

Village of Pemberton Water System

Annual Report - 2012

INTRODUCTION

This report is being prepared for the consumers of the Drinking Water System of the Village of Pemberton to provide basic information on water quality and compliance with health standards. Feedback and comments are always appreciated and should be directed to Village staff or Vancouver Coastal Health (Squamish) officials.

1. CONSUMPTION (MEGA GALLONS/DAY):

Daily flow numbers are recorded at the Wellhouse. The annual numbers are as follows:

Average Flow/day:	0.595
High Flow/day:	1.021 (August 17, 2012)
Low Flow/day:	0.395 (February 1, 2012)

For daily results, please refer to **Appendix I**.

2. CHLORINATION:

Upon commissioning of the new Well No. 3 in early March 2009, chlorination of the water system was instituted. The goal is to have a positive residual chlorine reading throughout the system, with the Fire Hall chlorine analyzer serving as the central measuring point, where a residual of 0.20 mg/L is desired. The residual reading is monitored continuously by a dedicated computer (SCADA), located in the main Wellhouse. Daily readings of the previous 24 hours average residual are recorded, as well as the chlorine dosing. The annual numbers are as follows:

	Dosing (mg/L)	Residual (mg/L)
Average:	0.52	0.25
High:	0.67	0.24
Low:	0.41	0.14

For daily results, please refer to **Appendix I**.

3. CHEMISTRY TEST RESULTS:

The annual chemistry test was performed July 25, 2012 by Maxxam Analytics. The test results show that all of the items tested are well within the Health Canada guidelines. Since the test performed is a complete package (Maxxam Analytics' Drinking Water Package), there are some test results that do not have a guideline. Also, some test items are only for Aesthetic Objectives, which also have been met.

For results and corresponding guidelines, please refer to Appendix II.

4. PH TEST RESULTS:

Starting in May 2009, pH testing was instituted on a weekly basis, in conjunction with the chlorine residual testing. Samples from six to eight water sampling stations in the distribution system are recorded and tabulated.

For results, please refer to Appendix III.

5. TRIHALOMETHANE (THM) TEST RESULTS:

THM testing commenced in January 2010, at a central location (Oak St. sampling station). The annual samples were collected on July 17, 2012 and the readings were well below the Health Canada guidelines.

For results and corresponding guidelines, please refer to Appendix IV.

6. BACTERIOLOGICAL TEST RESULTS:

Water samples are collected weekly at the following locations.

Source:

- Well No. 1 (on standby only)
- Well No. 2
- Well No. 3

Distribution:

Village of Pemberton

- Oak St
- Village Office
- Health Centre
- Treatment Plant
- Pemberton Plateau
- Industrial Park (Mount Currie water source)



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Pemberton North Improvement District

- Collins Rd
- Pemberton Meadows Rd.
- Pemberton Farm Rd (West)
- Urdal Rd.

These samples are submitted for analysis to the laboratory at Vancouver Coastal Health. A total of 412 samples were taken and all results were negative. The individual results are on file at Vancouver Coastal Health (Squamish) and the Village Office, where they can be reviewed. They can also be viewed at: www.healthspace.ca/Clients/VCHA/CoastGaribaldi/CoastGaribaldi_Website.nsf

Appendix I

	Flow (MG/day)	Avg Flow (G/hr)	Avg Flow (G/min)	Pump Flow (gpm)	Hypo Flow (L/hr)	Cl Dose (mg/L)	24 hr Avg Residual (mg/L)	Cl Demand (mg/L)	Well #2 Static Level (m)	Well #3 Static Level (m)
Number of Samples	364	364	364	127	127	127	364	126	176	128
Minimum	0.395	16458	274	722	0.73	0.41	0.14	0.17	13.36	14.93
Maximum	1.021	42542	709	1012	1.34	0.67	0.25	0.51	17.70	19.62
Average	0.595	24802	413	847	0.98	0.52	0.20	0.33	15.71	17.86
January 2, 2012	0.414	17250	288				0.19			
January 3, 2012	0.403	16792	280				0.18	16.55	18.48	
January 4, 2012	0.404	16833	281				0.20			
January 5, 2012	0.407	16958	283				0.20			
January 6, 2012	0.417	17375	290				0.20			
January 7, 2012	0.418	17417	290				0.20			
January 8, 2012	0.401	16708	278				0.20			
January 9, 2012	0.429	17875	298				0.18			
January 10, 2012	0.404	16833	281				0.19	17.24	19.16	
January 11, 2012	0.418	17417	290				0.17	17.36	19.26	
January 12, 2012	0.402	16750	279	810	0.98	0.55	0.19	0.36	16.96	
January 13, 2012	0.404	16833	281				0.19	17.64	19.57	
January 14, 2012	0.407	16958	283				0.19			
January 15, 2012	0.428	17833	297				0.20			
January 16, 2012	0.429	17875	298				0.20	17.7	19.62	
January 17, 2012	0.407	16958	283				0.21			
January 18, 2012	0.432	18000	300				0.22			
January 19, 2012	0.437	18208	303				0.21	16.94	18.85	
January 20, 2012	0.442	18417	307				0.20	17.53	19.44	
January 21, 2012	0.412	17167	286				0.21			
January 22, 2012	0.446	18583	310				0.21			
January 23, 2012	0.466	19417	324	802	0.89	0.50	0.18	0.32	16.15	
January 24, 2012	0.679	28292	472				0.19			
January 25, 2012	0.434	18083	301				0.20	17.31	19.22	
January 26, 2012	0.440	18333	306				0.20	17.29	19.2	

