	Wilkins, David	WD II <i>Quesnel, BC</i>
4581	Stanbra, Larry	WD II <i>Castlegar, BC</i>	4605	Williams, John	WD I <i>Abbotsford, BC</i>
4581	Stanbra, Larry	WD I <i>Castlegar, BC</i>	4483	Williams, John	SWS <i>Tofino, BC</i>
4759	Stanley, Richard	WWC I <i>Delta, BC</i>	4128	Willis, Gordon	WWC I <i>Port Coquitlam, BC</i>
4591	Stasuik, Patrick	SWS <i>Cranbrook, BC</i>	4531	Wilson, Ryan	CH <i>Elkford, BC</i>
4568	Sterling, Allen	SWS <i>Sicamous, BC</i>	4531	Wilson, Ryan	SWS <i>Elkford, BC</i>
4615	Stevens, Leonard	WT I <i>Kitimat, BC</i>	4569	Winder, Esther	SWS <i>Kamloops, BC</i>
1914	Stewart, David	WD II <i>Burns Lake, BC</i>	4569	Winder, Esther	CH <i>Kamloops, BC</i>
4731	Stobart, Kyle	SWS <i>Mayne Island, BC</i>	4692	Winkel, Jay	SWS <i>Prince George, BC</i>
936	Streicker, Steve	WD II <i>Sechelt, BC</i>	3546	Wood, Stewart	WD II <i>Qualicum Beach, BC</i>
1491	Stuart, Brad	WD I <i>Kelowna, BC</i>	4606	Woodruff, Gary	WD I <i>Surrey, BC</i>
4614	Sullivan, Kevin	WT I <i>Terrace, BC</i>	4593	Wozney, Andrew	OIT WT <i>Kitimat, BC</i>
1610	Sullivan, Steven	WT III <i>Trail, BC</i>	4315	Wright, Deonne	WT I <i>Burns Lake, BC</i>
4590	Tait, Lorna	SWS <i>Grasmere, BC</i>	4657	Yoon, Kwang	SWS <i>Hope, BC</i>

Certification Quiz - Small Water Systems

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

1. **An organism that is capable of causing a disease is a(an)**
 - A. Anaerobic
 - B. Chloramine
 - C. Coliform
 - D. Pathogen
2. **Turbidity refers to the _____ of the water.**
 - A. Clarity (cloudiness)
 - B. Odour
 - C. Pressure
 - D. Temperature
3. **What is sodium hypochlorite?**
 - A. Compound that can be purchased in liquid solution and used for disinfection
 - B. Dry neutralizing powder for chlorine burns
 - C. Gas delivered in 45 kg, 90 kg, and 900 kg cylinders
 - D. Salt that is formed when hydrochloric acid is neutralized by sodium hydroxide
4. **What is a cross-connection?**
 - A. A physical connection through which a potable water supply could be contaminated
 - B. A special type of tap
 - C. When 2 pipes are connected by an approved back-flow prevention device
 - D. When 2 approved water systems are connected for fire protection
5. **What is the smallest size house service line normally installed?**
 - A. 10 mm (3/8 in)
 - B. 13 mm (1/2 in)
 - C. 19 mm (3/4 in)
 - D. 25 mm (1 in)
6. **The most important safety item in any system where a gas chlorinator is used is a:**
 - A. Self-contained breathing apparatus
 - B. Leak detector
 - C. Ventilating fan
 - D. Water hose
7. **The valve that joins a customer's service to the water main is called a**
 - A. Bypass valve
 - B. Control flume
 - C. Corporation cock
 - D. Pressure regulating valve
8. **What is indicated if the chlorine demand suddenly jumps from 0.9 mg/L to 3.0 mg/L in a well supply?**
 - A. More water is being pumped
 - B. Over chlorination
 - C. Contamination
 - D. The strength of the chlorine is low
9. **A connection made into a main that is full or under pressure is a**
 - A. Cross-connection
 - B. Dry tap
 - C. Valve box
 - D. Wet tap
10. **What kind of sample should an operator take for chlorine residual?**
 - A. A 24-hour composite sample
 - B. A grab sample
 - C. A sample made up of 2 or 3 portions taken at the time of high flow
 - D. A sample taken at the time of low flow

(Answers on page 18)



MEMBER PROFILE – Dale Chartrand

Dale Chartrand started work with the Town Of Smithers in July 1994 as an equipment operator. Dale spent a lot of time working under the wing of Errol Franson, learning the in's and out's of the business.

