

## Village of Pemberton Water System

### Annual Report - 2014

**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:	0.669
High Flow/day:	1.15
Low Flow/day:	0.481

For daily results, please refer to **Appendix 1**.

**2. Operation and Maintenance**

In 2014, Village staff carried out cleaning of the west cell of the reservoir, unidirectional flushing of the water distribution system, including the Industrial Park and A service fire hydrant maintenance. Several leaks were repaired on Pioneer St, Prospect St. and Cedar Lane. As a result of declining performance in Well #2, an inspection of the well, motor and pump was carried out and subsequently a full redevelopment was undertaken. The resulting well step test indicated a substantial improvement (55%) over tests done the previous year.

**3. 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 at least 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:

a. Dosing (mg/L)	
Average:	0.59
High:	0.99

Low:	0.49
b. Residual (mg/L)	
Average:	0.21
High:	0.36
Low:	0.15

For daily results, please refer to **Appendix 1**.

#### **4. Chemistry Test Results:**

The annual chemistry test was performed July 25, 2014 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.

For results and corresponding guidelines, please refer to **Appendix 2**.

#### **5. 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 3**.

#### **6. 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 25, 2014 and the readings were well below the Health Canada guidelines.

For results and corresponding guidelines, please refer to **Appendix 4**.

#### **7. 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



Box 100 | 7400 Prospect Street  
Pemberton, BC V0N 2L0  
P: 604.894.6135 | F: 604.894.6136  
Email: [admin@pemberton.ca](mailto:admin@pemberton.ca)  
Website: [www.pemberton.ca](http://www.pemberton.ca)

- 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.

401 samples were submitted for analysis to the laboratory at Vancouver Coastal Health. The individual results can be found in **Appendix 5** or 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](http://www.healthspace.ca/Clients/VCHA/CoastGaribaldi/CoastGaribaldi_Website.nsf)

Appendix 1

Appendix 1	Flow and Chlorination				
	yesterday total Flow (MG/day)	Avg Flow (G/hr)	Avg Flow (G/min)	Current Pump Flow (gpm)	Hypo Flow (L/hr)
Number of Samples	363	363	363	151	152.00
Minimum	0.481	20042	334	718	0.87
Maximum	1.150	47917	799	1248	1.70
Average	0.669	27881	465	813	1.06
January 1, 2014	0.522	21750	363	888	1.07
January 2, 2014	0.535	22292	372	888	1.07
January 3, 2014	0.535	22292	372	882	1.06
January 4, 2014	0.535	22292	372		
January 5, 2014	0.545	22708	378	882	1.06
January 6, 2014	0.549	22875	381	911	1.09
January 7, 2014	0.553	23042	384	900	1.09
January 8, 2014	0.529	22042	367		
January 9, 2014	0.536	22333	372	892	1.07
January 10, 2014	0.534	22250	371	913	1.09
January 11, 2014	0.553	23042	384		
January 12, 2014	0.534	22250	371		
January 13, 2014	0.509	21208	353		
January 14, 2014	0.558	23250	388	899	1.08
January 15, 2014	0.549	22875	381	901	1.00
January 16, 2014	0.519	21625	360	816	0.90
January 17, 2014	0.560	23333	389	824	0.91
January 18, 2014	0.551	22958	383		
January 19, 2014	0.547	22792	380		
January 20, 2014	0.578	24083	401		
January 21, 2014	0.541	22542	376	840	0.91
January 22, 2014	0.533	22208	370	822	0.91
January 23, 2014	0.556	23167	386	890	0.98
January 24, 2014	0.537	22375	373		
January 25, 2014	0.558	23250	388		
January 26, 2014	0.559	23292	388		
January 27, 2014	0.553	23042	384		
January 28, 2014	0.554	23083	385		
January 29, 2014	0.548	22833	381		
January 30, 2014	0.547	22792	380		
January 31, 2014	0.550	22917	382		
February 1, 2014	0.562	23417	390		
February 2, 2014	0.562	23417	390		
February 3, 2014	0.551	22958	383		0.89
February 4, 2014	0.547	22792	380	810	0.89
February 5, 2014	0.563	23458	391	892	0.99
February 6, 2014	0.549	22875	381		
February 7, 2014	0.543	22625	377		
February 8, 2014	0.571	23792	397		
February 9, 2014	0.567	23625	394		
February 10, 2014	0.565	23542	392		
February 11, 2014	0.544	22667	378		
February 12, 2014	0.534	22250	371		