January 27, 2012	0.442	18417	307				0.21		17.14	19.05
January 28, 2012	0.458	19083	318				0.21			
January 29, 2012	0.465	19375	323				0.20			
January 30, 2012	0.445	18542	309				0.19		16.81	18.72
January 31, 2012	0.442	18417	307	808	0.75	0.42	0.21	0.21	16.2	
February 1, 2012	0.395	16458	274	722	0.73	0.46	0.18	0.28	16.48	
February 2, 2012	0.405	16875	281				0.18		16.55	18.48
February 3, 2012	0.423	17625	294	744	0.76	0.46	0.20	0.26	16.31	
February 4, 2012	0.436	18167	303				0.20			
February 5, 2012	0.432	18000	300				0.21			
February 6, 2012	0.431	17958	299				0.22			
February 7, 2012	0.432	18000	300				0.20		15.92	
February 8, 2012	0.419	17458	291				0.20		16.55	
February 9, 2012	0.413	17208	287	969	0.98	0.46	0.21	0.25		17.86
February 10, 2012	0.436	18167	303	775	0.78	0.46	0.20	0.26	16.21	
February 11, 2012	0.455	18958	316				0.20			
February 12, 2012	0.442	18417	307				0.20			
February 13, 2012	0.445	18542	309				0.20		16.9	18.78
February 14, 2012	0.447	18625	310	800	0.81	0.46	0.21	0.25	16.28	
February 15, 2012	0.438	18250	304	791	0.8	0.46	0.20	0.26	16.25	
February 16, 2012	0.479	19958	333				0.19		16.48	18.38
February 17, 2012	0.491	20458	341				0.21		16.02	17.93
February 18, 2012	0.413	17208	287				0.20			
February 19, 2012	0.433	18042	301				0.21			
February 20, 2012	0.456	19000	317	757	0.76	0.46	0.21	0.25	16.49	
February 21, 2012	0.452	18833	314	791	0.8	0.46	0.22		16.09	
February 22, 2012	0.453	18875	315				0.20			
February 23, 2012	0.461	19208	320	800	0.81	0.46	0.21	0.25	16.48	
February 24, 2012	0.451	18792	313	982	1	0.46	0.22	0.24		17.71
February 25, 2012	0.464	19333	322				0.22			
February 26, 2012	0.466	19417	324				0.22			
February 27, 2012	0.463	19292	322	981	0.91	0.42	0.21	0.21		17.55
February 28, 2012	0.462	19250	321				0.22			
February 29, 2012	0.456	19000	317	817	0.75	0.42	0.22	0.20	16.28	
March 1, 2012	0.475	19792	330				0.20		16.74	18.64
March 2, 2012	0.459	19125	319				0.21			18.62
March 3, 2012	0.429	17875	298	1008	0.93	0.42	0.22	0.20		

March 4, 2012	0.447	18625	310				0.24		16.97	18.85
March 5, 2012	0.444	18500	308				0.22			
March 6, 2012	0.445	18542	309				0.22			
March 7, 2012	0.444	18500	308				0.19		16.07	
March 8, 2012	0.452	18833	314				0.21		16.97	18.88
March 9, 2012	0.425	17708	295	1012	1.02	0.46	0.21	0.25		18.9
March 10, 2012	0.417	17375	290				0.21			
March 11, 2012	0.429	17875	298				0.22			
March 12, 2012	0.423	17625	294				0.21		17.51	19.41
March 13, 2012	0.422	17583	293	775	0.83	0.49	0.20	0.29	16.96	
March 14, 2012	0.415	17292	288				0.21		17.32	19.2
March 15, 2012	0.414	17250	288				0.20		17.42	19.35
March 16, 2012	0.416	17333	289				0.21		17.31	19.2
March 17, 2012	0.426	17750	296				0.21			
March 18, 2012	0.443	18458	308				0.21			
March 19, 2012	0.423	17625	294	806	0.82	0.46	0.20	0.26	16.67	
March 20, 2012	0.464	19333	322				0.21			
March 21, 2012	0.450	18750	313	802	0.82	0.46	0.19	0.27	16.29	
March 22, 2012	0.418	17417	290				0.20		17.31	19.23
March 23, 2012	0.431	17958	299	1005	1.02	0.46	0.21	0.25		18.79
March 24, 2012	0.439	18292	305				0.20			
March 25, 2012	0.443	18458	308				0.20			
March 26, 2012	0.463	19292	322				0.20			
March 27, 2012	0.457	19042	317	996	1.01	0.46	0.22	0.24	16.76	18.26
March 28, 2012	0.419	17458	291	802	0.74	0.42	0.25	0.17	16.19	
March 29, 2012	0.432	18000	300	991	0.91	0.42	0.22	0.20		18.19
March 30, 2012	0.436	18167	303	809	0.74	0.41	0.20	0.21	16.68	
March 31, 2012	0.435	18125	302				0.20			
April 1, 2012	0.433	18042	301				0.20			
April 2, 2012	0.427	17792	297				0.19		17.24	19.14
April 3, 2012	0.441	18375	306				0.22		16.71	18.59
April 4, 2012	0.436	18167	303	798	0.81	0.46	0.20	0.26	16.08	
April 5, 2012	0.436	18167	303	987	1	0.46	0.21	0.25		18.06
April 6, 2012	0.440	18333	306				0.20			
April 7, 2012	0.432	18000	300				0.19			
April 8, 2012	0.445	18542	309				0.19			
April 9, 2012	0.462	19250	321				0.20			

April 10, 2012	0.442	18417	307				0.19		16.77	18.66
April 11, 2012	0.416	17333	289	989	1	0.46	0.18	0.28		18.11
April 12, 2012	0.439	18292	305	808	0.82	0.46	0.19	0.27	16.72	
April 13, 2012	0.428	17833	297				0.19		17.24	19.14
April 14, 2012	0.424	17667	294				0.19			
April 15, 2012	0.441	18375	306				0.19			
April 16, 2012	0.433	18042	301	986	1	0.46	0.20	0.26		18.03
April 17, 2012	0.427	17792	297				0.20			
April 18, 2012	0.436	18167	303				0.21		17.16	19.06
April 19, 2012	0.432	18000	300				0.20		17.23	19.14
April 20, 2012	0.417	17375	290				0.20		17.32	19.23
April 21, 2012	0.418	17417	290				0.20			
April 22, 2012	0.416	17333	289				0.21			
April 23, 2012	0.415	17292	288	796	0.81	0.46	0.20	0.26	16.06	
April 24, 2012	0.416	17333	289	764	0.85	0.50	0.21	0.29	16.06	
April 25, 2012	0.414	17250	288				0.20		17.36	19.28
April 26, 2012	0.419	17458	291	999	1.01	0.46	0.20	0.26		18.94
April 27, 2012	0.450	18750	313	811	0.82	0.46	0.21	0.25	17.2	
April 28, 2012	0.443	18458	308				0.21			
April 29, 2012	0.465	19375	323				0.21			
April 30, 2012	0.459	19125	319				0.21		17.05	18.93
May 1, 2012	0.439	18292	305				0.19		17.14	19.05
May 2, 2012	0.428	17833	297				0.20		16.94	18.83
May 3, 2012	0.427	17792	297				0.20		17.44	19.33
May 4, 2012	0.416	17333	289				0.21		17.24	19.14
May 5, 2012	0.420	17500	292				0.21			
May 6, 2012	0.471	19625	327				0.20			
May 7, 2012	0.470	19583	326	983	1.09	0.50	0.21	0.29		17.8
May 8, 2012	0.471	19625	327				0.22		16.94	18.81
May 9, 2012	0.500	20833	347				0.20		16.86	18.75
May 10, 2012	0.489	20375	340	796	0.96	0.55	0.22	0.33	15.93	
May 11, 2012	0.537	22375	373	796	0.96	0.55	0.22	0.33	15.99	
May 12, 2012	0.577	24042	401				0.22			
May 13, 2012	0.696	29000	483				0.22			
May 14, 2012	0.699	29125	485				0.21		16.29	18.18
May 15, 2012	0.707	29458	491				0.22		16.41	18.33
May 16, 2012	0.721	30042	501				0.21		16.41	18.31