Since Errol's retirement, Dale has taken over as Chief Operator for the Town of Smithers, operating a Class I water system and wastewater system. He currently holds Level I certifications in WD, WWC, MWWT and chlorine handling.

He enjoys playing golf in the summer and Oldtimers hockey in the winter as well as stand-up comedy with a hockey buddy. Dale also belongs to The Smithers Volunteer Fire Dept. Any other spare time is taken up by his companion Sharon and two children.

NEWLY CLASSIFIED OR UPDATED FACILITIES

Facility No	Facility Name	January 1 – September 30, 2004	Classification / Level	City/Province
714	Alcan Primary Metal BC Kitimat Works		WT III	<i>Kitimat, BC</i>
836	Aleza Lake Hwys. Yard SWS		SWS	<i>Aleza Lake, BC</i>
779	Aquadel Golf Lindell RV Park Water System		SWS	<i>Lindell Beach, BC</i>
818	Avalanche Control Building (MOT) Small Water System		SWS	<i>Merritt, BC</i>
786	Barkerville Historic Town Wastewater Treatment Facility		MWWT I	<i>Barkerville, BC</i>
772	Barkerville Historic Town Water Distribution System		WD II	<i>Barkerville, BC</i>
211	Bay Motel Wastewater Treatment Facility		MWWT I	<i>Bella Coola, BC</i>
862	Belcarra Water Users Society's (B.W.U.S.) Water System		SWS	<i>Belcarra, BC</i>
747	Bennett Bay Waterworks District		SWS	<i>Mayne Island, BC</i>
288	Big White Ski Resort Wastewater Treatment Facility		MWWT I	<i>Kelowna, BC</i>
847	Bobbie Burns Lodge Small Wastewater System		SWWS-L	<i>Parsons, BC</i>
35	Brandts Creek Tradewaste Treatment		MWWT III	<i>Kelowna, BC</i>
773	Buntzen Lake Recreation Area Small Water System		SWS	<i>Anmore, BC</i>
492	Capital Regional District Waterworks		WD IV	<i>Victoria, BC</i>
17	Central Wastewater Treatment Facility		MWWT III	<i>Squamish, BC</i>
788	Central Saanich Water Distribution System		WD II	<i>Saanichton, BC</i>
388	Charlie Lake Wastewater Treatment Facility		MWWT I	<i>Charlie Lake, BC</i>
757	Chaunigan Lake Lodge Small Water System		SWS	<i>Chaunigan Lake, BC</i>
852	Chemainus #13 Sewage Lagoon		MWWT I	<i>Ladysmith, BC</i>
856	Chemtrade Pulp Chemicals Wastewater Treatment Plant		MWWT I	<i>Prince George, BC</i>
851	Chezacut Logging Camp SWS		SWS	<i>Williams Lake, BC</i>
838	Chief Lake Hwy Yard Small Water System		SWS	<i>Prince George, BC</i>
863	Chilcotin Estates Mobil Home Park SWS		SWS	<i>Williams Lake, BC</i>
825	Children's Learning Centre Water Distribution System		WD I	<i>Whistler, BC</i>
796	Chilliwack River Resort Small Water System		SWS	<i>Chilliwack, BC</i>
