R E P O R T

COMOX FIRST NATION

Assessment Studies of Water and Wastewater Systems and Associated Water Management Practices at Selected First Nation Communities

ASSOCIATED ENGINEERING

004562

December 2002

ANALYTICAL SERVICES

8577 Commerce Court
Burnaby, B.C.
Canada V5A 4N5
Tel 604 444 4808
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04-Apr-02

Certificate of Analysis

Reported To :

HEALTH CANADA

Client Code F6

#119 - 1180 IRONWOOD STREET
CAMPBELL RIVER, BC
V9W 5P7

Phone : (250) 286-5870
FAX : (250) 286-5872

Project Information :

Project ID :
Submitted By: SANDRA GREEN

Requisition Forms :

Form 08098793 logged on 14-Mar-02 completed on 4-Apr-02

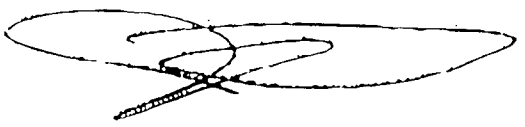
Remarks :

+ All organic data is blank corrected except for PCDD/F, Hi-res MS and CLP volatile analyses
+ 'MDL' = Method Detection Limit, '<' = Less than MDL, '---' = Not analyzed.
+ 'CDWG'= Canadian Drinking Water Guidelines
+ Solids results are based on dry weight except Biota Analyses & Special Waste Oil & Grease.
+ Organic analyses are not corrected for extraction recovery standards except for Isotope Dilution methods, (i.e. CARB 429 PAH, all PCDD/F and DBD/DBF analyses)
+ All Groundwater samples except BTEX/VOC's or Purgeable Hydrocarbons are decanted and/or filtered prior to analysis unless otherwise mandated by regulatory agency
+ This report shall not be reproduced except in full, without the written approval of the laboratory

Methods used by Philip are based upon those found in 'Standard Methods for the Examination of Water and Wastewater', 20th Edition, published by the American Public Health Association, or on US EPA protocols found in the 'Test Methods For Evaluating Solid Waste, Physical/Chemical Method, SW846', 3rd Edition. Other procedures are based on methodologies accepted by the appropriate regulatory agency. Methodology briefs are available by written request.

All work recorded herein has been done in accordance with normal professional standards using accepted testing methodologies, quality assurance and quality control procedures except where otherwise agreed to by the client and testing company in writing. Liability for any and all use of these test results shall be limited to the actual cost of the pertinent analysis done. There is no other warranty expressed or implied.
Your samples will be retained at Philip for a period of 30 days from receipt of data or as per contract.

PHILIP Project Manager: James Teshima



ANALYTICAL SERVICES

04-Apr-02

ANALYTICAL REPORT

Client : HEALTH CANADA
Project :
Sampling site :
Submitted by : SANDRA GREEN

Sparcode	Parameter	Unit	MDL	CDWG	Philip ID : 12014217 Client ID : CAMPBELL RIVER	12014218 COMOX BAND	12014219 HOMOLTCO BAND
PHYSICAL							
00041220	pH	pH units	0.1	6.5-8.5	7.1	7.0	7.1
00021300	Color True	Col.Unit	5	15	10	5	5
00111160	Specific Conductance	uS/cm	1	---	51	40	53
SCCACALC	Computed Conductance	uS/cm		—	52	39	55
CCPDCALC	Conductance % Diff.	%		---	2.2	-2.4	3.3
00081071	Residue Nonfilterable (TSS)	mg/L	4	---	< 4	< 4	< 4
007H1035	Residue Filterable 1.0u (TDS)	mg/L	10	500	34	20	24
CTDSCALC	Computed TDS	mg/L		—	26	20	28
TDSRCALC	TDS % Diff.	%		—	-25.0	-1.7	15.5
00151140	Turbidity	NTU	0.10	1.0	0.38	0.37	0.27
0107CALC	Hardness Total -T	mg/L		500	24.3	17.9	25.2
GENERAL INORGANICS							
01011211	Alkalinity Phen 8.3 as CaCO3	mg/L	1	---	< 1	< 1	< 1
01021210	Alkalinity Total as CaCO3	mg/L	1	---	19	16	21
CO3-CALC	Carbonate as CO3=	mg/L		—	< 0.5	< 0.5	< 0.5
HCO3CALC	Bicarbonate as HCO3-	mg/L		—	23.2	19.5	23.6
OH-CALC	Hydroxide as OH-	mg/L		—	< 0.5	< 0.5	< 0.5
2105AA04	Cyanide(SAD) + Thiocyanate	mg/L	0.0005	0.2	< 0.0005	< 0.0005	< 0.0005
0125LLH5	Sulfide Total	mg/L	0.005	0.05	< 0.005	< 0.005	< 0.005
ANIONS							
11041334	Chloride Dissolved	mg/L	0.5	< 250	1.6	1.6	1.6
11061341	Fluoride Dissolved	mg/L	0.01	1.5	< 0.01	< 0.01	< 0.01
IonBCALC	Ion Balance	%		---	4.0	1.1	1.9
AnnsCALC	Total Anions	meq/L		—	0.48	0.38	0.53
CtnsCALC	Total Cations	meq/L		—	0.53	0.39	0.55
LangCALC	Langelier Index	pH units		—	-2.1	-2.5	-2.0
pHSACALC	Saturation pH	pH units		—	9.2	9.5	9.1
CARBON							
01030912	Organic Carbon - Total	mg/L	0.5	—	< 0.5	1.2	1.8
					Matrix : Water Sampled on: 02/03/13 16:00	Water 02/03/13 16:00	Water 02/03/13 16:00