May 17, 2012	0.637	26542	442				0.22		16.02	17.87
May 18, 2012	0.666	27750	463	794	0.8	0.46	0.21	0.25	15.38	
May 19, 2012	0.674	28083	468				0.21			
May 20, 2012	0.684	28500	475				0.22			
May 21, 2012	0.648	27000	450				0.22			
May 22, 2012	0.612	25500	425				0.22		16.32	18.19
May 23, 2012	0.584	24333	406				0.21		16.73	18.64
May 24, 2012	0.609	25375	423				0.20		16.47	18.17
May 25, 2012	0.639	26625	444	975	0.99	0.46	0.21	0.25		17.14
May 26, 2012	0.713	29708	495				0.21			
May 27, 2012	0.747	31125	519				0.21			
May 28, 2012	0.758	31583	526	785	0.73	0.42	0.21	0.21		
May 29, 2012	0.713	29708	495	795	0.73	0.42	0.21	0.21	15.45	
May 30, 2012	0.667	27792	463				0.21		16.28	18.19
May 31, 2012	0.680	28333	472	969	0.99	0.46	0.22	0.24		16.81
June 1, 2012	0.637	26542	442	786	0.8	0.46	0.21	0.25	14.98	
June 2, 2012	0.634	26417	440				0.21			
June 3, 2012	0.621	25875	431				0.21			
June 4, 2012	0.646	26917	449	790	0.8	0.46	0.22	0.24	15.12	
June 5, 2012	0.642	26750	446	804	0.74	0.42	0.21	0.21	16.21	
June 6, 2012	0.610	25417	424	791	0.8	0.46	0.19	0.27	15.23	
June 7, 2012	0.644	26833	447				0.20		16.33	18.2
June 8, 2012	0.627	26125	435				0.22		15.23	17.81
June 9, 2012	0.627	26125	435				0.21			
June 10, 2012	0.674	28083	468				0.21			
June 11, 2012	0.708	29500	492				0.24		15.47	17.24
June 12, 2012	0.678	28250	471				0.20			
June 13, 2012	0.655	27292	455	794	0.81	0.46	0.21	0.25	15.43	
June 14, 2012	0.635	26458	441				0.21		16.07	
June 15, 2012	0.680	28333	472	787	0.81	0.47	0.20	0.27	14.84	
June 16, 2012	0.612	25500	425				0.20			
June 17, 2012	0.578	24083	401				0.22			
June 18, 2012	0.558	23250	388				0.22		16.02	17.88
June 19, 2012	0.644	26833	447	799	0.81	0.46	0.22	0.24	15.6	
June 20, 2012	0.739	30792	513	799	0.81	0.46	0.20	0.26	15.58	
June 21, 2012	0.905	37708	628	972	1.08	0.50	0.18	0.32		17.05
June 22, 2012	0.744	31000	517	961	1.07	0.51	0.18	0.33		16.81

June 23, 2012	0.699	29125	485				0.19			
June 24, 2012	0.710	29583	493				0.19			
June 25, 2012	0.681	28375	473				0.20			
June 26, 2012	0.639	26625	444				0.21			
June 27, 2012	0.667	27792	463	969	1.01	0.47	0.20	0.27		17.24
June 28, 2012	0.668	27833	464				0.19		15.88	17.74
June 29, 2012	0.616	25667	428				0.19			
June 30, 2012	0.542	22583	376				0.19			
July 1, 2012	0.473	19708	328				0.18			
July 2, 2012	0.670	27917	465	803	0.89	0.50	0.19	0.31	15.84	
July 3, 2012	0.573	23875	398				0.18			
July 4, 2012	0.635	26458	441				0.19		15.1	17.38
July 5, 2012	0.672	28000	467	796	0.89	0.51	0.21	0.30	15.43	
July 6, 2012	0.718	29917	499				0.20		15.71	17.58
July 7, 2012	0.828	34500	575				0.20			
July 8, 2012	0.901	37542	626				0.19			
July 9, 2012	0.897	37375	623	801	0.89	0.50	0.19	0.31	14.54	
July 10, 2012	0.930	38750	646	793	0.95	0.54	0.17	0.37	14.63	
July 11, 2012	0.919	38292	638	948	1.14	0.55	0.18	0.37		15.88
July 12, 2012	0.912	38000	633				0.19		14.45	16.39
July 13, 2012	0.939	39125	652	946	1.22	0.58	0.20	0.38		15.87
July 14, 2012	0.941	39208	653				0.19			
July 15, 2012	0.776	32333	539				0.19			
July 16, 2012	0.873	36375	606				0.18		15.19	17.07
July 17, 2012	0.914	38083	635				0.18			
July 18, 2012	0.978	40750	679	798	1.03	0.59	0.19	0.40	14.5	
July 19, 2012	1.008	42000	700	946	1.23	0.59	0.19	0.40		15.71
July 20, 2012	0.870	36250	604	802	1.03	0.58	0.19	0.39	14.33	
July 21, 2012	0.775	32292	538				0.19			
July 22, 2012	0.745	31042	517				0.18		15.03	16.88
July 23, 2012	0.699	29125	485				0.18			
July 24, 2012	0.784	32667	544				0.19		14.94	16.73
July 25, 2012	0.854	35583	593	798	1.03	0.59	0.19	0.40	14.47	
July 26, 2012	0.898	37417	624	796	1.02	0.58	0.18	0.40	14.45	
July 27, 2012	0.951	39625	660	793	1.03	0.59	0.19	0.40	14.27	
July 28, 2012	0.945	39375	656				0.19			
July 29, 2012	0.989	41208	687				0.19			15.49

