Village of PEMBERTON

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Village of Pemberton Water System
Annual Report
2009

1. **Consumption (Mega Gallons/day):**

Upon commissioning of the new Well # 3 in early March 2009, daily flow numbers were recorded. The annual numbers are as follows:

Average Flow/day:	0.569
High Flow/day:	1.080 (July 28, 2009)
Low Flow/day:	0.335 (March 19, 2009)

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 well house. Daily readings of the previous 24 hours average residual were recorded as of September, 2009, as well as the chlorine dosing. The annual numbers are as follows:

a. Dosing (mg/L)

Average:	0.56
High:	0.92
Low:	0.32

b. Residual (mg/L)

Average:	0.18
High:	0.32
Low:	0.10

For daily results, please refer to Appendix I.

3. **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)

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. All results were negative, with a couple of false positives that were attributed to sampling errors. The errors occurred at Well No. 3, where a new sampling tap was installed to eliminate further problems.
The individual results are on file at Vancouver Coastal Health (Squamish) and the Village Office, where they can be reviewed. Summary results can also be viewed at:
www.healthspace.ca/Clients/VCHA/CoastGaribaldi/CoastGaribaldi_Website.nsf

4. **Trihalomethane (THM) Test Results:**
THM testing does not commence until January 2010, with a planned schedule of quarterly sampling, at a central location (Oak St. sampling station)

5. **Chemistry Test Results:**
   The annual chemistry test was performed June 23, 2009 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.

6. **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.

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		292	295	295	36	34	34	37	34	68	51
Minimum		0.335	0	0	796	0.68	0.32	0.10	0.11	13.63	15.23
Maximum		1.080	45000	750	977	1.65	0.92	0.32	0.65	17.81	19.70
Average		0.569	23382	390	845	1.04	0.56	0.18	0.38	15.90	18.00
1-Jan-09	Th										
2-Jan-09	Fr										
3-Jan-09	Sa										
4-Jan-09	Su										
5-Jan-09	Mo										
6-Jan-09	Tu										
7-Jan-09	We										
8-Jan-09	Th										
9-Jan-09	Fr										
10-Jan-09	Sa										
11-Jan-09	Su										
12-Jan-09	Mo										
13-Jan-09	Tu										
14-Jan-09	We										
15-Jan-09	Th										
16-Jan-09	Fr										
17-Jan-09	Sa										
18-Jan-09	Su										
19-Jan-09	Mo										
20-Jan-09	Tu										
21-Jan-09	We										
22-Jan-09	Th										
23-Jan-09	Fr										
24-Jan-09	Sa										
25-Jan-09	Su										
26-Jan-09	Mo										

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		292	295	295	36	34	34	37	34	68	51
Minimum		0.335	0	0	796	0.68	0.32	0.10	0.11	13.63	15.23
Maximum		1.080	45000	750	977	1.65	0.92	0.32	0.65	17.81	19.70
Average		0.569	23382	390	845	1.04	0.56	0.18	0.38	15.90	18.00
27-Jan-09	Tu										
28-Jan-09	We										
29-Jan-09	Th										
30-Jan-09	Fr										
31-Jan-09	Sa										
1-Feb-09	Su										
2-Feb-09	Mo										
3-Feb-09	Tu										
4-Feb-09	We										
5-Feb-09	Th										
6-Feb-09	Fr										
7-Feb-09	Sa										
8-Feb-09	Su										
9-Feb-09	Mo										
10-Feb-09	Tu										
11-Feb-09	We										
12-Feb-09	Th										
13-Feb-09	Fr										
14-Feb-09	Sa										
15-Feb-09	Su										
16-Feb-09	Mo										
17-Feb-09	Tu										
18-Feb-09	We										
19-Feb-09	Th										
20-Feb-09	Fr										
21-Feb-09	Sa										

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		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)
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Minimum		0.335	0	0	796	0.68	0.32	0.10	0.11	13.63	15.23
Maximum		1.080	45000	750	977	1.65	0.92	0.32	0.65	17.81	19.70
Average		0.569	23382	390	845	1.04	0.56	0.18	0.38	15.90	18.00
22-Feb-09	Su										
23-Feb-09	Mo										
24-Feb-09	Tu										
25-Feb-09	We										
26-Feb-09	Th										
27-Feb-09	Fr										
28-Feb-09	Sa										
1-Mar-09	Su										
2-Mar-09	Mo										
3-Mar-09	Tu										
4-Mar-09	We										
5-Mar-09	Th										
6-Mar-09	Fr										
7-Mar-09	Sa										
8-Mar-09	Su										
9-Mar-09	Mo										
10-Mar-09	Tu										
11-Mar-09	We	0.360	15000	250							
12-Mar-09	Th	0.383	15958	266							
13-Mar-09	Fr	0.335	13958	233							
14-Mar-09	Sa	0.432	18000	300							
15-Mar-09	Su	0.496	20667	344							
16-Mar-09	Mo	0.445	18542	309							
17-Mar-09	Tu	0.335	13958	233							
18-Mar-09	We	0.355	14792	247							
19-Mar-09	Th	0.421	17542	292							