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ANALYTICAL SERVICES

ANALYTICAL REPORT

Client : HEALTH CANADA
Project :
Sampling site :
Submitted by : SANDRA GREEN

Sparcode	Parameter	Unit	MDL	CDWG	Philip ID : 12014217 Client ID : CAMPBELL RIVER	12014218 COMOX BAND	12014219 HOMOLTCO BAND
NITROGEN							
11081351	Ammonia Nitrogen (N)	mg/L	0.005	—	< 0.005	< 0.005	< 0.005
1110CALC	Nitrate Nitrogen Dissolved (N)	mg/L		10.0	0.04	0.05	0.04
11091350	Nitrate+Nitrite (N)	mg/L	0.02	10.0	0.04	0.05	0.04
11111354	Nitrite Nitrogen (N)	mg/L	0.005	1.0	< 0.005	< 0.005	< 0.005
SULFATE							
11211405	Sulfate	mg/L	0.5	< 500	3.2	0.9	3.2
METALS TOTAL							
Al-T0031	Aluminum	mg/L	0.02	—	0.03	0.02	< 0.02
Sb-TMS31	Antimony	mg/L	0.001	—	< 0.001	< 0.001	< 0.001
As-TMS31	Arsenic	mg/L	0.001	0.025	< 0.001	< 0.001	< 0.001
Ba-T0031	Barium	mg/L	0.001	1.0	0.003	< 0.001	0.003
B-T0031	Boron	mg/L	0.008	5.0	< 0.008	0.009	< 0.008
Cd-TMS31	Cadmium	mg/L	0.0001	0.005	< 0.0001	< 0.0001	< 0.0001
Ca-T0031	Calcium	mg/L	0.05	—	8.45	5.71	8.77
Cr-T0031	Chromium	mg/L	0.005	0.05	< 0.005	< 0.005	< 0.005
Co-T0031	Cobalt	mg/L	0.005	—	< 0.005	< 0.005	< 0.005
Cu-T0031	Copper	mg/L	0.005	1.0	0.028	0.037	0.086
Fe-T0031	Iron	mg/L	0.005	0.3	0.039	0.024	0.024
Pb-TMS31	Lead	mg/L	0.0005	0.01	< 0.0005	0.0008	< 0.0005
Mg-T0031	Magnesium	mg/L	0.05	—	0.77	0.88	0.80
Mn-T0031	Manganese	mg/L	0.001	0.05	0.005	0.002	0.002
Hg-T0310	Mercury	mg/L	0.00005	0.001	< 0.00005	< 0.00005	< 0.00005
Mo-T0031	Molybdenum	mg/L	0.005	—	< 0.005	< 0.005	< 0.005
Ni-T0031	Nickel	mg/L	0.008	—	< 0.008	< 0.008	< 0.008
K_T0031	Potassium	mg/L	1	—	< 1	< 1	< 1
Se-TMS31	Selenium	mg/L	0.001	0.01	< 0.001	< 0.001	< 0.001
Ag-T0031	Silver	mg/L	0.01	—	< 0.01	< 0.01	< 0.01
Na_T0031	Sodium	mg/L	0.05	200	0.85	0.76	0.88
U-TLLMS	Uranium	mg/L	0.00001	0.1	0.00001	< 0.00001	< 0.00001
V-T0031	Vanadium	mg/L	0.005	—	< 0.005	< 0.005	< 0.005
Zn-T0031	Zinc	mg/L	0.005	5.0	0.007	< 0.005	0.024
				Matrix :	Water	Water	Water
				Sampled on:	02/03/13 16:00	02/03/13 16:00	02/03/13 16:00