854	Christina Lake Water Suppliers Society SWS		SWS	<i>Christina Lake, BC</i>
750	City of Abbotsford Water Distribution System		WD IV	<i>Abbotsford, BC</i>
849	City of Burnaby Water Distribution System		WD IV	<i>Burnaby, BC</i>
311	City of Castlegar North Sewage Treatment		MWWT I	<i>Castlegar, BC</i>
68	City of Castlegar South Sewage Treatment		MWWT II	<i>Castlegar, BC</i>
733	City of Castlegar Wastewater Collection System		WWC II	<i>Castlegar, BC</i>
125	City of Castlegar Water Distribution System		WD III	<i>Castlegar, BC</i>
758	City of Enderby Wastewater Reclamation Plant		MWWT III	<i>Enderby, BC</i>
801	City of North Vancouver Water Distribution System		WD II	<i>North Vancouver, BC</i>
141	City of Port Coquitlam Water Distribution System		WD III	<i>Port Coquitlam, BC</i>
10	City of Terrace Wastewater Treatment		MWWT I	<i>Terrace, BC</i>
767	Coal Mountain Operations Minesite Water System		SWS	<i>Sparwood, BC</i>
393	Columbia Pollution Control Centre		MWWT III	<i>Trail, BC</i>
815	Copperside Small Water System		SWS	<i>Terrace, BC</i>
819	Coquilalla Toll Plaza Small Water System		SWS	<i>Merritt, BC</i>
782	Coral Beach Small Water System		SWS	<i>Lake Country, BC</i>
850	Creekside Resort Wastewater Treatment Centre		SWWS-L	<i>Cowichan Lake District, BC</i>
760	Cultus Lake Park Board Water Distribution System		WD II	<i>Cultus Lake, BC</i>
748	Distict of Kitimat Water Distribution System		WD III	<i>Kitimat, BC</i>
763	District of Elkford Water Distribution System		WD II	<i>Elkford, BC</i>
806	District of North Vancouver Water Distribution System		WD III	<i>North Vancouver, BC</i>
791	District of Oak Bay Waster Distribution System		WD II	<i>Victoria, BC</i>
766	District of Pitt Meadows Water Distribution System		WD II	<i>Pitt Meadows, BC</i>
858	District of Port Edward Water Treatment Plant		WT III	<i>District of Port Edward, BC</i>
792	District of Saanich Water Distribution System		WD III	<i>Victoria, BC</i>
816	District of Squamish Water Distribution System		WD III	<i>Squamish, BC</i>
741	District of Stewart Water System		WD I	<i>Stewart, BC</i>
350	District of West Vancouver Water Distribution System		WD IV	<i>West Vancouver, BC</i>
768	Ebenezer Canadian Reformed School Small Water System		SWS	<i>Smithers, BC</i>
315	Edgewater Community Sewage System		MWWT I	<i>Cranbrook, BC</i>
685	Fording River Operations Mine Site		SWS	<i>Elkford, BC</i>
840	Fort St. James Hwy Yard Small Water System		SWS	<i>Fort St. James, BC</i>