February 13, 2014	0.518	21583	360	882	0.98
February 14, 2014	0.572	23833	397	806	0.89
February 15, 2014	0.580	24167	403		
February 16, 2014	0.548	22833	381		
February 17, 2014	0.552	23000	383		
February 18, 2014	0.551	22958	383		
February 19, 2014	0.506	21083	351	803	0.89
February 20, 2014	0.526	21917	365		
February 21, 2014	0.555	23125	385		
February 22, 2014	0.541	22542	376	885	0.98
February 23, 2014	0.540	22500	375	800	0.88
February 24, 2014	0.517	21542	359	885	0.98
February 25, 2014	0.518	21583	360	800	0.88
February 26, 2014	0.527	21958	366	794	0.88
February 27, 2014	0.535	22292	372		
February 28, 2014	0.538	22417	374	805	0.89
March 1, 2014	0.560	23333	389		
March 2, 2014	0.565	23542	392		
March 3, 2014	0.559	23292	388		
March 4, 2014	0.553	23042	384	805	0.90
March 5, 2014	0.547	22792	380		
March 6, 2014	0.521	21708	362		
March 7, 2014	0.521	21708	362		0.90
March 8, 2014	0.529	22042	367		
March 9, 2014	0.551	22958	383		
March 10, 2014	0.544	22667	378		
March 11, 2014	0.533	22208	370		
March 12, 2014	0.562	23417	390		
March 13, 2014	0.568	23667	394		
March 14, 2014	0.544	22667	378	891	0.98
March 15, 2014	0.534	22250	371		
March 16, 2014	0.546	22750	379		
March 17, 2014	0.550	22917	382		
March 18, 2014	0.538	22417	374		
March 19, 2014	0.543	22625	377		
March 20, 2014	0.533	22208	370		
March 21, 2014	0.532	22167	369		
March 22, 2014	0.551	22958	383		
March 23, 2014	0.542	22583	376		
March 24, 2014	0.537	22375	373	800	0.98
March 25, 2014	0.537	22375	373		
March 26, 2014	0.550	22917	382	798	0.88
March 27, 2014	0.527	21958	366		
March 28, 2014	0.533	22208	370		
March 29, 2014	0.544	22667	378		
March 30, 2014	0.539	22458	374		
March 31, 2014	0.567	23625	394		
April 1, 2014	0.570	23750	396		
April 2, 2014	0.552	23000	383		
April 3, 2014	0.547	22792	380		
April 4, 2014	0.550	22917	382	877	0.97
April 5, 2014	0.543	22625	377		

April 6, 2014	0.534	22250	371		
April 7, 2014	0.541	22542	376	878	0.97
April 8, 2014	0.531	22125	369	798	0.88
April 9, 2014	0.531	22125	369	894	0.99
April 10, 2014	0.532	22167	369		
April 11, 2014	0.534	22250	371	805	0.89
April 12, 2014	0.528	22000	367		
April 13, 2014	0.596	24833	414		
April 14, 2014	0.585	24375	406	890	0.98
April 15, 2014	0.683	28458	474	799	0.88
April 16, 2014	0.707	29458	491	1248	1.37
April 17, 2014	0.587	24458	408	871	0.97
April 18, 2014	0.537	22375	373		
April 19, 2014	0.549	22875	381		
April 20, 2014	0.549	22875	381		
April 21, 2014	0.531	22125	369		
April 22, 2014	0.557	23208	387		
April 23, 2014	0.550	22917	382	870	0.96
April 24, 2014	0.551	22958	383	801	0.88
April 25, 2014	0.543	22625	377	805	0.89
April 26, 2014	0.617	25708	428		
April 27, 2014	0.556	23167	386		
April 28, 2014	0.566	23583	393		
April 29, 2014	0.576	24000	400	800	0.89
April 30, 2014	0.570	23750	396		
May 1, 2014	0.601	25042	417	794	0.88
May 2, 2014	0.610	25417	424		
May 3, 2014	0.606	25250	421		
May 4, 2014	0.597	24875	415		
May 5, 2014	0.585	24375	406		
May 6, 2014	0.588	24500	408		
May 7, 2014	0.623	25958	433	794	0.88
May 8, 2014	0.610	25417	424	870	0.96
May 9, 2014	0.634	26417	440	793	0.88
May 10, 2014	0.609	25375	423		
May 11, 2014	0.621	25875	431		
May 12, 2014	0.674	28083	468	864	0.96
May 13, 2014					
May 14, 2014	0.732	30500	508	869	0.96
May 15, 2014	0.759	31625	527	792	0.87
May 16, 2014	0.803	33458	558	790	0.88
May 17, 2014	0.858	35750	596		
May 18, 2014	0.805	33542	559		
May 19, 2014	0.850	35417	590		
May 20, 2014	0.902	37583	626	872	0.97
May 21, 2014	0.822	34250	571		
May 22, 2014	0.825	34375	573	785	0.87
May 23, 2014	0.837	34875	581		
May 24, 2014	0.813	33875	565		
May 25, 2014	0.690	28750	479		
May 26, 2014	0.729	30375	506	864	0.96
May 27, 2014	0.754	31417	524	855	0.95