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ANALYTICAL REPORT

Client : HEALTH CANADA
Project : -
Sampling site :
Submitted by : SANDRA GREEN

Sparcode	Parameter	Unit	MDL	CDWG	Philip ID : 12014217 Client ID : CAMPBELL RIVER	12014218 COMOX BAND	12014219 HOMOLTCO BAND
CHLORINATED PHENOLS							
EX9946Z7	Water Prep for CPs	date			02/03/18	02/03/18	02/03/18
MCP2CPWA	2-chlorophenol	mg/L	0.001	---	< 0.001	< 0.001	< 0.001
MCP3CPWA	3-chlorophanol	mg/L	0.001	---	< 0.001	< 0.001	< 0.001
MCP4CPWA	4-chlorophenol	mg/L	0.001	---	< 0.001	< 0.001	< 0.001
CPE1CPWA	2,5-Dichlorophenol	mg/L	0.0001	---	< 0.0001	< 0.0001	< 0.0001
CPH1CPWA	2,4+3,4-DiClPhenol	mg/L	0.0001	---	< 0.0001	< 0.0001	< 0.0001
CPH2CPWA	2,5-Dichlorophenol	mg/L	0.0001	---	< 0.0001	< 0.0001	< 0.0001
CP09CPWA	2,6-Dichlorophenol	mg/L	0.0001	---	< 0.0001	< 0.0001	< 0.0001
CPE3CPWA	3,5-Dichlorophenol	mg/L	0.0001	---	< 0.0001	< 0.0001	< 0.0001
CP03CPWA	2,3,4-Trichlorophenol	mg/L	0.0001	---	< 0.0001	< 0.0001	< 0.0001
CP04CPWA	2,3,5-Trichlorophenol	mg/L	0.0001	---	< 0.0001	< 0.0001	< 0.0001
CP05CPWA	2,3,6-Trichlorophenol	mg/L	0.0001	---	< 0.0001	< 0.0001	< 0.0001
CP06CPWA	2,4,5-Trichlorophenol	mg/L	0.0001	---	< 0.0001	< 0.0001	< 0.0001
CP07CPWA	2,4,6-Trichlorophenol	mg/L	0.0001	---	< 0.0001	< 0.0001	< 0.0001
CP44CPWA	3,4,5-Trichlorophenol	mg/L	0.0001	---	< 0.0001	< 0.0001	< 0.0001
CP02CPWA	2,3,4,5-Tetrachlorophenol	mg/L	0.0001	---	< 0.0001	< 0.0001	< 0.0001
CP01CPWA	2346+2356-TeClPhenol	mg/L	0.0001	---	< 0.0001	< 0.0001	< 0.0001
P022CPWA	Pentachlorophenol	mg/L	0.0001	---	< 0.0001	< 0.0001	< 0.0001
SURROGATE RECOVERY							
DC01SURR	CL2 Phenylaceticacid	%		---	97	92	92
BR3-CPWA	Tribromophenol	%	40	---	100	99	95
HERBICIDES							
EX995351	Prep for Glyphosate	date			02/03/25	02/03/25	02/03/25
A001P012	AMPA	mg/L	0.05	---	< 0.05	< 0.05	< 0.05
HYDROCARBONS							
H099PT11	VH C6-C10	mg/L	0.1	---	< 0.1	< 0.1	< 0.1
EX995179	Volat. Wat. Pre-Scr.	date			02/03/16	02/03/16	02/03/16
H097CALC	VPHw	mg/L		---	< 0.1	< 0.1	< 0.1
					Matrix : Water Sampled on: 02/03/13 16:00	Water 02/03/13 16:00	Water 02/03/13 16:00

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ANALYTICAL REPORT

Client : HEALTH CANADA
Project : -
Sampling site :
Submitted by : SANDRA GREEN

Sparcode	Parameter	Unit	MDL	CDWG	Philip ID : 12014217 Client ID : CAMPBELL RIVER	12014218 COMOX BAND	12014219 HOMOLTCO BAND
POLYCYCLIC AROMATIC HYDROCARDONS							
EX9946Z4	PAH Extraction-Water	date			02/03/18	02/03/18	02/03/18
PA05MW02	Benzo(a)pyrene	mg/l	0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001
VOLATILE ORGANICS-MAH							
B020MS11	Benzene	ug/L	0.5	5.0	< 0.5	< 0.5	< 0.5
V919MS11	Chlorobenzene	ug/L	0.5	80.0	< 0.5	< 0.5	< 0.5
V924MS11	1,2-Dichlorobenzene	ug/L	0.5	200.0	< 0.5	< 0.5	< 0.5
V925MS11	1,3-Dichlorobenzene	ug/L	0.3	—	< 0.3	< 0.3	< 0.3
V926MS11	1,4-Dichlorobenzene	ug/L	0.4	5.0	< 0.4	< 0.4	< 0.4
B021MS11	Ethylbenzene	ug/L	0.5	—	< 0.5	< 0.5	< 0.5
V921MS11	Styrene	ug/L	0.4	—	< 0.4	< 0.4	< 0.4
T001MS11	Toluene	ug/L	0.5	24.0	< 0.5	< 0.5	< 0.5
X_8842_5	Xylenes	ug/L	0.5	300.0	< 0.5	< 0.5	< 0.5
X003MS11	m,p - Xylene	ug/L	0.5	—	< 0.5	< 0.5	< 0.5
X002MS11	o - Xylene	ug/L	0.5	—	< 0.5	< 0.5	< 0.5
MTBEMS11	Methyl t-butyl ether	ug/L	5	—	< 5	< 5	< 5
VOLATILE ORGANICS-CHLORINATED ALIPHATIC							
V903MS11	Bromomethane	ug/L	3	—	< 3	< 3	< 3
C034MS11	Carbon tetrachloride	ug/L	1	—	< 1	< 1	< 1
V904MS11	Chloroethane	ug/L	4	—	< 4	< 4	< 4
V914MS11	2-chloroethylvinylether	ug/L	2	—	< 2	< 2	< 2
V901MS11	Chloromethane	ug/L	1	—	< 1	< 1	< 1
V909MS11	1,1-Dichloroethane	ug/L	0.7	—	< 0.7	< 0.7	< 0.7
V912MS11	1,2-Dichloroethane	ug/L	0.5	—	< 0.5	< 0.5	< 0.5
V906MS11	1,1-Dichloroethene	ug/L	0.4	—	< 0.4	< 0.4	< 0.4
V910MS11	cis-1,2-Dichloroethene	ug/L	0.4	—	< 0.4	< 0.4	< 0.4
V908MS11	trans-1,2-Dichloroethene	ug/L	0.7	—	< 0.7	< 0.7	< 0.7
V907MS11	Dichloromethane	ug/L	0.9	—	< 0.9	< 0.9	< 0.9
V913MS11	1,2-Dichloropropane	ug/L	0.5	—	< 0.5	< 0.5	< 0.5
V915MS11	cis-1,3-Dichloropropene	ug/L	0.4	—	< 0.4	< 0.4	< 0.4
V916MS11	trans-1,3-Dichloropropene	ug/L	0.3	—	< 0.3	< 0.3	< 0.3
V918MS11	1,2-Dibromoethane	ug/L	1	—	< 1	< 1	< 1
					Matrix : Water Sampled on: 02/03/13 16:00	Water 02/03/13 16:00	Water 02/03/13 16:00