July 30, 2012	0.928	38667	644	943	1.22	0.59	0.18	0.41		
July 31, 2012	0.937	39042	651	791	1.02	0.58	0.16	0.42	14.16	
August 1, 2012	0.892	37167	619				0.19		14.24	
August 2, 2012	0.882	36750	613	796	1.03	0.59	0.16	0.43	14.11	16.14
August 3, 2012	0.923	38458	641	799	1.03	0.58	0.19	0.39	14.12	
August 4, 2012	0.952	39667	661				0.18			
August 5, 2012	0.945	39375	656				0.18			
August 6, 2012	0.901	37542	626				0.17			
August 7, 2012	0.794	33083	551	787	1.02	0.59	0.18	0.41	14.4	
August 8, 2012	0.737	30708	512	949	1.23	0.59	0.19	0.40		16.18
August 9, 2012	0.790	32917	549	792	1.03	0.59	0.20	0.39	14.24	
August 10, 2012	0.858	35750	596	794	1.09	0.62	0.19	0.43	14.15	
August 11, 2012	0.869	36208	603				0.19			
August 12, 2012	0.898	37417	624				0.18			
August 13, 2012	0.863	35958	599	794	1.1	0.63	0.18	0.45	13.98	
August 14, 2012	0.912	38000	633	794	1.09	0.62	0.20	0.42	13.91	
August 15, 2012	0.910	37917	632	791	1.09	0.63	0.17	0.46	13.82	
August 16, 2012	0.937	39042	651	790	1.09	0.63	0.15	0.48	13.76	
August 17, 2012	1.021	42542	709	798	1.09	0.62	0.22	0.40	13.72	
August 18, 2012	0.978	40750	679				0.21			
August 19, 2012	0.971	40458	674				0.22			
August 20, 2012	0.967	40292	672	790	1.07	0.61	0.19	0.42	13.72	
August 21, 2012	0.998	41583	693				0.14			
August 22, 2012	0.966	40250	671	781	1.08	0.63	0.16	0.47	13.98	
August 23, 2012	0.970	40417	674	936	1.04	0.50	0.18	0.32		14.93
August 24, 2012	0.943	39292	655	785	0.87	0.50	0.18	0.32	13.59	
August 25, 2012	0.986	41083	685				0.19			
August 26, 2012	0.931	38792	647				0.19			
August 27, 2012	0.967	40292	672	787	0.87	0.50	0.18	0.32	13.54	
August 28, 2012	0.990	41250	688				0.18		14.12	15.99
August 29, 2012	0.897	37375	623	786	1.02	0.59	0.19	0.40	13.47	
August 30, 2012	0.884	36833	614	789	1.01	0.58	0.19	0.39	13.52	
August 31, 2012	0.890	37083	618	785	1.02	0.59	0.18	0.41	13.52	
September 1, 2012	0.813	33875	565				0.18			
September 2, 2012	0.835	34792	580				0.18			
September 3, 2012	0.867	36125	602				0.18			
September 4, 2012	0.872	36333	606	774	1	0.59	0.18	0.41	13.46	

September 5, 2012	0.851	35458	591				0.18				
September 6, 2012	0.882	36750	613	777	1.08	0.63	0.20	0.43	13.4		
September 7, 2012	0.892	37167	619	966	1.34	0.63	0.19	0.44			16.58
September 8, 2012	0.857	35708	595				0.18				
September 9, 2012	0.849	35375	590				0.21				
September 10, 2012	0.849	35375	590	777	1.08	0.63	0.19	0.44	13.42		
September 11, 2012	0.773	32208	537				0.18		14.29		16.14
September 12, 2012	0.681	28375	473	784	1.08	0.62	0.17	0.45	13.62		
September 13, 2012	0.717	29875	498	783	1.16	0.67	0.16	0.51	13.72		
September 14, 2012	0.747	31125	519	777	1.15	0.67	0.19	0.48	13.72		
September 15, 2012	0.769	32042	534				0.19				
September 16, 2012	0.869	36208	603				0.19				
September 17, 2012	0.817	34042	567				0.18				
September 18, 2012	0.775	32292	538	781	1.15	0.67	0.18	0.49	13.36		
September 19, 2012	0.756	31500	525				0.19		13.49		
September 20, 2012	0.797	33208	553	777	1.08	0.63	0.22	0.41			
September 21, 2012	0.807	33625	560				0.20				
September 22, 2012	0.741	30875	515				0.19				
September 23, 2012	0.736	30667	511				0.19				
September 24, 2012	0.739	30792	513	777	1.07	0.62	0.20	0.42			
September 25, 2012	0.761	31708	528				0.20				
September 26, 2012	0.775	32292	538				0.19				
September 27, 2012	0.760	31667	528	775	1.07	0.63	0.18	0.45	13.58		
September 28, 2012	0.725	30208	503	779	1.08	0.63	0.18	0.45	13.69		
September 29, 2012	0.709	29542	492				0.18				
September 30, 2012	0.715	29792	497				0.17				
October 1, 2012	0.689	28708	478				0.16		14.15		16.58
October 2, 2012	0.676	28167	469	949	1.3	0.62	0.18	0.44			15.67
October 3, 2012	0.646	26917	449	943	1.3	0.63	0.17	0.46			15.81
October 4, 2012	0.645	26875	448	959	1.24	0.59	0.19	0.40			16.48
October 5, 2012	0.684	28500	475				0.21		14.63		16.41
October 6, 2012	0.674	28083	468				0.20				
October 7, 2012	0.650	27083	451				0.19				
October 8, 2012	0.641	26708	445				0.19				
October 9, 2012	0.588	24500	408				0.19				16.32
October 10, 2012	0.592	24667	411	778	1	0.58	0.19	0.39	14.05		
October 11, 2012	0.581	24208	403	941	1.22	0.59	0.19	0.40			15.95