May 28, 2014	0.823	34292	572	787	0.87
May 29, 2014	0.919	38292	638	791	0.88
May 30, 2014	0.744	31000	517		
May 31, 2014	0.718	29917	499		
June 1, 2014	0.827	34458	574		
June 2, 2014	0.871	36292	605		
June 3, 2014	0.960	40000	667		
June 4, 2014	0.776	32333	539	848	0.94
June 5, 2014	1.120	46667	778	790	0.87
June 6, 2014	0.881	36708	612	849	0.94
June 7, 2014	0.953	39708	662		
June 8, 2014	0.930	38750	646		
June 9, 2014	0.921	38375	640	790	0.88
June 10, 2014	0.958	39917	665		
June 11, 2014	0.901	37542	626	786	0.87
June 12, 2014	0.899	37458	624	791	0.87
June 13, 2014	0.812	33833	564	855	0.95
June 14, 2014	0.917	38208	637		
June 15, 2014	0.881	36708	612		
June 16, 2014	0.809	33708	562	856	0.95
June 17, 2014	0.846	35250	588	786	0.87
June 18, 2014	0.890	37083	618		
June 19, 2014	0.926	38583	643		
June 20, 2014	0.847	35292	588	782	0.87
June 21, 2014	0.810	33750	563		
June 22, 2014	0.890	37083	618		
June 23, 2014	0.968	40333	672	785	0.87
June 24, 2014	0.929	38708	645		
June 25, 2014	0.888	37000	617		
June 26, 2014	1.020	42500	708	787	1.32
June 27, 2014	1.129	47042	784	838	0.93
June 28, 2014	1.020	42500	708		
June 29, 2014	0.853	35542	592		
June 30, 2014	0.868	36167	603	785	0.87
July 1, 2014	0.974	40583	676		
July 2, 2014	1.030	42917	715	784	0.94
July 3, 2014	1.090	45417	757	781	0.94
July 4, 2014	1.050	43750	729	781	0.94
July 5, 2014	0.856	35667	594		
July 6, 2014	0.780	32500	542		
July 7, 2014	0.783	32625	544	840	1.01
July 8, 2014	0.798	33250	554	778	0.94
July 9, 2014	1.010	42083	701	836	1.00
July 10, 2014	1.100	45833	764	838	1.08
July 11, 2014	1.090	45417	757	778	1.00
July 12, 2014	1.080	45000	750		
July 13, 2014	1.040	43333	722		
July 14, 2014	1.050	43750	729	786	1.01
July 15, 2014	1.120	46667	778	836	1.08
July 16, 2014	1.150	47917	799		
July 17, 2014	1.140	47500	792	828	1.60
July 18, 2014	1.110	46250	771	779	1.36