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ANALYTICAL REPORT

Client : HEALTH CANADA
Project : -
Sampling site :
Submitted by : SANDRA GREEN

				Philip ID :	12014217	12014218	12014219
				Client ID :	CAMPBELL RIVER	COMOX BAND	HOMOLTCO BAND
Sparcode	**Parameter**	**Unit**	**MDL**	**CDWG**			
V923MS11	1,1,2,2-Tetrachloroethane	ug/L	0.5	---	< 0.5	< 0.5	< 0.5
T030MS11	Tetrachloroethene	ug/L	0.5	30.0	< 0.5	< 0.5	< 0.5
V911MS11	1,1,1-Trichloroethane	ug/L	0.7	---	< 0.7	< 0.7	< 0.7
V917MS11	1,1,2-Trichloroethane	ug/L	0.5	---	< 0.5	< 0.5	< 0.5
T029MS11	Trichloroethene	ug/L	0.6	50.0	< 0.6	< 0.6	< 0.6
V905MS11	Trichlorofluoromethane	ug/L	4	---	< 4	< 4	< 4
V902MS11	Vinyl Chloride	ug/L	1	2.0	< 1	< 1	< 1
VOLATILE ORGANICS-TRIHALOMETHANES							
B012MS11	Bromodichloromethane	ug/L	0.5	100.0	0.6	0.8	1.2
B013MS11	Bromoform	ug/L	0.4	100.0	< 0.4	< 0.4	< 0.4
C032MS11	Chloroform	ug/L	0.6	100.0	18	24	35
C033MS11	Dibromochloromethane	ug/L	0.4	100.0	< 0.4	< 0.4	< 0.4
VOC SURROGATE RECOVERY							
VS01VSUR	Bromofluorobenzene	%	0	---	83	96	96
VS02VSUR	d4-1,2-dichloroethane	%	0	---	95	103	104
VS03VSUR	d8-Toluene	%	0	---	90	96	97
				Matrix :	Water	Water	Water
				Sampled on:	02/03/13 16:00	02/03/13 16:00	02/03/13 16:00

ANALYTICAL SERVICES

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DUPLICATE SUMMARY

Parameter	Client ID	Philip ID	Sample Conc.	Duplicate Conc.	MDL	Unit	Relative % Diff.
Sulfide Total	HOMOLTCO BAND	12014219	< 0.005	< 0.005	0.005	mg/L	0.00