NEWLY CLASSIFIED OR UPDATED FACILITIES

Facility No	Facility Name	January 1 – September 30, 2004	Classification / Level	City/Province
839	Fraser Lake Hwy Yard Small Water System		SWS	Fraser Lake, BC
848	Gitanmaax/Hazelton Water Treatment Plant		WT III	Hazelton, BC
826	Glacier Creek Lodge Water Treatment Plant		WT II	Whistler, BC
846	Gordania Estates Mobile Home Park Small Water System		SWS	Rosedale, BC
787	Greater Victoria Water Transmission Supply System		WD III	Victoria, BC
830	Green Canyon Motor Inn Small Water System		SWS	Boston Bar, BC
483	Grindrod Small Water System		SWS	Coldstream, BC
831	Hallamore Lake Resort Sewage Treatment Facility		SWWS-L	Clearwater, BC
844	Haslam Lake Water Distribution System		WD II	Powell River, BC
775	Hayward Reservoir Recreation Area Small Water System		SWS	Mission, BC
269	Hazelton/Gitanmaax Sewage Treatment		MWWT I	Hazelton, BC
732	Hedley Improvement District SWS		SWS	Hedley, BC
817	Heritage Hills Wastewater Treatment Plant		MWWT III	Pentiction, BC
268	Highland Valley Copper Sewage Treatment		MWWT I	Logan Lake, BC
812	Highland Valley Copper Water Treatment Plant		WT II	Logan Lake, BC
841	Honeymoon Creek Hwy Yard Small Water System		SWS	Honeymoon Creek, BC
833	Hudta Lake Correctional Camp Small Water System		SWS	Prince George, BC
777	Jones Lake Recreation Area Small Water System		SWS	Hope, BC
789	Juan de Fuca Water Distribution System		WD III	Victoria, BC
810	Kicking Horse Mountain Resort Wastewater Treatment Plant		MWWT II	Golden, BC
809	Kostur Mobile Home Parks Small Water System		SWS	Mission, BC
799	Lake of the Woods Resort Water System		SWS	Hope, BC
800	Langley Grove Estates Small Water System		SWS	Langley, BC
726	Larch Point Community Water System		SWS	Windermere Lake, BC
827	Laxgalts'ap Village Pump House		WD I	Greenville, BC
761	Lillooet Lake Estates Water Works		SWS	Mt. Currie, BC
797	Lindell Beach Community Small Water System		SWS	Lindell Beach, BC
746	Lund Waterworks Improvement District		SWS	Lund, BC
383	McBride Lagoon		MWWT I	McBride, BC
740	Medallion Meats Corporation Small Wastewater System		SWWS-M	Westwold, BC
842	Methanex Corporation Kitimat Plant Wastewater Treatment Facility		IWWT II	Kitimat, BC
859	Methanex Kitimat Water Treatment Plant		WT II	Kitimat, BC
292	Middle Point Industrial Park Sewage		MWWT I	Campbell River, BC
307	Midway Effluent Discharge Facility		MWWT I	Midway, BC
148	Mill Bay Water Distribution System		WD II	Mill Bay, BC
780	Monashee Lodge Wastewater System		SWWS-M	Mica Creek, BC
762	Mount Belcher Improvement District Small Water System		SWS	Salt Spring Island, BC
171	Municipality of Whistler Wastewater Collection System		WWC III	Whistler, BC
172	Municipality of Whistler Water Distribution System		WD IV	Whistler, BC
771	Nanwit Picnic Site Small Water System		SWS	Lillooet, BC
728	Norske Canada Crofton Division Water Treatment Facility		WT III	Crofton, BC
753	Norske Canada Small Water System		SWS	Powell River, BC
526	North Bend Sewage Treatment Facility		MWWT I	North Bend, BC
821	North Canyon Improvement District Water Distribution System		WD II	Canyon, BC
790	North Saanich Water Distribution System		WD II	North Sannich, BC
765	Northside Water Service Ltd Water Distribution System		WD I	Vanderhoof, BC
783	Oyama Small Water System		WD II	Lake Country, BC
778	Pend d'Oreille Recreation Area Small Water System		SWS	Trail, BC
784	Ponderosa Small Water System		SWS	Lake Country, BC
471	Port Alice Specialty Cellulose Municipal Wastewater Treatment		MWWT II	Port Alice, BC
751	Port Alice Specialty Cellulose Small Water System		SWS	Port Alice, BC
845	Powell Lake Water Distribution System		WD II	Powell River, BC
406	Queensway Wastewater Treatment Facility		MWWT I	Thornhill, BC
861	Radium Hot Springs Sewage Treatment Facility		WD II	Radium Hot Springs, BC
824	Roundhouse Lodge, Alpine Building Water Distribution System		WD II	Whistler, BC
63	Saanich Peninsula Water Distribution System		WD III	Victoria, BC
804	Sasamat Outdorr Centre Small Water System		SWS	Belcarra, BC