October 12, 2012	0.560	23333	389				0.20		15.03	17.3
October 13, 2012	0.537	22375	373				0.19			
October 14, 2012	0.527	21958	366				0.19			
October 15, 2012	0.554	23083	385				0.19		15.66	17.49
October 16, 2012	0.538	22417	374	790	1.01	0.58	0.18	0.40	14.62	
October 17, 2012	0.532	22167	369				0.20		15.06	
October 18, 2012	0.515	21458	358	788	1	0.58	0.19	0.39	14.54	16.88
October 19, 2012	0.502	20917	349	958	1.23	0.58	0.19	0.39		
October 20, 2012	0.503	20958	349				0.19			16.96
October 21, 2012	0.514	21417	357				0.18			
October 22, 2012	0.494	20583	343				0.19		15.25	17.1
October 23, 2012	0.500	20833	347				0.19		15.85	17.68
October 24, 2012	0.502	20917	349	948	1.23	0.59	0.19	0.40		16.61
October 25, 2012	0.494	20583	343	956	1.15	0.55	0.19	0.36		17.06
October 26, 2012	0.497	20708	345				0.18		15.8	17.63
October 27, 2012	0.501	20875	348				0.20			
October 28, 2012	0.508	21167	353				0.21			
October 29, 2012	0.504	21000	350				0.21			
October 30, 2012	0.512	21333	356				0.20		15.62	17.5
October 31, 2012	0.495	20625	344				0.19		15.79	17.63
November 1, 2012	0.506	21083	351				0.19		15.36	17.2
November 2, 2012	0.500	20833	347	949	1.05	0.50	0.21	0.29		16.72
November 3, 2012	0.514	21417	357				0.20			
November 4, 2012	0.515	21458	358				0.21			
November 5, 2012	0.486	20250	338	790	0.87	0.50	0.20	0.30	15.3	
November 6, 2012	0.501	20875	348				0.20			
November 7, 2012	0.498	20750	346	808	0.89	0.50	0.19	0.31	16.32	
November 8, 2012	0.496	20667	344				0.19			
November 9, 2012	0.502	20917	349	790	0.87	0.50	0.19	0.31	15.73	
November 10, 2012	0.493	20542	342				0.19			
November 11, 2012	0.492	20500	342				0.19			
November 12, 2012	0.503	20958	349				0.19			
November 13, 2012	0.512	21333	356				0.20			17.34
November 14, 2012	0.500	20833	347	958	1.06	0.50	0.19	0.31		17.37
November 15, 2012	0.509	21208	353				0.19		16.07	17.93
November 16, 2012	0.498	20750	346	946	1.05	0.50	0.18	0.32		16.77
November 17, 2012	0.503	20958	349				0.18			

November 18, 2012	0.505	21042	351				0.19			
November 19, 2012	0.493	20542	342	788	0.87	0.50	0.20	0.30	15.41	
November 20, 2012	0.494	20583	343				0.20		15.64	17.45
November 21, 2012	0.485	20208	337	793	0.87	0.50	0.21	0.29	15.66	
November 22, 2012	0.494	20583	343				0.20		16.28	18.15
November 23, 2012	0.493	20542	342	951	1.05	0.50	0.20	0.30		17.03
November 24, 2012	0.495	20625	344				0.19			
November 25, 2012	0.489	20375	340				0.22			
November 26, 2012	0.510	21250	354				0.22		15.94	17.76
November 27, 2012	0.503	20958	349	783	0.87	0.50	0.23	0.27	15.23	
November 28, 2012	0.505	21042	351	960	1.06	0.50	0.22	0.28		17.6
November 29, 2012	0.493	20542	342	966	1.07	0.50	0.25	0.25		17.79
November 30, 2012	0.495	20625	344	789	0.87	0.50	0.24	0.26	15.72	
December 1, 2012	0.506	21083	351				0.24			
December 2, 2012	0.510	21250	354				0.25			
December 3, 2012	0.502	20917	349	791	0.87	0.50	0.21	0.29	15.42	
December 4, 2012	0.491	20458	341				0.22		15.63	
December 5, 2012	0.502	20917	349				0.24		16.6	18.46
December 6, 2012	0.509	21208	353				0.23		15.96	17.77
December 7, 2012	0.519	21625	360				0.23		15.62	17.38
December 8, 2012	0.514	21417	357				0.23			
December 9, 2012	0.517	21542	359				0.24			
December 10, 2012	0.508	21167	353	787	0.87	0.50	0.21	0.29	15.69	
December 11, 2012	0.499	20792	347	965	1.07	0.50	0.24	0.26		17.83
December 12, 2012	0.504	21000	350	959	1.06	0.50	0.20	0.30		17.66
December 13, 2012	0.495	20625	344				0.18		16.59	18.48
December 14, 2012	0.494	20583	343				0.19		16.74	18.36
December 15, 2012	0.499	20792	347				0.19			
December 16, 2012	0.505	21042	351				0.19			
December 17, 2012	0.503	20958	349	956	0.97	0.46	0.21	0.25		17.53
December 18, 2012	0.420	17500	292				0.20		16.67	18.55
December 19, 2012	0.543	22625	377	798	0.81	0.46	0.19	0.27	16.06	
December 20, 2012	0.508	21167	353				0.21		16.49	18.38
December 21, 2012	0.529	22042	367				0.19		16.23	18.09
December 22, 2012	0.512	21333	356				0.19			
December 23, 2012	0.530	22083	368				0.17			
December 24, 2012	0.517	21542	359				0.20		15.36	

December 25, 2012	0.509	21208	353	0.20		
December 26, 2012	0.508	21167	353	0.21		
December 27, 2012	0.517	21542	359	0.20	16.41	18.11
December 28, 2012	0.516	21500	358	0.19	16.67	18.24
December 29, 2012	0.541	22542	376	0.19		
December 30, 2012	0.531	22125	369	0.19		
December 31, 2012	0.568	23667	394	0.20		

Appendix II

Note: 1 microgram is(ug) is 1/1,000 of a milligram (mg)

VILLAGE OF PEMBERTON

Maxxam Job #: B262460

Client Project #:

Report Date: 2012/07/25

Site Location:

Sampler Initials:

DRINKING WATER PACKAGE (WATER)