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		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		292	295	295	36	34	34	37	34	68	51
Minimum		0.335	0	0	796	0.68	0.32	0.10	0.11	13.63	15.23
Maximum		1.080	45000	750	977	1.65	0.92	0.32	0.65	17.81	19.70
Average		0.569	23382	390	845	1.04	0.56	0.18	0.38	15.90	18.00
20-Mar-09	Fr	0.412	17167	286							
21-Mar-09	Sa	0.353	14708	245							
22-Mar-09	Su	0.371	15458	258							
23-Mar-09	Mo	0.397	16542	276							
24-Mar-09	Tu	0.348	14500	242							
25-Mar-09	We	0.358	14917	249							
26-Mar-09	Th	0.377	15708	262							
27-Mar-09	Fr	0.342	14250	238							
28-Mar-09	Sa	0.343	14292	238							
29-Mar-09	Su	0.367	15292	255							
30-Mar-09	Mo	0.360	15000	250							
31-Mar-09	Tu	0.352	14667	244							
1-Apr-09	We	0.401	16708	278							
2-Apr-09	Th	0.393	16375	273							
3-Apr-09	Fr	0.403	16792	280							
4-Apr-09	Sa	0.392	16333	272							
5-Apr-09	Su	0.363	15125	252							
6-Apr-09	Mo	0.369	15375	256							
7-Apr-09	Tu	0.389	16208	270							
8-Apr-09	We	0.360	15000	250							
9-Apr-09	Th	0.395	16458	274							
10-Apr-09	Fr	0.396	16500	275							
11-Apr-09	Sa	0.382	15917	265							
12-Apr-09	Su	0.351	14625	244							
13-Apr-09	Mo	0.378	15750	263							
14-Apr-09	Tu	0.353	14708	245							

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		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		292	295	295	36	34	34	37	34	68	51
Minimum		0.335	0	0	796	0.68	0.32	0.10	0.11	13.63	15.23
Maximum		1.080	45000	750	977	1.65	0.92	0.32	0.65	17.81	19.70
Average		0.569	23382	390	845	1.04	0.56	0.18	0.38	15.90	18.00
15-Apr-09	We	0.396	16500	275							
16-Apr-09	Th	0.379	15792	263							
17-Apr-09	Fr	0.395	16458	274							
18-Apr-09	Sa	0.379	15792	263							
19-Apr-09	Su	0.388	16167	269							
20-Apr-09	Mo	0.381	15875	265							
21-Apr-09	Tu	0.383	15958	266							
22-Apr-09	We	0.398	16583	276							
23-Apr-09	Th	0.389	16208	270							
24-Apr-09	Fr	0.401	16708	278							
25-Apr-09	Sa	0.395	16458	274							
26-Apr-09	Su	0.406	16917	282							
27-Apr-09	Mo	0.416	17333	289							
28-Apr-09	Tu	0.419	17458	291							
29-Apr-09	We	0.403	16792	280							
30-Apr-09	Th	0.418	17417	290							
1-May-09	Fr	0.437	18208	303							
2-May-09	Sa	0.455	18958	316							
3-May-09	Su	0.446	18583	310							
4-May-09	Mo	0.463	19292	322							
5-May-09	Tu	0.451	18792	313							
6-May-09	We	0.422	17583	293							
7-May-09	Th	0.433	18042	301							
8-May-09	Fr	0.432	18000	300							
9-May-09	Sa	0.457	19042	317							
10-May-09	Su	0.481	20042	334							

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Number of Samples		292	295	295	36	34	34	37	34	68	51
Minimum		0.335	0	0	796	0.68	0.32	0.10	0.11	13.63	15.23
Maximum		1.080	45000	750	977	1.65	0.92	0.32	0.65	17.81	19.70
Average		0.569	23382	390	845	1.04	0.56	0.18	0.38	15.90	18.00
11-May-09	Mo	0.419	17458	291							
12-May-09	Tu	0.409	17042	284							
13-May-09	We	0.425	17708	295							
14-May-09	Th	0.452	18833	314							
15-May-09	Fr	0.518	21583	360							
16-May-09	Sa	0.496	20667	344							
17-May-09	Su	0.559	23292	388							
18-May-09	Mo	0.530	22083	368							
19-May-09	Tu	0.464	19333	322							
20-May-09	We	0.514	21417	357							
21-May-09	Th	0.571	23792	397							
22-May-09	Fr	0.573	23875	398							
23-May-09	Sa	0.651	27125	452							
24-May-09	Su	0.702	29250	488							
25-May-09	Mo	0.651	27125	452							
26-May-09	Tu	0.591	24625	410							
27-May-09	We	0.621	25875	431							
28-May-09	Th	0.672	28000	467							
29-May-09	Fr	0.697	29042	484							
30-May-09	Sa	0.784	32667	544							
31-May-09	Su	0.803	33458	558							
1-Jun-09	Mo	0.804	33500	558							
2-Jun-09	Tu	0.792	33000	550							
3-Jun-09	We	0.849	35375	590							
4-Jun-09	Th	0.857	35708	595							
5-Jun-09	Fr	0.848	35333	589							