July 19, 2014	0.985	41042	684	783	1.15
July 20, 2014	0.847	35292	588	781	1.23
July 21, 2014	0.785	32708	545	787	1.16
July 22, 2014	0.824	34333	572	826	1.22
July 23, 2014	0.961	40042	667		
July 24, 2014	0.881	36708	612	849	1.17
July 25, 2014	0.792	33000	550	794	1.15
July 26, 2014	0.801	33375	556		
July 27, 2014	0.856	35667	594		
July 28, 2014	0.882	36750	613	775	1.15
July 29, 2014	0.956	39833	664	779	1.15
July 30, 2014	0.994	41417	690	828	1.22
July 31, 2014	0.997	41542	692	777	1.15
August 1, 2014	1.010	42083	701	826	1.14
August 2, 2014	1.040	43333	722		
August 3, 2014	0.986	41083	685		
August 4, 2014	0.999	41625	694	776	1.15
August 5, 2014	1.010	42083	701	776	1.70
August 6, 2014	1.050	43750	729	820	1.21
August 7, 2014	1.020	42500	708	777	1.15
August 8, 2014	1.040	43333	722	772	1.14
August 9, 2014	0.997	41542	692	772	1.14
August 10, 2014	0.991	41292	688	772	1.14
August 11, 2014	0.950	39583	660	817	1.21
August 12, 2014	1.010	42083	701	773	1.14
August 13, 2014	0.919	38292	638	815	1.21
August 14, 2014	0.863	35958	599	779	1.15
August 15, 2014	0.874	36417	607	817	1.21
August 16, 2014	0.902	37583	626		
August 17, 2014	0.928	38667	644		
August 18, 2014	0.907	37792	630	822	1.22
August 19, 2014	0.911	37958	633	783	1.15
August 20, 2014	0.922	38417	640	782	1.15
August 21, 2014	0.862	35917	599		
August 22, 2014	0.816	34000	567	776	1.15
August 23, 2014	0.897	37375	623		
August 24, 2014	0.902	37583	626		
August 25, 2014	0.845	35208	587		
August 26, 2014	0.806	33583	560		
August 27, 2014	0.785	32708	545	781	1.15
August 28, 2014	0.855	35625	594	770	1.14
August 29, 2014	0.807	33625	560		
August 30, 2014	0.901	37542	626		
August 31, 2014	0.879	36625	610		
September 1, 2014	0.755	31458	524		
September 2, 2014	0.752	31333	522	782	1.15
September 3, 2014	0.744	31000	517		
September 4, 2014	0.729	30375	506		
September 5, 2014	0.729	30375	506	775	1.15
September 6, 2014	0.740	30833	514		
September 7, 2014	0.733	30542	509		
September 8, 2014	0.709	29542	492		



September 9, 2014	0.714	29750	496		
September 10, 2014	0.723	30125	502	718	1.15
September 11, 2014	0.718	29917	499		
September 12, 2014	0.712	29667	494	779	1.15
September 13, 2014	0.718	29917	499		
September 14, 2014	0.727	30292	505		
September 15, 2014	0.727	30292	505	777	1.08
September 16, 2014	0.716	29833	497		
September 17, 2014	0.712	29667	494	775	1.08
September 18, 2014	0.736	30667	511	766	
September 19, 2014	0.834	34750	579	776	
September 20, 2014	0.825	34375	573		1.09
September 21, 2014	0.843	35125	585		
September 22, 2014	0.865	36042	601		
September 23, 2014	0.840	35000	583		
September 24, 2014	0.725	30208	503		
September 25, 2014	0.592	24667	411	788	1.09
September 26, 2014	0.580	24167	403	799	1.17
September 27, 2014	0.622	25917	432		
September 28, 2014	0.686	28583	476		
September 29, 2014	0.588	24500	408	787	1.16
September 30, 2014	0.588	24500	408	784	1.16
October 1, 2014	0.547	22792	380		
October 2, 2014	0.563	23458	391	777	1.15
October 3, 2014	0.563	23458	391	782	1.15
October 4, 2014	0.572	23833	397		
October 5, 2014	0.580	24167	403		
October 6, 2014	0.530	22083	368	780	1.15
October 7, 2014	0.536	22333	372	780	1.15
October 8, 2014	0.532	22167	369	776	1.15
October 9, 2014	0.523	21792	363	794	1.17
October 10, 2014	0.528	22000	367		
October 11, 2014	0.532	22167	369		
October 12, 2014	0.538	22417	374		
October 13, 2014	0.530	22083	368		
October 14, 2014	0.529	22042	367	776	1.15
October 15, 2014	0.515	21458	358	778	1.15
October 16, 2014	0.495	20625	344		
October 17, 2014	0.499	20792	347		
October 18, 2014	0.524	21833	364		
October 19, 2014	0.533	22208	370		
October 20, 2014	0.512	21333	356	775	1.22
October 21, 2014	0.486	20250	338		
October 22, 2014	0.487	20292	338		
October 23, 2014	0.481	20042	334	783	1.22
October 24, 2014	0.487	20292	338		
October 25, 2014	0.500	20833	347		
October 26, 2014	0.501	20875	348		
October 27, 2014	0.496	20667	344		
October 28, 2014	0.504	21000	350		
October 29, 2014	0.522	21750	363	778	1.22
October 30, 2014	0.498	20750	346		