Maxxam ID		DY8234	DY8235	DY8236
Sampling Date		07/17/2012 10:00	07/17/2012 10:00	07/17/2012 10:00
COC Number		G031701	G031701	G031701
	UNITS	WELL #1	WELL #2	WELL #3
ANIONS				
Nitrite (N)	mg/L	<0.0050	<0.0050	<0.0050
Calculated Parameters				
Total Hardness (CaCO3)	mg/L	29.5	49.8	17.3
Nitrate (N)	mg/L	0.033	0.085	0.099
Misc. Inorganics				
Fluoride (F)	mg/L	0.013	0.015	0.012
Alkalinity (Total as CaCO3)	mg/L	38.6	22.9	12.3
Alkalinity (PP as CaCO3)	mg/L	<0.50	<0.50	<0.50
Bicarbonate (HCO3)	mg/L	47.0	28.0	15.0
Carbonate (CO3)	mg/L	<0.50	<0.50	<0.50
Hydroxide (OH)	mg/L	<0.50	<0.50	<0.50
Anions				
Dissolved Sulphate (SO4)	mg/L	6.27	15.7	6.96
Dissolved Chloride (Cl)	mg/L	7.9	19	1.2
MISCELLANEOUS				
True Colour	Col. Unit	10.0	<5.0	<5.0
Nutrients				
Nitrate plus Nitrite (N)	mg/L	0.033	0.085	0.099
Physical Properties				
Conductivity	uS/cm	114	151	51.7
pH	pH Units	6.80	6.99	6.67
Physical Properties				
Total Dissolved Solids	mg/L	72	92	34
Turbidity	NTU	3.04	0.32	<0.10
Total Metals by ICPMS				
Total Aluminum (Al)	ug/L	6.5	8.9	10.3
Total Antimony (Sb)	ug/L	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	<0.10	<0.10	<0.10
Total Barium (Ba)	ug/L	27.9	30.6	10.5
Total Boron (B)	ug/L	<50	<50	<50
Total Cadmium (Cd)	ug/L	<0.010	0.019	0.054
Total Chromium (Cr)	ug/L	<1.0	<1.0	<1.0
Total Cobalt (Co)	ug/L	0.65	<0.50	<0.50
Total Copper (Cu)	ug/L	2.04	12.9	2.12
Total Iron (Fe)	ug/L	12300	348	6.2
Total Lead (Pb)	ug/L	<0.20	1.16	3.39
Total Manganese (Mn)	ug/L	264	82.4	1.1
Total Mercury (Hg)	ug/L	<0.050	<0.050	<0.050

Total Molybdenum (Mo)	ug/L	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	<1.0	<1.0	<1.0
Total Selenium (Se)	ug/L	<0.10	<0.10	<0.10
Total Silver (Ag)	ug/L	<0.020	<0.020	<0.020
Total Uranium (U)	ug/L	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	<5.0	6.6	<5.0
Total Calcium (Ca)	mg/L	10.9	18.3	6.39
Total Magnesium (Mg)	mg/L	0.572	1.01	0.323
Total Potassium (K)	mg/L	1.29	1.60	0.644
Total Sodium (Na)	mg/L	4.33	6.73	1.79
Total Sulphur (S)	mg/L	<3.0	5.5	<3.0

RDL = Reportable Detection Limit

EDL = Estimated Detection Limit

Guidelines for Canadian Drinking Water Quality

DY8237		Maximum Allowable Concentration	Aesthetic Objectives	Units
07/17/2012 10:15				
G031701				
IND. PARK	RDL			
<0.0050	0.0050	3.2		mg/L
16.3	0.50		80 - 100	mg/L
0.028	0.020	45		mg/L
0.026	0.010	1.5		mg/L
16.9	0.50		< 500	mg/L
<0.50	0.50		n/a	
20.6	0.50		n/a	
<0.50	0.50		n/a	
<0.50	0.50		n/a	
4.19	0.50		< 500	mg/L
<0.50	0.50		< 250	mg/L
<5.0	5.0		< 15	TCU
0.028	0.020	n/a		
48.0	1.0	n/a		
7.29			6.5 - 8.5	
26	10		<500	mg/L
0.59	0.10		1	NTU
7.0	3.0		0.1	mg/L
<0.50	0.50	0.006		mg/L
0.17	0.10	0.01		mg/L
3.5	1.0	1		mg/L
<50	50	5		mg/L
0.010	0.010	0.005		mg/L
<1.0	1.0	0.05		mg/L
<0.50	0.50	n/a		
7.65	0.20		< 1	mg/L
<5.0	5.0		< 0.3	mg/L
<0.20	0.20	0.01		mg/L
<1.0	1.0	n/a		
<0.050	0.050	0.001		mg/L

<1.0	1.0	n/a		
<1.0	1.0	n/a		
<0.10	0.10	0.01		mg/L
<0.020	0.020	n/a		
<0.10	0.10	0.02		mg/L
<5.0	5.0	n/a		
<5.0	5.0		< 5	mg/L
5.69	0.050	n/a		
0.511	0.050	n/a		
0.378	0.050	n/a		
1.02	0.050	n/a	< 200	mg/L
<3.0	3.0	n/a		

Pemberton Weekly pH Levels

pH/Temp in C

Sample Station

Date

Collins Rd
 Pem. Meadows Rd
 Pem. Farm Rd
 Oak St
 Village Office
 Health Centre
 Treatment Plant
 Plateau

10-Jan-12	17-Jan-12	25-Jan-12	31-Jan-12	
n/a	n/a	n/a	n/a	
5.84 / 9.1	n/a	n/a	5.76 / 11.5	
5.85 / 9.0	n/a	6.54 / 10.0	5.82 / 11.3	
6.64 / 10.0	6.90 / 6.1	6.02 / 10.2	5.82 / 11.9	
5.93 / 8.0	6.91 / 6.0	6.03 / 9.5	5.85 / 11.8	
5.89 / 11.2	6.17 / 7.1	6.47 / 13.0	5.80 / 11.6	
6.19 / 14.3	6.51 / 13.4	5.94 / 14.0	6.23 / 14.8	
6.60 / 9.1	n/a	6.20 / 9.9	5.84 / 11.6	

Sample Station

Date

Collins Rd
 Pem. Meadows Rd
 Pem. Farm Rd
 Oak St
 Village Office
 Health Centre
 Treatment Plant
 Plateau