ANALYTICAL SERVICES

04-Apr-02

SPIKE SUMMARY

Parameter	Client ID	Phillip ID	Sample Conc.	Sample & Spike Conc.	Spike Amount	Unit	Percent Recovery
pH	Blank Spike, Batch :	24401084	< 0.1	6.0	6	pH units	100
Specific Conductance	Blank Spike, Batch :	24401086	< 1	1020	1010	uS/cm	100
Residue Nonfilterable (TSS)	Blank Spike, Batch :	24401066	< 4	200	200	mg/L	100
Residue Filterable 1.0u (TDS)	Blank Spike, Batch :	24401080	< 10	86	100	mg/L	86
Turbidity	Blank Spike, Batch :	24401082	< 0.10	2.01	2	NTU	97
Alkalinity Total as CaCO3	Blank Spike, Batch :	24401085	< 1	98	100	mg/L	98
Cyanide(SAD) + Thiocyanate	Blank Spike, Batch :	24100575	< 0.0005	0.0207	.02	mg/L	102
Sulfide Total	Blank Spike, Batch :	24100596	< 0.005	0.094	.1	mg/L	90
Chloride Dissolved	Blank Spike, Batch :	24100607	< 0.5	103	100	mg/L	103
Fluoride Dissolved	Blank Spike, Batch :	24100594	< 0.01	0.51	.5	mg/L	102
Organic Carbon - Total	Blank Spike, Batch :	24100579	< 0.5	10.4	10	mg/L	104
Ammonia Nitrogen (N)	Blank Spike, Batch :	24100592	< 0.005	0.200	.2	mg/L	100
Nitrate + Nitrite (N)	Blank Spike, Batch :	24100592	< 0.02	0.62	.6	mg/L	103
Nitrite Nitrogen (N)	Blank Spike, Batch :	24100592	< 0.005	0.200	.2	mg/L	100
Sulfate Dissolved	Blank Spike, Batch :	24100603	< 0.5	104	100	mg/L	104
Mercury	Blank Spike, Batch :	24200967	< 0.00005	0.00031	.0005	mg/L	102
Arsenic	Blank Spike, Batch :	24200918	< 0.001	0.022	.02	mg/L	111
Cadmium	Blank Spike, Batch :	24200918	< 0.0001	0.0202	.02	mg/L	101
Lead	Blank Spike, Batch :	24200918	< 0.0005	0.0210	.02	mg/L	105
Selenium	Blank Spike, Batch :	24200918	< 0.001	0.022	.02	mg/L	108
Pentachlorophenol	Blank Spike, Batch :	24500531	< 0.0001	0.0018	.002	mg/L	92
2346+2356-TeClPhenol	Blank Spike, Batch :	24500531	< 0.0001	0.0035	.004	mg/L	87
4-chlorophenol	Blank Spike, Batch :	24500531	< 0.001	0.017	.02	mg/L	84
2,3,4,5-Tetrachlorophenol	Blank Spike, Batch :	24500531	< 0.0001	0.0018	.002	mg/L	91
2,3,4-Trichlorophenol	Blank Spike, Batch :	24500531	< 0.0001	0.0014	.002	mg/L	71
2,3,5-Trichlorophenol	Blank Spike, Batch :	24500531	< 0.0001	0.0012	.002	mg/L	62
2,3,6-Trichlorophenol	Blank Spike, Batch :	24500531	< 0.0001	0.0013	.002	mg/L	65
2,4,5-Trichlorophenol	Blank Spike, Batch :	24500531	< 0.0001	0.0015	.002	mg/L	75
2,4,6-Trichlorophenol	Blank Spike, Batch :	24500531	< 0.0001	0.0013	.002	mg/L	65
3,4,5-Trichlorophenol	Blank Spike, Batch :	24500531	< 0.0001	0.0020	.002	mg/L	99
2,4+3,4-DiClPhenol	Blank Spike, Batch :	24500531	< 0.0001	0.0026	.004	mg/L	66
2,3-Dichlorophenol	Blank Spike, Batch :	24500531	< 0.0001	0.0010	.002	mg/L	50
2,5-Dichlorophenol	Blank Spike, Batch :	24500531	< 0.0001	0.0010	.002	mg/L	48
3,5-Dichlorophenol	Blank Spike, Batch :	24500531	< 0.0001	0.0020	.002	mg/L	99
2,6-Dichlorophenol	Blank Spike, Batch :	24500531	< 0.0001	0.0010	.002	mg/L	48
2-chlorophenol	Blank Spike, Batch :	24500531	< 0.001	0.010	.02	mg/L	51
3-chlorophenol	Blank Spike, Batch :	24500531	< 0.001	0.016	.02	mg/L	78
AMPA	Blank Spike, Batch :	25300153	< 0.05	0.96	1	mg/L	96

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SPIKE SUMMARY

Parameter	Client ID	Philip ID	Sample Conc.	Sample & Spike Conc.	Spike Amount	Unit	Percent Recovery
Benzo(a)pyrene	Blank Spike, Batch :	24500525	< 0.00001	0.0018	.0023	mg/L	72
Chloromethane	Blank Spike, Batch :	25201457	< 1	49	50	ug/L	98
Vinyl Chloride	Blank Spike, Batch :	25201457	< 1	47	50	ug/L	95
Bromomethane	Blank Spike, Batch :	25201457	< 3	48	50	ug/L	96
Chloroethane	Blank Spike, Batch :	25201457	< 4	54	50	ug/L	108
Trichlorofluoromethane	Blank Spike, Batch :	25201457	< 4	57	50	ug/L	115
1,1-Dichloroethene	Blank Spike, Batch :	25201457	< 0.4	11	10	ug/L	105
Dichloromethane	Blank Spike, Batch :	25201457	< 0.9	9.3	10	ug/L	90
trans-1,2-Dichloroethene	Blank Spike, Batch :	25201457	< 0.7	9.4	10	ug/L	94
1,1-Dichloroethane	Blank Spike, Batch :	25201457	< 0.7	9.6	10	ug/L	97
cis-1,2-Dichloroethene	Blank Spike, Batch :	25201457	< 0.4	9.2	10	ug/L	92
Chloroform	Blank Spike, Batch :	25201457	< 0.6	11	10	ug/L	106
1,1,1-Trichloroethane	Blank Spike, Batch :	25201457	< 0.7	10	10	ug/L	104
1,2-Dichloroethane	Blank Spike, Batch :	25201457	< 0.5	10	10	ug/L	102
Carbon tetrachloride	Blank Spike, Batch :	25201457	< 1	9	10	ug/L	86
Benzene	Blank Spike, Batch :	25201457	< 0.5	9.7	10	ug/L	97
1,2-Dichloropropane	Blank Spike, Batch :	25201457	< 0.5	9.7	10	ug/L	97
Trichloroethene	Blank Spike, Batch :	25201457	< 0.6	9.6	10	ug/L	96
Bromodichloromethane	Blank Spike, Batch :	25201457	< 0.5	10	10	ug/L	104
cis-1,3-Dichloropropene	Blank Spike, Batch :	25201457	< 0.4	9.1	10	ug/L	91
trans-1,3-Dichloropropene	Blank Spike, Batch :	25201457	< 0.3	9.6	10	ug/L	96
Toluene	Blank Spike, Batch :	25201457	< 0.5	9.6	10	ug/L	96
1,1,2-Trichloroethane	Blank Spike, Batch :	25201457	< 0.5	9.5	10	ug/L	95
Dibromochloromethane	Blank Spike, Batch :	25201457	< 0.4	9.6	10	ug/L	96
1,2-Dibromoethane	Blank Spike, Batch :	25201457	< 1	9	10	ug/L	53
Tetrachloroethene	Blank Spike, Batch :	25201457	< 0.5	9.5	10	ug/L	95
Chlorobenzene	Blank Spike, Batch :	25201457	< 0.5	9.5	10	ug/L	95
Ethylbenzene	Blank Spike, Batch :	25201457	< 0.5	8.8	10	ug/L	88
m,p - Xylene	Blank Spike, Batch :	25201457	< 0.5	18	20	ug/L	91
Bromoform	Blank Spike, Batch :	25201457	< 0.4	8.0	10	ug/L	80
Styrene	Blank Spike, Batch :	25201457	< 0.4	9.0	10	ug/L	90
o - Xylene	Blank Spike, Batch :	25201457	< 0.5	9.1	10	ug/L	91
1,1,2,2-Tetrachloroethane	Blank Spike, Batch :	25201457	< 0.5	9.3	10	ug/L	93
1,2-Dichlorobenzene	Blank Spike, Batch :	25201457	< 0.5	10	10	ug/L	100
1,3-Dichlorobenzene	Blank Spike, Batch :	25201457	< 0.3	10	10	ug/L	100
1,4-Dichlorobenzene	Blank Spike, Batch :	25201457	< 0.4	9.9	10	ug/L	99
Methyl t-Butyl ether	Blank Spike, Batch :	25201457	< 5	10	10	ug/L	98
Chloromethane	Blank Spike, Batch :	25201432	< 1	66	50	ug/L	131