October 31, 2014	0.512	21333	356		
November 1, 2014	0.498	20750	346		
November 2, 2014	0.499	20792	347		
November 3, 2014	0.503	20958	349	801	1.25
November 4, 2014	0.508	21167	353	784	1.23
November 5, 2014	0.504	21000	350		
November 6, 2014	0.502	20917	349	785	1.22
November 7, 2014	0.508	21167	353		
November 8, 2014	0.510	21250	354		
November 9, 2014	0.508	21167	353		
November 10, 2014	0.508	21167	353	785	1.22
November 11, 2014	0.502	20917	349		
November 12, 2014	0.493	20542	342		
November 13, 2014	0.504	21000	350	788	1.22
November 14, 2014	0.498	20750	346		
November 15, 2014	0.501	20875	348		
November 16, 2014	0.498	20750	346		
November 17, 2014	0.506	21083	351	781	1.23
November 18, 2014	0.503	20958	349		
November 19, 2014	0.586	24417	407		
November 20, 2014	0.799	33292	555	785	1.22
November 21, 2014	0.511	21292	355	799	1.25
November 22, 2014	0.524	21833	364		
November 23, 2014	0.516	21500	358		
November 24, 2014	0.512	21333	356	777	1.15
November 25, 2014	0.507	21125	352		
November 26, 2014	0.524	21833	364		
November 27, 2014	0.520	21667	361		
November 28, 2014	0.518	21583	360	793	1.24
November 29, 2014	0.516	21500	358		
November 30, 2014	0.511	21292	355		
December 1, 2014	0.516	21500	358		
December 2, 2014	0.504	21000	350		
December 3, 2014	0.501	20875	348		
December 4, 2014	0.504	21000	350	779	1.22
December 5, 2014	0.514	21417	357		
December 6, 2014	0.516	21500	358		
December 7, 2014	0.527	21958	366		
December 8, 2014	0.523	21792	363	778	1.22
December 9, 2014	0.544	22667	378		
December 10, 2014	0.527	21958	366	777	1.22
December 11, 2014	0.525	21875	365		
December 12, 2014	0.522	21750	363		
December 13, 2014	0.527	21958	366		
December 14, 2014	0.529	22042	367		
December 15, 2014	0.527	21958	366		
December 16, 2014	0.531	22125	369		
December 17, 2014	0.529	22042	367		
December 18, 2014	0.525	21875	365		
December 19, 2014	0.517	21542	359		
December 20, 2014	0.529	22042	367		
December 21, 2014	0.540	22500	375		

December 22, 2014	0.525	21875	365		
December 23, 2014	0.524	21833	364	777	1.22
December 24, 2014	0.542	22583	376	781	1.22
December 25, 2014	0.534	22250	371		
December 26, 2014	0.554	23083	385		
December 27, 2014	0.552	23000	383		
December 28, 2014	0.552	23000	383		
December 29, 2014	0.549	22875	381		
December 30, 2014	0.538	22417	374	777	1.22
December 31, 2014	0.553	23042	384		

Cl Dose (mg/L)	24 hr Avg Residual (mg/L)	Cl Demand (mg/L)
155	266	147
0.49	0.15	0.21
0.99	0.36	0.69
0.59	0.21	0.38
0.55	0.21	0.34
0.55	0.21	0.34
0.55	0.19	0.36
0.55	0.19	0.36
0.54	0.22	0.32
0.55	0.19	0.36
	0.21	
0.54	0.20	0.34
0.54	0.20	0.34
	0.22	
	0.23	
	0.21	
0.54	0.23	0.31
0.50	0.22	0.28
0.50	0.23	0.27
0.50	0.23	0.27
	0.23	
	0.23	
	0.25	
0.49	0.22	0.27
0.50	0.23	0.27
0.50	0.24	0.26
	0.24	
	0.23	
	0.24	
	0.23	
	0.26	
	0.24	
	0.22	
	0.23	
	0.23	
	0.23	
	0.23	
0.50	0.22	0.28
0.50	0.22	0.28
	0.20	
	0.20	
	0.18	
	0.22	
	0.20	
	0.20	
	0.18	