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Number of Samples		292	295	295	36	34	34	37	34	68	51
Minimum		0.335	0	0	796	0.68	0.32	0.10	0.11	13.63	15.23
Maximum		1.080	45000	750	977	1.65	0.92	0.32	0.65	17.81	19.70
Average		0.569	23382	390	845	1.04	0.56	0.18	0.38	15.90	18.00
6-Jun-09	Sa	0.868	36167	603							
7-Jun-09	Su	0.912	38000	633							
8-Jun-09	Mo	0.888	37000	617							
9-Jun-09	Tu	0.862	35917	599							
10-Jun-09	We	0.773	32208	537							
11-Jun-09	Th	0.822	34250	571							
12-Jun-09	Fr	0.800	33333	556							
13-Jun-09	Sa	0.867	36125	602							
14-Jun-09	Su	0.892	37167	619							
15-Jun-09	Mo	0.860	35833	597							
16-Jun-09	Tu	0.825	34375	573							
17-Jun-09	We	0.748	31167	519							
18-Jun-09	Th	0.770	32083	535							
19-Jun-09	Fr	0.707	29458	491							
20-Jun-09	Sa	0.636	26500	442							
21-Jun-09	Su	0.630	26250	438							
22-Jun-09	Mo	0.636	26500	442							
23-Jun-09	Tu	0.740	30833	514							
24-Jun-09	We	0.595	24792	413							
25-Jun-09	Th	0.558	23250	388							
26-Jun-09	Fr	0.598	24917	415							
27-Jun-09	Sa	0.609	25375	423							
28-Jun-09	Su	0.602	25083	418							
29-Jun-09	Mo	0.672	28000	467							
30-Jun-09	Tu	0.730	30417	507							
1-Jul-09	We	0.755	31458	524							

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Number of Samples		292	295	295	36	34	34	37	34	68	51
Minimum		0.335	0	0	796	0.68	0.32	0.10	0.11	13.63	15.23
Maximum		1.080	45000	750	977	1.65	0.92	0.32	0.65	17.81	19.70
Average		0.569	23382	390	845	1.04	0.56	0.18	0.38	15.90	18.00
2-Jul-09	Th	0.777	32375	540							
3-Jul-09	Fr	0.844	35167	586							
4-Jul-09	Sa	0.851	35458	591							
5-Jul-09	Su	0.867	36125	602							
6-Jul-09	Mo	0.740	30833	514							
7-Jul-09	Tu	0.639	26625	444							
8-Jul-09	We	0.694	28917	482							
9-Jul-09	Th	0.686	28583	476							
10-Jul-09	Fr	0.845	35208	587							
11-Jul-09	Sa	0.826	34417	574							
12-Jul-09	Su	0.850	35417	590							
13-Jul-09	Mo	0.804	33500	558							
14-Jul-09	Tu	0.867	36125	602							
15-Jul-09	We	0.849	35375	590							
16-Jul-09	Th	0.850	35417	590							
17-Jul-09	Fr	0.870	36250	604							
18-Jul-09	Sa	0.866	36083	601							
19-Jul-09	Su	0.908	37833	631							
20-Jul-09	Mo	0.926	38583	643							
21-Jul-09	Tu	0.983	40958	683							
22-Jul-09	We	0.994	41417	690							
23-Jul-09	Th	0.998	41583	693							
24-Jul-09	Fr	1.001	41708	695							
25-Jul-09	Sa	0.980	40833	681							
26-Jul-09	Su	0.951	39625	660							
27-Jul-09	Mo	1.016	42333	706							

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Minimum		0.335	0	0	796	0.68	0.32	0.10	0.11	13.63	15.23
Maximum		1.080	45000	750	977	1.65	0.92	0.32	0.65	17.81	19.70
Average		0.569	23382	390	845	1.04	0.56	0.18	0.38	15.90	18.00
28-Jul-09	Tu	1.080	45000	750							
29-Jul-09	We	1.061	44208	737							
30-Jul-09	Th	0.969	40375	673							
31-Jul-09	Fr	0.857	35708	595							
1-Aug-09	Sa	0.912	38000	633							
2-Aug-09	Su	0.907	37792	630							
3-Aug-09	Mo	0.964	40167	669							
4-Aug-09	Tu	0.929	38708	645							
5-Aug-09	We	0.949	39542	659							
6-Aug-09	Th	0.980	40833	681							
7-Aug-09	Fr	0.935	38958	649							
8-Aug-09	Sa	0.890	37083	618							
9-Aug-09	Su	0.875	36458	608							
10-Aug-09	Mo	0.719	29958	499							
11-Aug-09	Tu	0.692	28833	481							
12-Aug-09	We	0.683	28458	474							
13-Aug-09	Th	0.712	29667	494							
14-Aug-09	Fr	0.666	27750	463							
15-Aug-09	Sa	0.718	29917	499							
16-Aug-09	Su	0.779	32458	541							
17-Aug-09	Mo	0.816	34000	567							
18-Aug-09	Tu	0.848	35333	589							
19-Aug-09	We	0.849	35375	590							
20-Aug-09	Th	0.820	34167	569							
21-Aug-09	Fr	0.773	32208	537							
22-Aug-09	Sa	0.696	29000	483							