7-Feb-12	14-Feb-12	21-Feb-12	29-Feb-12	
n/a	n/a	n/a	n/a	
5.84 / 8.6	5.82 / 9.6	6.69 / 12.9	6.17 / 9.7	
5.84 / 8.7	5.94 / 9.9	6.70 / 12.7	5.85 / 9.4	
5.86 / 10.9	5.77 / 9.7	6.69 / 12.2	5.93 / 9.4	
5.81 / 8.3	5.99 / 9.8	6.71 / 13.3	5.93 / 9.7	
5.82 / 8.5	5.75 / 11.6	6.72 / 12.5	6.00 / 10.1	
6.38 / 20.3	6.16 / 16.2	6.59 / 9.3	6.50 / 20.5	
5.83 / 8.4	6.05 / 9.6	6.68 / 12.9	6.13 / 9.7	

Sample Station

Date

Collins Rd
 Pem. Meadows Rd
 Pem. Farm Rd
 Oak St
 Village Office
 Health Centre
 Treatment Plant
 Plateau

7-Mar-12	13-Mar-12	21-Mar-12	27-Mar-12	
n/a	n/a	n/a	n/a	
n/a	6.40 / 10.1	6.49 / 10.7	6.73 / 13.4	
n/a	6.26 / 10.1	6.46 / 10.6	6.76 / 13.4	
6.40 / 13.1	6.24 / 10.0	6.68 / 10.9	6.71 / 13.8	
6.11 / 12.3	6.05 / 11.8	6.41 / 11.2	6.70 / 14.2	
6.33 / 12.8	n/a	6.67 / 11.8	6.69 / 14.3	
5.97 / 17.1	6.51 / 13.1	6.36 / 12.8	6.24 / 12.0	
6.22 / 13.9	6.37 / 10.4	6.80 / 11.2	6.73 / 13.2	

Sample Station

Date

Collins Rd
 Pem. Meadows Rd
 Pem. Farm Rd
 Oak St

3-Apr-12	10-Apr-12	18-Apr-12	25-Apr-12	
n/a	n/a	n/a	n/a	
5.72 / 13.1	6.96 / 13.7	6.38 / 10.1	6.36 / 15.7	
5.73 / 13.1	6.93 / 13.2	6.33 / 9.8	6.40 / 16.0	
5.70 / 13.4	6.82 / 14.6	6.21 / 10.5	6.27 / 15.6	

Village Office	5.73 / 13.5	6.79 / 14.4	6.18 / 11.8	6.36 / 16.4	
Health Centre	5.71 / 12.8	6.91 / 14.3	6.59 / 10.7	6.40 / 16.9	
Treatment Plant	5.85 / 18.6	6.48 / 9.1	6.32 / 9.5	6.36 / 16.4	
Plateau	5.72 / 13.5	6.83 / 13.6	6.37 / 10.0	6.37 / 15.7	

Sample Station

Date

	1-May-12	8-May-12	15-May-12	23-May-12	30-May-12
Collins Rd	n/a	n/a	n/a	n/a	n/a
Pem. Meadows Rd	5.81 / 14.3	n/a	n/a	n/a	n/a
Pem. Farm Rd	5.77 / 14.2	6.42 / 15.1	6.42 / 17.3	5.74 / 17.9	6.48 / 17.6
Oak St	5.79 / 15.5	6.34 / 15.9	6.44 / 17.7	5.75 / 17.7	7.04 / 16.9
Village Office	5.80 / 15.0	6.45 / 15.8	6.46 / 17.2	5.74 / 17.8	6.58 / 17.9
Health Centre	5.85 / 14.2	6.51 / 15.4	6.44 / 16.2	5.78 / 17.5	6.53 / 16.8
Treatment Plant	6.29 / 20.6	6.27 / 16.4	6.58 / 16.4	6.44 / 17.7	6.37 / 13.4
Plateau	5.80 / 14.8	6.33 / 15.9	6.45 / 16.8	5.71 / 18.1	6.54 / 17.6

Sample Station

Date

	5-Jun-12	13-Jun-12	20-Jun-12	26-Jun-12	
Collins Rd	n/a	n/a	n/a	n/a	
Pem. Meadows Rd	6.42 / 13.2	6.56 / 18.7	6.65 / 16.8	6.36 / 18.5	
Pem. Farm Rd	6.40 / 13.1	6.57 / 18.1	6.59 / 17.3	6.54 / 18.5	
Oak St	6.30 / 13.8	6.56 / 18.4	6.64 / 17.2	6.61 / 18.7	
Village Office	6.21 / 13.5	6.59 / 18.1	6.57 / 18.5	6.41 / 18.4	
Health Centre	6.48 / 13.5	6.50 / 18.6	6.59 / 18.7	6.26 / 18.2	
Treatment Plant	6.05 / 12.1	6.64 / 13.8	6.32 / 16.8	6.64 / 17.5	
Plateau	6.47 / 12.9	6.76 / 16.5	6.66 / 17.1	6.30 / 18.1	

Sample Station

Date

	3-Jul-12	10-Jul-12	18-Jul-12	24-Jul-12	31-Jul-12
Collins Rd	n/a	n/a	n/a	n/a	n/a
Pem. Meadows Rd	6.78 / 17.6	n/a	5.62 / 19.9	6.68 / 19.2	5.93 / 18.4
Pem. Farm Rd	6.79 / 16.8	6.70 / 18.9	5.66 / 19.6	6.61 / 19.3	6.60 / 17.9
Oak St	6.76 / 17.4	6.56 / 18.8	5.66 / 19.3	6.63 / 18.6	6.73 / 16.9
Village Office	6.79 / 16.9	5.83 / 20.0	5.58 / 20.9	6.56 / 19.9	5.89 / 20.1
Health Centre	6.70 / 18.4	6.68 / 18.8	5.66 / 18.8	6.59 / 18.5	6.05 / 17.0
Treatment Plant	6.37 / 17.0	5.81 / 18.2	5.80 / 22.1	6.37 / 19.2	6.02 / 23.3
Plateau	6.71 / 18.1	6.47 / 18.9	5.61 / 20.0	6.68 / 19.1	5.93 / 18.7

Sample Station

Date

	8-Aug-12	14-Aug-12	23-Aug-12	28-Aug-12	
Collins Rd	n/a	n/a	n/a	n/a	
Pem. Meadows Rd	6.52 / 17.9	6.32 / 20.7	6.56 / 18.6	5.76 / 18.9	
Pem. Farm Rd	6.40 / 19.0	6.31 / 19.9	6.27 / 19.4	5.81 / 18.5	