0.50	0.24	0.26
0.50	0.22	0.28
	0.23	
	0.23	
	0.22	
	0.23	
0.50	0.24	0.26
	0.25	
	0.25	
0.50	0.25	0.25
0.50	0.24	0.26
0.50	0.25	0.25
0.50	0.24	0.26
0.50	0.20	0.30
	0.20	
0.50	0.23	0.27
	0.22	
	0.22	
	0.21	
0.51	0.20	0.31
	0.20	
	0.20	
	0.20	
	0.20	
	0.21	
	0.21	
	0.21	
	0.18	
0.50	0.19	0.31
	0.19	
	0.20	
	0.20	
	0.19	
	0.19	
	0.19	
	0.18	
	0.20	
	0.20	
0.56	0.19	0.37
	0.23	
0.50	0.21	0.29
	0.20	
	0.18	
	0.20	
	0.21	
	0.21	
	0.21	
	0.21	
	0.20	
0.50	0.18	0.32
	0.21	

	0.19	
0.50	0.18	0.32
0.50	0.18	0.32
0.50	0.23	0.27
	0.23	
0.50	0.27	0.23
	0.24	
	0.22	
0.50	0.26	0.24
0.50	0.16	0.34
0.50	0.24	0.26
0.51	0.21	0.30
0.50	0.19	0.31
0.50	0.23	0.27
0.50	0.20	0.30
	0.20	
0.50	0.20	0.30
	0.19	
0.50	0.21	0.29
	0.18	
	0.22	
0.50	0.20	0.30
0.50	0.19	0.31
0.50	0.18	0.32
0.50	0.19	0.31
0.50	0.16	0.34
0.50	0.19	0.31
0.51	0.18	0.33
0.50	0.16	0.34
	0.17	
0.50	0.19	0.31
	0.19	
0.50	0.23	0.27
0.50	0.21	0.29

0.50	0.24	0.26
0.50	0.24	0.26
0.50	0.16	0.34
0.50	0.16	0.34
0.50	0.21	0.29
0.51	0.18	0.33
	0.18	
0.50	0.20	0.30
0.50	0.22	0.28
0.50	0.24	0.26
0.50	0.24	0.26
0.50	0.22	0.28
0.50	0.22	0.28
0.50		
0.50	0.23	0.27
0.50		
0.50		
0.50	0.19	0.31
0.50	0.18	0.32
	0.18	
0.76	0.25	0.51
0.50	0.15	0.35
0.50	0.17	0.33
0.54	0.33	0.21
0.55	0.17	0.38
0.55	0.22	0.33
0.55	0.21	0.34
0.55	0.24	0.31
0.54	0.16	0.38
0.58	0.20	0.38
0.58	0.18	0.40
0.58	0.36	0.22
0.59	0.19	0.40
	0.19	
0.88	0.19	0.69
0.79	0.27	0.52

0.67	0.27	0.40
0.71	0.28	0.43
0.67	0.31	0.36
0.67	0.28	0.39
	0.28	
0.63	0.24	0.39
0.66	0.20	0.46
0.67	0.24	0.43
0.67	0.23	0.44
0.67	0.30	0.37
0.67	0.31	0.36
0.63	0.24	0.39
0.67	0.34	0.33
0.99	0.30	0.69
0.67	0.29	0.38
0.67	0.24	
0.67	0.26	0.41
0.67		0.67
0.67		0.67
0.67	0.21	0.46
0.67	0.20	0.47
0.67	0.22	0.45
0.67	0.23	0.44
0.67	0.18	0.49
0.67	0.26	0.41
0.67	0.19	0.48
0.67	0.19	0.48
	0.21	
0.67	0.20	0.47
	0.20	
	0.18	
0.67	0.23	0.44
0.67	0.19	0.48
	0.19	
0.67	0.28	0.39
	0.22	
0.67	0.18	