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		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)
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Maximum		1.080	45000	750	977	1.65	0.92	0.32	0.65	17.81	19.70
Average		0.569	23382	390	845	1.04	0.56	0.18	0.38	15.90	18.00
23-Aug-09	Su	0.734	30583	510							
24-Aug-09	Mo	0.738	30750	513							
25-Aug-09	Tu	0.750	31250	521							
26-Aug-09	We	0.730	30417	507							
27-Aug-09	Th	0.777	32375	540							
28-Aug-09	Fr	0.733	30542	509							
29-Aug-09	Sa	0.765	31875	531							
30-Aug-09	Su	0.767	31958	533							
31-Aug-09	Mo	0.771	32125	535							
1-Sep-09	Tu	0.680	28333	472							
2-Sep-09	We	0.759	31625	527							
3-Sep-09	Th	0.639	26625	444							
4-Sep-09	Fr	0.635	26458	441	929	0.86	0.42	0.17	0.25		15.23
5-Sep-09	Sa	0.588	24500	408	803	0.74	0.42	0.10	0.32	14.31	
6-Sep-09	Su	0.591	24625	410	798	0.81	0.46	0.11	0.35	13.85	
7-Sep-09	Mo	0.582	24250	404							
8-Sep-09	Tu	0.612	25500	425				0.21		15.01	16.79
9-Sep-09	We	0.566	23583	393	803	0.74	0.42	0.13	0.29	13.85	
10-Sep-09	Th	0.589	24542	409	800	0.74	0.42	0.13	0.29	13.75	
11-Sep-09	Fr	0.604	25167	419				0.10		15.1	16.88
12-Sep-09	Sa	0.644	26833	447							
13-Sep-09	Su	0.595	24792	413							
14-Sep-09	Mo	0.662	27583	460						15.02	16.81
15-Sep-09	Tu	0.606	25250	421	797	0.81	0.46	0.16	0.30	13.78	
16-Sep-09	We	0.635	26458	441	800	0.81	0.46	0.25	0.21	13.63	
17-Sep-09	Th	0.580	24167	403						15.08	16.88

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		292	295	295	36	34	34	37	34	68	51
Minimum		0.335	0	0	796	0.68	0.32	0.10	0.11	13.63	15.23
Maximum		1.080	45000	750	977	1.65	0.92	0.32	0.65	17.81	19.70
Average		0.569	23382	390	845	1.04	0.56	0.18	0.38	15.90	18.00
18-Sep-09	Fr	0.542	22583	376	799	0.96	0.55	0.21	0.34	14.19	
19-Sep-09	Sa	0.531	22125	369	796	0.96	0.55	0.22	0.33	14.54	
20-Sep-09	Su	0.544	22667	378	803	0.96	0.54	0.15	0.39	14.3	
21-Sep-09	Mo	0.527	21958	366							
22-Sep-09	Tu	0.528	22000	367							
23-Sep-09	We	0.527	21958	366	797	0.96	0.55	0.23	0.32	14.42	
24-Sep-09	Th	0.557	23208	387						15.55	17.35
25-Sep-09	Fr	0.531	22125	369						14.8	16.55
26-Sep-09	Sa	0.521	21708	362							
27-Sep-09	Su	0.523	21792	363						14.79	16.53
28-Sep-09	Mo	0.517	21542	359	950	1.14	0.54	0.18	0.36		16.6
29-Sep-09	Tu	0.482	20083	335	805	0.96	0.54	0.16	0.38	14.47	
30-Sep-09	We	0.497	20708	345	803	0.96	0.54	0.16	0.38	14.93	
1-Oct-09	Th	0.461	19208	320	940	1.13	0.55	0.16	0.39		16.11
2-Oct-09	Fr	0.487	20292	338				0.15		15.7	17.5
3-Oct-09	Sa	0.464	19333	322							
4-Oct-09	Su	0.463	19292	322							
5-Oct-09	Mo	0.511	21292	355						15.82	17.62
6-Oct-09	Tu	0.498	20750	346						15.72	17.53
7-Oct-09	We	0.471	19625	327	945	1.22	0.59	0.18	0.41		16.2
8-Oct-09	Th	0.504	21000	350							
9-Oct-09	Fr	0.417	17375	290							
10-Oct-09	Sa	0.421	17542	292							
11-Oct-09	Su	0.434	18083	301							
12-Oct-09	Mo	0.465	19375	323							
13-Oct-09	Tu	0.478	19917	332	958	1.25	0.59	0.17	0.42	15.76	17.55