ANALYTICAL SERVICES

04-Apr-02
Page 10 of 13

SPIKE SUMMARY

Parameter	Client ID	Phlip ID	Sample Conc.	Sample & Spike Conc.	Spike Amount	Unit	Percent Recovery
Vinyl Chloride	Blank Spike, Batch :	25201432	< 1	61	50	ug/L	122
Bromomethane	Blank Spike, Batch :	25201432	< 3	52	50	ug/L	104
Chloroethane	Blank Spike, Batch :	25201432	< 4	57	50	ug/L	113
Trichlorofluoromethane	Blank Spike, Batch :	25201432	< 4	60	50	ug/L	119
1,1-Dichloroethene	Blank Spike, Batch :	25201432	< 0.4	9.2	10	ug/L	92
Dichloromethane	Blank Spike, Batch :	25201432	< 0.9	8.9	10	ug/L	89
trans-1,2-Dichloroethene	Blank Spike, Batch :	25201432	< 0.7	9.2	10	ug/L	92
1,1-Dichloroethane	Blank Spike, Batch :	25201432	< 0.7	9.2	10	ug/L	92
cis-1,2-Dichloroethene	Blank Spike, Batch :	25201432	< 0.4	9.1	10	ug/L	91
Chloroform	Blank Spike, Batch :	25201432	< 0.6	9.2	10	ug/L	92
1,1,1-Trichloroethane	Blank Spike, Batch :	25201432	< 0.7	9.8	10	ug/L	98
1,2-Dichloroethane	Blank Spike, Batch :	25201432	< 0.5	9.6	10	ug/L	96
Carbon tetrachloride	Blank Spike, Batch :	25201432	< 1	10	10	ug/L	97
Benzene	Blank Spike, Batch :	25201432	< 0.5	10	10	ug/L	101
1,2-Dichloropropane	Blank Spike, Batch :	25201432	< 0.5	9.8	10	ug/L	98
Trichloroethene	Blank Spike, Batch :	25201432	< 0.6	9.8	10	ug/L	98
Bromodichloromethane	Blank Spike, Batch :	25201432	< 0.5	10	10	ug/L	100
cis-1,3-Dichloropropene	Blank Spike, Batch :	25201432	< 0.4	9.5	10	ug/L	95
trans-1,3-Dichloropropene	Blank Spike, Batch :	25201432	< 0.3	10	10	ug/L	103
Toluene	Blank Spike, Batch :	25201432	< 0.5	10	10	ug/L	100
1,1,2-Trichloroethane	Blank Spike, Batch :	25201432	< 0.5	9.9	10	ug/L	99
Dibromochloromethane	Blank Spike, Batch :	25201432	< 0.4	10	10	ug/L	101
1,2-Dibromoethane	Blank Spike, Batch :	25201432	< 1	10	10	ug/L	101
Tetrachloroethene	Blank Spike, Batch :	25201432	< 0.5	9.7	10	ug/L	97
Chlorobenzene	Blank Spike, Batch :	25201432	< 0.5	9.7	10	ug/L	97
Ethylbenzene	Blank Spike, Batch :	25201432	< 0.5	9.9	10	ug/L	99
m,p - Xylene	Blank Spike, Batch :	25201432	< 0.5	20	20	ug/L	101
Bromoform	Blank Spike, Batch :	25201432	< 0.4	10	10	ug/L	100
Styrene	Blank Spike, Batch :	25201432	< 0.4	10	10	ug/L	101
o - Xylene	Blank Spike, Batch :	25201432	< 0.5	9.9	10	ug/L	99
1,1,2,2-Tetrachloroethane	Blank Spike, Batch :	25201432	< 0.5	9.9	10	ug/L	99
1,2-Dichlorobenzene	Blank Spike, Batch :	25201432	< 0.5	9.6	10	ug/L	96
1,3-Dichlorobenzene	Blank Spike, Batch :	25201432	< 0.3	9.5	10	ug/L	95
1,4-Dichlorobenzene	Blank Spike, Batch :	25201432	< 0.4	9.5	10	ug/L	95
Methyl t-butyl ether	Blank Spike, Batch :	25201432	< 5	10	10	ug/L	96
Sulfide Total	HOMOLTCO BAND	12014219	< 0.005	0.102	.1	mg/L	99