NEWLY CLASSIFIED OR UPDATED FACILITIES

Facility No	Facility Name	January 1 – September 30, 2004	Classification / Level	City/Province
811	Sasquatch Springs RV Resort Water System		SWS	<i>Harrison Hot Springs, BC</i>
378	Sayward Sewage Lagoon		MWWT I	<i>Sayward, BC</i>
727	Semiahmoo First Nation Small Water System		SWS	<i>Surrey, BC</i>
828	Seton Beach Pump House Small Water System		SWS	<i>Lillooet, BC</i>
769	Seton Day Campground Small Water System		SWS	<i>Burnaby, BC</i>
776	Seton Lake Recreation Area Small Water System		SWS	<i>Lillooet, BC</i>
764	Shawnigan Lake School Small Wastewater System		SWWS-M	<i>Shawnigan Lake, BC</i>
832	Shuswap River Recreation Area Small Water System		SWS	<i>Salmon Arm, BC</i>
382	Silver Star Mountain Resort Water Distribution System		WD II	<i>Coldstream, BC</i>
802	Simon Fraser University Water Distribution System		WD I	<i>Burnaby, BC</i>
835	Slim Creek Hwys. Yard SWS		SWS	<i>Slim Creek, BC</i>
730	Slocan Park Improvement District		SWS	<i>Slocan Park, BC</i>
774	Stave Lake Group Lodge & Campground SWS		SWS	<i>Mission, BC</i>
770	Stillwater Waterworks District		SWS	<i>Powell River, BC</i>
843	Stillwood Camp and Conference Centre SWS		SWS	<i>Lindell Beach, BC</i>
754	Strata K-240 Water System		SWS	<i>Chase, BC</i>
855	Strata Corporation K-42 Small Water System		SWS	<i>Vernon, BC</i>
734	Sumas First Nation (578) Small Water System		SWS	<i>Abbotsford, BC</i>
814	Sun Dorn Small Water System		SWS	<i>Mission, BC</i>
808	Sun Valley Trout Park Small Water System		SWS	<i>Mission, BC</i>
744	Tadanac Water Treatment Plant		SWS	<i>Trail, BC</i>
823	Tahsis Water Supply SWS		WD II	<i>Tahsis, BC</i>
837	Tete Jaune Scale Small Water System		SWS	<i>Tete Jaune, BC</i>
736	Timberline Ranch Small Water System		SWS	<i>Maple Ridge, BC</i>
2	Town of Golden Wastewater Treatment		MWWT III	<i>Golden, BC</i>
759	Town of Ladysmith Water Distribution System		WD II	<i>Ladysmith, BC</i>
749	Town of Port McNeill Small Water System		WD II	<i>Port McNeill, BC</i>
731	Town of Qualicum Beach Water Distribution System		WD III	<i>Qualicum Beach, BC</i>
793	Town of Sidney Water Distribution System		WD I	<i>Sidney, BC</i>
729	Tsawwassen First Nation Wastewater Treatment Plant		MWWT III	<i>Delta, BC</i>
352	Tumbler Ridge Wastewater Treatment		MWWT I	<i>Tumbler Ridge, BC</i>
752	Tween Lakes Resort Small Water System		SWWS-L	<i>Oyama, BC</i>
822	Vavenby Community Small Water System		SWS	<i>Kamloops, BC</i>
794	Victoria & Esquimalt Water Distribution System		WD III	<i>Victoria, BC</i>
857	Village of Canal Flats Water Distribution System		WD I	<i>Canal Flats, BC</i>
805	Village of Clinton Water Distribution System		WD II	<i>Clinton, BC</i>
781	Village of Clinton Water Treatment Facility		WT II	<i>Clinton, BC</i>
385	Village of Fraser Lake Wastewater		MWWT I	<i>Fraser Lake, BC</i>
167	Village of Gold River Water Distribution System		WD II	<i>Gold River, BC</i>
277	Village of Granisle Wastewater Treatment		MWWT II	<i>Granisle, BC</i>
76	Village of Harrison Hot Springs Wastewater Treatment Facility		MWWT II	<i>Harrison Hot Springs, BC</i>
853	Village of Kaslo Distribution System		WD II	<i>Kaslo, BC</i>
795	Village of Lions Bay Wastewater System		SWWS-L	<i>Lions Bay, BC</i>
335	Village of Pouce Coupe Water Distribution System		WD I	<i>Pouce Coupe, BC</i>
743	Wagner Hills Farm Society Small Water System		SWS	<i>Langley, BC</i>
745	Warfield Water Treatment Plant		WT III	<i>Trail, BC</i>
722	Western Forest Products Small Water System		SWS	<i>Gold River, BC</i>
820	Western Pulp - Squamish Operation Small Water System		SWS	<i>Squamish, BC</i>
807	Whitevale Small Water System		SWS	<i>Lumby, BC</i>
785	Wood Lake Water System		WD II	<i>Lake Country, BC</i>
738	Wynndel Irrigation District		WD II	<i>Wynndel, BC</i>
739	Yarrow Waterworks District		WD I	<i>Yarrow, BC</i>
829	Zeballos Small Water System		SWS	<i>Zeballos, BC</i>