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		292	295	295	36	34	34	37	34	68	51
Minimum		0.335	0	0	796	0.68	0.32	0.10	0.11	13.63	15.23
Maximum		1.080	45000	750	977	1.65	0.92	0.32	0.65	17.81	19.70
Average		0.569	23382	390	845	1.04	0.56	0.18	0.38	15.90	18.00
14-Oct-09	We	0.563	23458	391	797	1.1	0.63	0.16	0.47	14.42	
15-Oct-09	Th	0.481	20042	334	940	1.3	0.63	0.20	0.43		15.62
16-Oct-09	Fr	0.420	17500	292						15.4	17.19
17-Oct-09	Sa	0.419	17458	291							
18-Oct-09	Su	0.436	18167	303							
19-Oct-09	Mo	0.473	19708	328	797	1.11	0.63	0.10	0.53	14.67	
20-Oct-09	Tu	0.434	18083	301						15.19	16.96
21-Oct-09	We	0.479	19958	333	943	1.57	0.76	0.18	0.58		16.14
22-Oct-09	Th	0.431	17958	299	802	1.34	0.76	0.11	0.65	14.97	
23-Oct-09	Fr	0.411	17125	285						15.45	17.22
24-Oct-09	Sa	0.410	17083	285							
25-Oct-09	Su	0.401	16708	278							
26-Oct-09	Mo	0.449	18708	312						15.19	16.97
27-Oct-09	Tu	0.497	20708	345	810	1.65	0.92	0.32	0.60	15.03	
28-Oct-09	We	0.417	17375	290	799	1.11	0.63	0.25	0.38	14.85	
29-Oct-09	Th	0.463	19292	322	797	1.25	0.71	0.17	0.54	14.54	
30-Oct-09	Fr	0.431	17958	299						15.23	17.01
31-Oct-09	Sa	0.408	17000	283							
1-Nov-09	Su	0.402	16750	279							
2-Nov-09	Mo	0.407	16958	283						15.45	17.28
3-Nov-09	Tu	0.399	16625	277						16.22	18.06
4-Nov-09	We	0.391	16292	272						16.12	17.93
5-Nov-09	Th	0.411	17125	285						16.68	18.52
6-Nov-09	Fr	0.399	16625	277						16.67	18.51
7-Nov-09	Sa	0.403	16792	280							
8-Nov-09	Su	0.394	16417	274							

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		292	295	295	36	34	34	37	34	68	51
Minimum		0.335	0	0	796	0.68	0.32	0.10	0.11	13.63	15.23
Maximum		1.080	45000	750	977	1.65	0.92	0.32	0.65	17.81	19.70
Average		0.569	23382	390	845	1.04	0.56	0.18	0.38	15.90	18.00
9-Nov-09	Mo	0.406	16917	282						16.98	18.84
10-Nov-09	Tu	0.395	16458	274	812					16.05	
11-Nov-09	We	0.405	16875	281							
12-Nov-09	Th	0.415	17292	288						15.99	17.92
13-Nov-09	Fr	0.402	16750	279	811					16.44	
14-Nov-09	Sa	0.380	15833	264							
15-Nov-09	Su	0.408	17000	283							
16-Nov-09	Mo	0.404	16833	281	811	1.37	0.77	0.14	0.63	17.28	
17-Nov-09	Tu	0.392	16333	272						17.22	19.09
18-Nov-09	We	0.403	16792	280	817	1.28	0.71	0.19	0.52	16.94	
19-Nov-09	Th	0.423	17625	294						17.53	19.4
20-Nov-09	Fr	0.403	16792	280						17.1	19
21-Nov-09	Sa	0.400	16667	278							
22-Nov-09	Su	0.434	18083	301							
23-Nov-09	Mo	0.405	16875	281						17.05	18.97
24-Nov-09	Tu	0.404	16833	281	969	1.52	0.71	0.20	0.51		18.53
25-Nov-09	We	0.411	17125	285						17.6	19.46
26-Nov-09	Th	0.438	18250	304						17.58	19.46
27-Nov-09	Fr	0.432	18000	300						17.81	19.7
28-Nov-09	Sa	0.410	17083	285							
29-Nov-09	Su	0.409	17042	284							
30-Nov-09	Mo	0.408	17000	283							19.22
1-Dec-09	Tu	0.405	16875	281						17.42	19.31
2-Dec-09	We	0.436	18167	303						17.76	19.63
3-Dec-09	Th	0.417	17375	290	816	0.91	0.51	0.21	0.30	17.77	19.66
4-Dec-09	Fr	0.418	17417	290						16.86	