Oak St	6.46 / 18.7	6.39 / 19.6	6.18 / 19.0	6.16 / 18.6	
Village Office	6.41 / 19.4	6.35 / 21.5	6.19 / 19.6	6.47 / 18.5	
Health Centre	6.47 / 17.4	6.48 / 16.8	6.21 / 19.1	6.13 / 18.4	
Treatment Plant	5.95 / 15.2	6.63 / 16.0	6.15 / 17.8	6.22 / 21.2	
Plateau	6.37 / 19.0	6.36 / 20.2	6.27 / 19.5	6.28 / 19.2	

Sample Station

Date

	5-Sep-12	11-Sep-12	19-Sep-12	25-Sep-12
Collins Rd	n/a	n/a	n/a	n/a
Pem. Meadows Rd	6.79 / 19.4	6.42 / 18.0	6.34 / 19.5	6.22 / 18.0
Pem. Farm Rd	6.74 / 19.9	6.51 / 17.4	6.31 / 19.4	6.19 / 18.3
Oak St	6.75 / 18.7	6.52 / 17.5	6.29 / 19.3	6.23 / 19.0
Village Office	6.74 / 20.0	6.48 / 17.8	6.28 / 19.8	6.20 / 19.6
Health Centre	6.80 / 19.7	6.53 / 16.2	6.31 / 19.8	6.22 / 18.2
Treatment Plant	6.32 / 16.2	6.18 / 21.8	6.27 / 17.5	6.29 / 18.7
Plateau	6.76 / 19.4	6.54 / 17.6	6.33 / 19.4	6.30 / 18.4

Sample Station

Date

	2-Oct-12	10-Oct-12	17-Oct-12	23-Oct-12	30-Oct-12
Collins Rd	n/a	6.24 / 17.0	5.84 / 15.8	5.92 / 15.6	6.26 / 18.4
Pem. Meadows Rd	6.19 / 16.1	6.56 / 16.8	6.14 / 16.2	6.09 / 15.7	6.28 / 18.5
Pem. Farm Rd	6.21 / 15.9	6.28 / 17.1	5.97 / 15.6	6.17 / 15.6	6.26 / 18.7
Urdal Rd	n/a	6.22 / 17.1	5.63 / 15.8	5.99 / 15.7	6.26 / 18.6
Oak St	6.07 / 15.8	6.40 / 17.1	6.09 / 16.2	6.07 / 16.0	6.28 / 18.6
Village Office	6.11 / 15.9	6.23 / 17.0	6.13 / 17.0	6.13 / 16.2	6.29 / 18.6
Health Centre	6.23 / 17.2	6.39 / 17.6	5.80 / 14.5	6.23 / 17.2	6.27 / 18.6
Treatment Plant	6.16 / 16.1	5.96 / 20.8	6.18 / 17.0	6.09 / 18.2	6.03 / 16.8
Plateau	6.08 / 15.7	6.51 / 17.2	5.67 / 15.6	6.12 / 15.9	6.29 / 18.6

Sample Station

Date

	6-Nov-12	13-Nov-12	20-Nov-12	27-Nov-12	
Collins Rd	5.85 / 12.5	5.76 / 15.7	6.41 / 12.4	n/a	
Pem. Meadows Rd	5.83 / 12.8	5.69 / 15.6	6.40 / 12.7	n/a	
Pem. Farm Rd	5.92 / 12.1	5.68 / 15.3	6.44 / 12.7	6.45 / 12.1	
Urdal Rd	5.92 / 12.2	n/a	6.47 / 12.5	6.36 / 11.3	
Oak St	5.71 / 12.7	5.84 / 15.7	6.38 / 12.0	6.38 / 13.1	
Village Office	5.84 / 12.7	5.80 / 15.6	6.45 / 13.1	6.50 / 12.3	
Health Centre	5.75 / 11.9	5.80 / 15.6	6.41 / 13.1	6.28 / 11.8	
Treatment Plant	5.91 / 18.5	6.17 / 20.7	6.35 / 16.6	6.32 / 14.2	
Plateau	6.48 / 12.8	5.79 / 15.7	6.40 / 12.7	6.23 / 11.6	

Sample Station

Date

4-Dec-12	11-Dec-12	18-Dec-12		
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Collins Rd	6.32 / 10.0	6.24 / 14.6	n/a		
Pem. Meadows Rd	6.26 / 9.4	n/a	n/a		
Pem. Farm Rd	6.34 / 9.9	6.18 / 14.3	n/a		
Urdal Rd	6.32 / 9.8	6.16 / 14.3	n/a		
Oak St	6.34 / 9.8	6.31 / 14.7	5.87 / 12.5		
Village Office	6.31 / 9.4	6.26 / 15.2	5.85 / 11.9		
Health Centre	6.33 / 9.7	6.11 / 14.8	5.77 / 12.5		
Treatment Plant	5.81 / 17.8	6.04 / 16.8	5.82 / 17.2		
Plateau	6.34 / 9.9	5.99 / 14.0	5.83 / 12.6		

Appendix IV

Note: 1 microgram (ug) is 1/1,000 of 1 milligram (mg)

Maxxam Job #: B262454
 Report Date: 2012/07/25

VILLAGE OF PEMBERTON
 Client Project #:
 Site Location:
 Sampler Initials:

TRIHALOMETHANES (THM) IN WATER

Maxxam ID		DY8212		
Sampling Date		07/17/2012 9:00		
COC Number		G006386		
	UNITS	OAK ST	RDL	QC Batch
Volatiles				
Chloroform	ug/L	<1.0	1.0	6028630
Chlorodibromomethane	ug/L	<1.0	1.0	6028630
Bromodichloromethane	ug/L	<1.0	1.0	6028630
Bromoform	ug/L	<1.0	1.0	6028630
Surrogate Recovery (%)				
1,4-Difluorobenzene (sur.)	%		95	6028630
4-BROMOFLUOROBENZENE	%		98	6028630
D4-1,2-DICHLOROETHANE	%		85	6028630

RDL = Reportable Detection Limit

EDL = Estimated Detection Limit

Guidelines for Canadian Drinking Water Quality

Maximum Allowable
Concentration

0.100 mg/L (Total)