CERTIFICATION QUIZ ANSWERS: 1. D 2. A 3. A 4. A 5. C 6. B 7. C 8. C 9. D 10. B

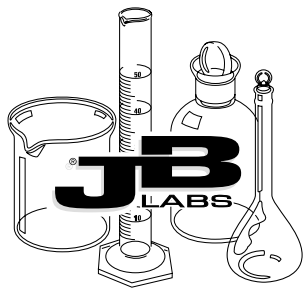
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UPCOMING EVENTS

TRAINING OPPORTUNITIES

COURSE	DATE	LOCATION
Water Treatment II	January 11 - 14, 2005	Kitimat
Water Treatment I	January 25 - 28, 2005	Kitimat
Water Distribution I	February 14 - 18, 2005	Victoria
Water Distribution II	February 14 - 18, 2005	Victoria
Water Quality for Distribution Operators	February 14 - 16, 2005	Victoria
Small Water Systems	February 14 - 15, 2005	Victoria
SCADA Systems for Operators	February 14 - 15, 2005	Victoria
Small Wastewater Systems	February 16 - 17, 2005	Victoria
Hydrant Maintenance	February 16, 2005	Victoria
Control Valves	February 17, 2005	Victoria
Confined Space	February 17 - 18, 2005	Victoria
Water Treatment II	April 4 - 8, 2005	Kamloops
Cross Connection Control	April 4 - 8, 2005	Kamloops
Chlorine Handling	April 4 - 8, 2005	Kamloops
Small Water Systems	April 4 - 5, 2005	Kamloops
Water Distribution I	May 2 - 6, 2005	Langara
Water Distribution II	May 2 - 6, 2005	Langara
Water Distribution III	May 2 - 6, 2005	Langara
Wastewater Treatment I	May 2 - 6, 2005	Langara
Wastewater Treatment II/III	May 2 - 6, 2005	Langara
Water Treatment I	May 2 - 6, 2005	Langara
Water Treatment II	May 2 - 6, 2005	Langara
Cross Connection Control	May 2 - 6, 2005	Langara
Chlorine Handling	May 2 - 6, 2005	Langara
Wastewater Collection I	May 2 - 6, 2005	Langara
Wastewater Collection II	May 2 - 6, 2005	Langara
Wastewater Collection III	May 2 - 6, 2005	Langara
Small Water Systems	May 2 - 3, 2005	Langara
Confined Space	May 4 - 5, 2005	Langara

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. Phone: 604 874 4784 Fax: 604 874 4794 Toll Free: 1 866 552 3627