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		292	295	295	36	34	34	37	34	68	51
Minimum		0.335	0	0	796	0.68	0.32	0.10	0.11	13.63	15.23
Maximum		1.080	45000	750	977	1.65	0.92	0.32	0.65	17.81	19.70
Average		0.569	23382	390	845	1.04	0.56	0.18	0.38	15.90	18.00
5-Dec-09	Sa	0.420	17500	292							
6-Dec-09	Su	0.426	17750	296							
7-Dec-09	Mo	0.413	17208	287						17.27	19.14
8-Dec-09	Tu	0.421	17542	292						16.8	18.86
9-Dec-09	We	0.418	17417	290	819	0.68	0.38	0.21	0.17	17.27	
10-Dec-09	Th	0.417	17375	290	967	0.68	0.32	0.21	0.11		18.42
11-Dec-09	Fr	0.412	17167	286						16.7	
12-Dec-09	Sa	0.408	17000	283							
13-Dec-09	Su	0.415	17292	288							
14-Dec-09	Mo	0.415	17292	288	977	0.99	0.46	0.21	0.25		19
15-Dec-09	Tu	0.413	17208	287						16.64	18.49
16-Dec-09	We	0.424	17667	294						17.57	19.45
17-Dec-09	Th	0.465	19375	323						17.61	19.5
18-Dec-09	Fr	0.423	17625	294	816	0.75	0.42	0.19	0.23	16.96	
19-Dec-09	Sa	0.426	17750	296							
20-Dec-09	Su	0.417	17375	290							
21-Dec-09	Mo	0.438	18250	304							
22-Dec-09	Tu	0.440	18333	306						17.81	19.31
23-Dec-09	We	0.427	17792	297						17.62	19.5
24-Dec-09	Th	0.437	18208	303						17.01	18.81
25-Dec-09	Fr	0.414	17250	288							
26-Dec-09	Sa	0.417	17375	290							
27-Dec-09	Su	0.420	17500	292							
28-Dec-09	Mo		0	0	809	0.74	0.41	0.18	0.23	16.38	
29-Dec-09	Tu		0	0							
30-Dec-09	We		0	0							

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		292	295	295	36	34	34	37	34	68	51
Minimum		0.335	0	0	796	0.68	0.32	0.10	0.11	13.63	15.23
Maximum		1.080	45000	750	977	1.65	0.92	0.32	0.65	17.81	19.70
Average		0.569	23382	390	845	1.04	0.56	0.18	0.38	15.90	18.00
31-Dec-09	Th		0	0							

Appendix II

VILLAGE OF PEMBERTON **Guidelines for Canadian Drinking Water Quality**

Maxxam Job #: A930217
Report Date: 2009/06/23

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

DRINKING WATER PACKAGE - MUNICIPAL (DRINKING WATER)

Maxxam ID		P32360	P32361	P32362	Maximum Allowable Concentration	Aesthetic Objectives	Units
Sampling Date		6/16/2009 9:10	6/16/2009 9:00	6/16/2009 9:50			
COC Number		F36011	F36011	F36011			
	Units	**WELL #2**	**WELL #3**	**IND. PARK**			
Misc. Inorganics							
Fluoride (F)	mg/L	0.02	0.01	0.03	**1.5**		mg/L
ANIONS							
Nitrite (N)	mg/L	<0.005	<0.005	<0.005	**3.2**		mg/L
Calculated Parameters							
Total Hardness (CaCO3)	mg/L	24.2	24.3	20.9		**80 - 100**	mg/L
Nitrate (N)	mg/L	0.15	0.14	0.04	**45**		mg/L
Misc. Inorganics							
Alkalinity (Total as CaCO3)	mg/L	13	13	21		**< 500**	mg/L
Alkalinity (PP as CaCO3)	mg/L	<0.5	<0.5	<0.5		**n/a**	
Bicarbonate (HCO3)	mg/L	16	15	26		**n/a**	
Carbonate (CO3)	mg/L	<0.5	<0.5	<0.5		**n/a**	
Hydroxide (OH)	mg/L	<0.5	<0.5	<0.5		**n/a**	
Anions							
Dissolved Sulphate (SO4)	mg/L	19	12	7.4		**< 500**	mg/L
Dissolved Chloride (Cl)	mg/L	21	8.3	1.5		**< 250**	mg/L
MISCELLANEOUS							
True Colour	Col. Unit	<5	<5	<5		**< 15**	TCU
Nutrients							
Nitrate plus Nitrite (N)	mg/L	0.15	0.14	0.04	**n/a**		
Physical Properties							
Conductivity	uS/cm	79	77	55	**n/a**		
pH	pH Units	7.5	7.4	7.6		**6.5 - 8.5**	
Physical Properties							
Total Dissolved Solids	mg/L	62	58	40		**<500**	mg/L
Turbidity	NTU	0.2	<0.1	0.3		**1**	NTU
Total Metals by ICPMS							
Total Aluminum (Al)	ug/L	12	12	10		**0.1**	mg/L
Total Antimony (Sb)	ug/L	<0.5	<0.5	<0.5	**0.006**		mg/L
Total Arsenic (As)	ug/L	<0.1	<0.1	0.2	**0.01**		mg/L
Total Barium (Ba)	ug/L	18	18	5	**1**		mg/L
Total Boron (B)	ug/L	<50	<50	<50	**5**		mg/L
Total Cadmium (Cd)	ug/L	0.02	0.01	0.08	**0.005**		mg/L
Total Chromium (Cr)	ug/L	<1	<1	<1	**0.05**		mg/L
Total Cobalt (Co)	ug/L	<0.5	<0.5	<0.5	**n/a**		
Total Copper (Cu)	ug/L	2.8	0.5	11.2		**< 1**	mg/L