B.C. Centre for
Disease Control
Society

BCCDC LABORATORY SERVICES
655 12th Avenue West
Vancouver, B.C. V5Z 4R4

Fax: (604)660-6073

ENVIRONMENTAL
BACTERIOLOGY
Phone Number :

Printed :2002 MAR 15
Requisition :A1WW063007
Submitter Ref :

HEALTH CANADA (CAMPBELL RIVER) - 342
OCCUPATIONAL & ENVIRONMENTAL HEALTH
1180 IRONWOOD ST SUITE 119
CAMPBELL RIVER BC V9W 5P7

Specimen Submitter
:342-HEALTH CANADA (CAMPBELL RI*

Site Information
Code/Name :02T1545 - 02T1545
Site Desc :COMOX, COMOX BAND
City/Area :
Source :Lake Type :

Specimen
Treatment :TREATED
Nature :WATER Ph Level: Free Chlorine Level: ppm
Exams Req :Total Coliform
EHO :S GREEN
:Fecal Coliform

Collected:2002 MAR 13
Received :2002 MAR 14

RESULTS

Reported on 2002 MAR 15

	Test	Result	Units
1.	Total Coliform (Membrane Filtration)	L1	TC Count/100ml
2.	Fecal Coliform (Membrane Filtration)	L1	FC Count/100ml

L:LESS THAN

Specimen was 24 hours in transit

Coliform test may NOT be valid if specimen was more than 30 hrs in transit

BC Centre for
Disease Control
Society

BCCDC LABORATORY SERVICES
655 12th Avenue West
Vancouver, B.C. V5Z 4R4

Fax: (604)660 6073

FAXED

ENVIRONMENTAL
BACTERIOLOGY
Phone Number :

Printed :2000 DEC 13

HEALTH CANADA (CAMPBELL RIVER) - 342
OCCUPATIONAL & ENVIRONMENTAL HEALTH
1180 IRONWOOD ST SUITE 119
CAMPBELL RIVER BC V9W 5P7

Requisition :A0WW039567
Submitter Ref :

Specimen Submitter

:342-HEALTH CANADA (CAMPBELL R

Site Information
Code/Name :02M2652 - 02M2652
Site Desc :4045, COMOX BAND OFFICE, KITCHEN
City/Area :
Source :
Type :COM.W.S.

Specimen
Treatment :TREATED
Nature :WATER
Ph Level :Free
Chlorine Level :ppm
Exams Req :Total Coliform
:Fecal Coliform
EHO :CAROL MACRAE
Collected :2000 DEC 11
Received :2000 DEC 12

RESULTS

Reported on 2000 DEC 13

	Test	Result	Units
1.	Total Coliform (Membrane Filtration)	L1	TC Count/100ml
2.	Fecal Coliform (Membrane Filtration)	L1	FC Count/100ml

L:LESS THAN

DON'T WAIT FOR THESE RESULTS TO ARRIVE IN THE MAIL!
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For inquiries from medical personnel regarding laboratory results, please contact the Central Inquiry Line at 604-660-5100.

Specimen was 24 hours in transit

North Island Laboratories

2755 B Moray Avenue, Courtenay, B.C. V9N 8M9

Tel: (250) 338-7786 Fax: (250) 338-7553

COPY

CIRCULATION	
GKC	
FM	
File No. 0171	

Comox Water

Report To: Gary Carrothers
Gary Carrothers Consulting
208-2750 Quadra St.
Victoria, B.C.
V8T 4E8

Collected by:
Source: Water Sample
Sample point: Comox IR#1

Lab Number: 27746
Date Reported: 09-Oct-02
Date Received: 26-Sep-02 1:30 00 PM
Date Collected: 26-Sep-02

Water Analysis Results

Analysis	Result	Units	Method	Drinking Water Guidelines
27746-01	End of Bayside Rd			
Canadian Drinking Water Guidelines Package				
Color	1	CU		15
Conductivity	59	uS	Conductivity	
Total Dissolved Solids	53	mg/L	gravimetric	500
Hardness (CaCO3)	25 1	mg/L	calc	80-100
pH	7.94	pH Units	pH meter	6.5-8.5
Turbidity	0.13	NTU's	Nephalometric	5
Alkalinity	21	mg/L	titration	
Chloride	1.56	mg/L	IC	250
Fluoride	0.08	mg/L	IC	1.5
Sulfate	0 71	mg/L	IC	500
Nitrate (N)	0.03	mg/L	IC	10
Nitrite (N)	< 0.01	mg/L	IC	1
T-Aluminum	0.045	mg/L	ICP	--
T-Antimony	< 0.0002	mg/L	ICP	
T-Arsenic	< 0.0002	mg/L	ICP	0.025
T-Barium	0.002	mg/L	ICP	1.0
T-Boron	0 014	mg/L	ICP	5.0
T Cadmium	< 0.00001	mg/L	ICP	0.005
T-Calcium	9 4	mg/L	ICP	
T-Chromium	< 0.0005	mg/L	ICP	0.05
T-Copper	0.002	mg/L	ICP	1.0
T-Iron	< 0 1	mg/L	ICP	0 3
T-Lead	0.0001	mg/L	ICP	0 01
T-Magnesium	0 4	mg/L	ICP	
T-Manganese	< 0 005	mg/L	ICP	0.05