Appendix II

VILLAGE OF PEMBERTON **Guidelines for Canadian Drinking Water Quality**

Maxxam Job #: A930217
Report Date: 2009/06/23

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

DRINKING WATER PACKAGE - MUNICIPAL (DRINKING WATER)

Maxxam ID		P32360	P32361	P32362	Maximum Allowable Concentration	Aesthetic Objectives	Units
Sampling Date		6/16/2009 9:10	6/16/2009 9:00	6/16/2009 9:50			
COC Number		F36011	F36011	F36011			
	Units	**WELL #2**	**WELL #3**	**IND. PARK**			
Total Iron (Fe)	ug/L	6	<5	8		**< 0.3**	mg/L
Total Lead (Pb)	ug/L	0.2	<0.2	0.4	**0.01**		mg/L
Total Manganese (Mn)	ug/L	2	2	<1	**n/a**		
Total Mercury (Hg)	ug/L	<0.02	<0.02	<0.02	**0.001**		mg/L
Total Molybdenum (Mo)	ug/L	<1	<1	<1	**n/a**		
Total Nickel (Ni)	ug/L	<1	<1	<1	**n/a**		
Total Selenium (Se)	ug/L	<0.1	<0.1	<0.1	**0.01**		mg/L
Total Silver (Ag)	ug/L	<0.02	<0.02	<0.02	**n/a**		
Total Uranium (U)	ug/L	<0.1	<0.1	<0.1	**0.02**		mg/L
Total Vanadium (V)	ug/L	<5	<5	<5	**n/a**		
Total Zinc (Zn)	ug/L	<5	<5	<5		**< 5**	mg/L
Total Calcium (Ca)	mg/L	8.98	9.02	7.33	**n/a**		
Total Magnesium (Mg)	mg/L	0.43	0.44	0.63	**n/a**		
Total Potassium (K)	mg/L	0.81	0.81	0.46	**n/a**		
Total Sodium (Na)	mg/L	2.65	2.35	1.07	**n/a**	**< 200**	mg/L
Total Sulphur (S)	mg/L	<3	4	<3	**n/a**		

RDL = Reportable Detection Limit

Results relate only to the items tested.

Appendix III

pH/Temp in C

Sample Station / Date	5-May-09	12-May-09	19-May-09	
Collins Rd		5.89	6.11	
Pem. Meadows Rd		5.80	6.10	
Pem. Farm Rd		5.71	5.70	
Oak St		5.44	5.80	
Village Office		5.80	6.11	
Health Centre		5.53	5.98	
Treatment Plant		6.00	6.07	
Plateau		5.89	6.15	
Notes:				

Sample Station / Date	2-Jun-10	9-Jun-10	16-Jun-10	23-Jun-10
Collins Rd	5.46	5.24	5.65	5.21
Pem. Meadows Rd	5.56	5.31	5.75	5.21
Pem. Farm Rd	5.58	5.19	5.77	5.19
Oak St	6.03	5.26	5.71	5.08
Village Office	6.37	5.21	5.76	5.21
Health Centre	5.98	5.36	5.90	5.23
Treatment Plant	5.41	5.78	5.70	5.97
Plateau	5.50	5.27	5.85	5.16

Sample Station / Date	7-Jul-10	14-Jul-10	21-Jul-10	29-Jul-10
Collins Rd	5.87	5.70	6.56 / 7.1	6.02 / 17.4
Pem. Meadows Rd	5.82	5.29	6.48 / 12.5	5.92 / 19.8
Pem. Farm Rd	5.79	5.70	6.64 / 6.2	6.06 / 17.2
Oak St	5.71	5.20	6.48 / 11.1	6.08 / 17.4
Village Office	5.87	5.86	6.22 / 9.1	6.03 / 18.2
Health Centre	5.78	5.63	5.98 / 11.3	5.86 / 14.5
Treatment Plant	5.70	5.89	6.12 / 10.6	5.98 / 19.3
Plateau	5.85	5.92	6.12 / 10.6	6.05 / 16.1

Sample Station / Date	4-Aug-09	11-Aug-09	18-Aug-09	25-Aug-09
Collins Rd	6.04 / 17.5	6.16 / 18.3	6.11 / 21.8	6.25 / 8.2
Pem. Meadows Rd	6.06 / 18.4	5.88 / 18.9	5.73 / 23.2	6.2 / 7.3
Pem. Farm Rd	6.06 / 16.2	5.87 / 18.8	5.66 / 22.5	6.06 / 8.3
Oak St	5.74 / 20.1	5.71 / 17.9	5.42 / 22.1	6.24 / 8.2
Village Office	5.65 / 20.1	6.27 / 19.1	5.48 / 23	5.94 / 8.2
Health Centre	5.6 / 18.6	5.89 / 18.9	5.65 / 23.1	5.99 / 8
Treatment Plant	6.09 / 22.8	5.93 / 19.1	5.89 / 23	5.92 / 9.5
Plateau	6.08 / 19.1	5.92 / 18.7	5.65 / 24.2	5.96 / 9.4

Appendix III

pH/Temp in C

Sample Station / Date	1-Sep-09	9-Sep-09	15-Sep-09	29-Sep-09
Collins Rd	6.23 / 14.2	6.17 / 18.9	6.19 / 17.6	6.13 / 16.4
Pem. Meadows Rd	6.27 / 16.5	6.36 / 19.8	6.22 / 17.9	6.08 / 16.4
Pem. Farm Rd	6.28 / 16	6.11 / 19.4	6.15 / 17.9	6.03 / 16.3
Oak St	6.29 / 15.5	6.26 / 19.8	6.22 / 17.3	6.22 / 16.6
Village Office	6.31 / 16.3		6.05 / 18.1	6.18 / 16.6
Health Centre	6.25 / 13.9	6.19 / 19.3	6.24 / 18.2	6.36 / 16.8
Treatment Plant	6.21 / 13.8	6.26 / 19.3	6.16 / 17.7	6.38 / 17.3
Plateau	6.20 / 17.1	6.27 / 20.0	6.28 / 18.1	6.15 / 16.7

Sample Station / Date	6-Oct-09	14-Oct-09	20-Oct-09	27-Oct-09
Collins Rd	6.11 / 14.3	6.65 / 15.6	6.25 / 16.1	6.10 / 13.0
Pem. Meadows Rd	6.02 / 14.5	6.61 / 15.4	6.18 / 17	6.25 / 12.4
Pem. Farm Rd	6.07 / 15.1	6.65 / 15.4	6.20 / 17.2	6.15 / 12.7
Oak St	6.12 / 14.9	6.67 / 15.7	6.22 / 16.6	6.27 / 13.2
Village Office	5.99 / 14.2	6.63 / 15.3	6.15 / 17.1	6.31 / 13.5
Health Centre	6.10 / 16.1	6.66 / 15.2	6.16 / 17	6.38 / 12.4
Treatment Plant	6.11 / 16.7	6.6 / 15.1	6.16 / 20.7	6.23 / 18.7
Plateau	6.13 / 15.7	6.58 / 15.1	6.21 / 17.7	6.37 / 12.7

Sample Station / Date	3-Nov-09	9-Nov-09	17-Nov-09	24-Nov-09
Collins Rd	6.41 / 13.5	6.27 / 12.7	6.14 / 11.7	6.91 / 10.3
Pem. Meadows Rd	6.46 / 13.8	6.26 / 13.9	6.42 / 12	6.65 / 10.2
Pem. Farm Rd	6.38 / 13.6	6 /12.8	6.25 / 11.7	6.85 / 11.4
Oak St	6.39 / 14.1	5.92 / 12.2	6.64 / 12.5	6.75 / 9.4
Village Office	6.43 / 14.2	6.08 /12.4	6.56 / 12.2	6.74 / 10.2
Health Centre		6.29 /14.8	6.13 / 12.4	6.94 / 10.3
Treatment Plant	6.27 / 19.2	6.19 /18.2	6.57 / 11.7	6.18 / 17.9
Plateau	6.42 / 13.5	6.22 /12.8	6.43 / 11.7	6.86 / 10.8

Sample Station / Date	1-Dec-09	8-Dec-09	15-Dec-09	23-Dec-09
Collins Rd	5.76 / 8.9	n/a	n/a	n/a
Pem. Meadows Rd	5.81 / 8.5	6.32 / 4.8	5.97 / 9.6	n/a
Pem. Farm Rd	6.23 / 9.6	6.32 / 4.7	n/a	n/a
Oak St	5.89 / 8.1	6.21 / 5.4	6.02 / 9.6	6.59 / 4.9
Village Office	6.24 / 9.3	6.38 / 4.7	5.96 / 14	6.23 / 4.5
Health Centre	6.2 / 9.	6.37 / 13.6	5.98 / 8.9	6.22 / 4.8
Treatment Plant	6.03 / 10.8	6.62 / 12.4	5.91 / 16.3	6.53 / 11.2
Plateau	6.26 / 9.3	n/a	n/a	6.21 / 4.1