North Island Laboratories
2755 S Moray Avenue, Courtenay, B.C. V9N 8M9
Tel. (250) 338-7786 Fax. (250) 338-7553

T-Mercury	< 0.0002	mg/L	CVAAS	0.001
T-Potassium	< 0.4	mg/L	ICP	
T-Selenium	< 0.0002	mg/L	ICP	0.01
T-Sodium	1.8	mg/L	ICP	200
T-Uranium	< 0.0005	ng/L	ICP	0.1
T-Zinc	0.001	mg/L	ICP	5
Total Coliforms	< 1	CFU/100	MF	<1
Fecal Coliforms	< 1	CFU/100	MF	<1

NORWEST LABS
Agri-Food & Environmental Group
Calgary Edmonton Winnipeg Lethbridge Surrey

Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Regional Dist. Comox-Strathco
Report to: Regional Dist. Comox-Strathco

350 - 17th Street
Courtenay, BC, Canada
V9N 1Y4
Attn: Rob Carr
Sampled By:
Company:

Project
ID:
Name
Location
LSD
P.O: 2700
Acct Code:

NWL Lot ID: 166401
Control Number: E 71154
Date Received: Apr 09, 2002
Date Reported: Apr 15, 2002
Report Number: 251991

	NWL Number	166401-7
	Sample Date	Apr 08, 2002
	Sample Description	Gull Ave.

Analyte		Units	Result	Detection Limit	Guideline Limit	Guideline Comments
Metals Extractable						
Aluminum	Extractable	mg/L	0.035	0.008	0.1	Acceptable
Arsenic	Extractable	mg/L	<0.01	0.01	0.025	Pass
Barium	Extractable	mg/L	0.0004	0.0002	1	Pass
Cadmium	Extractable	mg/L	<0.0005	0.0005	0.005	Pass
Chromium	Extractable	mg/L	<0.0008	0.0008	0.05	Pass
Copper	Extractable	mg/L	0.001	0.001	1	Acceptable
Lead	Extractable	mg/L	0.003	0.002	0.01	Pass
Uranium	Extractable	mg/L	<0.02	0.02	0.1	Pass
Zinc	Extractable	mg/L	0.0079	0.0006	5	Acceptable
Microbiological Analysis						
Total Coliforms	Enzyme Substrate Test	MPN/100 mL	<1	1	<1	Pass
Escherichia coli	Enzyme Substrate Test	MPN/100 mL	<1	1	<1	Pass
Heterotrophic Count - Aerobic	Pour Plate	CFU/mL	<1	1	500	Pass
Physical and Aggregate Properties						
Colour	Apparent, Potable	Colour units	2	1	15	Acceptable
Turbidity		NTU	1.1	0.1	5	Acceptable
Routine Water						
pH			7.04	-	6.5 - 8.5	Acceptable
Sodium	Extractable	mg/L	0.7	0.4	200	Acceptable
Iron	Extractable	mg/L	0.045	0.003	0.3	Acceptable
Manganese	Extractable	mg/L	0.0027	0.0002	0.05	Acceptable
Chloride	Dissolved	mg/L	1.9	0.5	250	Acceptable
Fluoride		mg/L	<0.04	0.04	1.5	Pass
Nitrate - N		mg/L	0.062	0.004	10	Pass
Nitrite - N		mg/L	<0.002	0.002	1	Pass
Sulphate		mg/L	0.81	0.03	500	Acceptable
T-Alkalinity	as CaCO3	mg/L	20	5		Low
Total dissolved solids		mg/L	22	1	500	Acceptable
Hardness	as CaCO3	mg/L	18.0	-		Soft

Please Note: Related regulatory criteria are provided as a service to clients. NorWest Labs' responsibility is limited to analytical data. We are not responsible for ensuring that listed criteria are accurate, scientifically valid, appropriate and sufficient for the user of the data.

GARY CARROTHERS CONSULTING

Suite 208,2750 Quadra Street
Victoria, B.C. V8T 4E8
Phone: (250) 388-6919
Fax: (250) 381-6919

Record of Telephone Conversation

Company: NORWEST LABS
Contact: TRACY
Phone No.: (604) 514-3322
Incoming/Outgoing:

File No: ~~04~~ 0171
Project: COMOX WATER
Date: OCT. 11/02
Time: 10.45

Subject: Ca LEVELS IN H_2O TEST @ GULL AVE, COURTENAY, BC

Discussion:

TRACY GAVE VERBAL CONFIRMATION THAT CALCIUM LEVELS FROM SAMPLES 166401-7 WERE 5.7 mg/L.

Recorded by,
Gary Carrothers Consulting

FERREN MOHS.

cc:
telecom.wpd