0.73	0.28	0.45
	0.30	
0.67	0.28	0.39
0.63	0.26	0.37
	0.27	
0.63	0.27	0.36
	0.23	
	0.20	
0.63	0.22	0.41
	0.18	
0.63	0.15	0.48
0.66	0.15	0.51
0.67	0.18	0.49
0.67	0.16	0.51
	0.17	
0.67	0.18	0.49
0.67	0.18	0.49
0.67	0.16	0.51
0.67	0.16	0.51
0.67	0.16	0.51
0.67	0.18	0.49
	0.17	
0.67	0.17	0.50
0.67	0.19	0.48
	0.18	
	0.17	
0.71	0.17	0.54
	0.17	
	0.17	
0.71	0.18	
	0.15	
	0.18	
0.71	0.18	0.53

	0.18	
0.71	0.20	0.51
0.71	0.20	0.51
	0.19	
0.70	0.20	0.51
	0.20	
0.70	0.18	
	0.20	
0.70	0.18	
0.71	0.20	0.51
	0.21	
	0.22	
0.70	0.22	0.48
0.71	0.21	0.50
0.67	0.20	0.47
	0.20	
	0.22	
0.71	0.22	0.49
	0.25	
	0.25	
	0.24	
0.71	0.23	0.48
	0.24	
0.71	0.23	0.48
	0.24	
0.71	0.22	0.49
	0.23	
	0.24	
	0.25	
	0.24	
	0.26	

	0.22	
0.71	0.19	0.52
0.71	0.22	0.49
	0.25	
	0.22	
0.71	0.25	0.46
	0.25	

Your C.O.C. #: 002397

**Attention: Jeff Westlake**

VILLAGE OF PEMBERTON  
 Box 100  
 7400 Prospect St  
 Pemberton, BC  
 CANADA V0N 2L0

**Report Date: 2014/07/31**

Report #: R1613594

Version: 1

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B463114**

**Received: 2014/07/24, 09:00**

Sample Matrix: DRINKING WATER  
 # Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity - Water	4	2014/07/25	2014/07/25	BBY6SOP-00026	SM2320B
Chloride by Automated Colourimetry	4	N/A	2014/07/24	BBY6SOP-00011	SM-4500-CI-
Colour (True)	4	N/A	2014/07/25	BBY6SOP-00021	SM-2120B
Conductance - water	4	N/A	2014/07/25	BBY6SOP-00026	SM-2510B
Fluoride	4	N/A	2014/07/25	BBY6SOP-00012	SM - 4500 F C
Hardness Total (calculated as CaCO3)	4	N/A	2014/07/31	BBY7SOP-00002	EPA 6020A
Mercury (Total) by CVAf	4	2014/07/29	2014/07/29	BBY7SOP-00015	BC MOE Lab Manual
Na, K, Ca, Mg, S by CRC ICPMS (total)	4	N/A	2014/07/31	BBY7SOP-00002	EPA 6020A
Elements by CRC ICPMS (total)	4	N/A	2014/07/30	BBY7SOP-00002	EPA 6020A
Nitrate + Nitrite (N)	4	N/A	2014/07/24	BBY6SOP-00010	SM 4500NO3-I
Nitrite (N) by CFA	4	N/A	2014/07/24	BBY6SOP-00010	EPA 353.2
Nitrogen - Nitrate (as N)	4	N/A	2014/07/25	BBY6SOP-00010	SM 4500NO3-I
pH Water (1)	4	N/A	2014/07/25	BBY6SOP-00026	SM-4500H+B
Sulphate by Automated Colourimetry	4	N/A	2014/07/24	BBY6SOP-00017	SM4500-SO42- E
Total Dissolved Solids (Filt. Residue)	4	2014/07/25	2014/07/26	BBY6SOP-00033	SM 2540C
Turbidity	4	N/A	2014/07/24	BBY6SOP-00027	SM - 2130B

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) The BC-MOE and APHA Standard Method require pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the BC-MOE/APHA Standard Method holding time.

**Encryption Key**

Please direct all questions regarding this Certificate of Analysis to your Project Manager.  
 Jared Rudek, Project Manager  
 Email: JRudek@maxxam.ca  
 Phone# (604) 734 7276

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

**DRINKING WATER PACKAGE WITH CV HG (DRINKING WATER)**

Maxxam ID					KE1672	KE1673		
Sampling Date								
COC Number					002397	002397		
	Units	Criteria A	Criteria B	Criteria C	INDUSTRIAL PARK	PEMBERTON WELL 1	RDL	QC Batch
<b>ANIONS</b>								
Nitrite (N)	mg/L	1	-	-	<0.0050	0.0076	0.0050	7577153
<b>Calculated Parameters</b>								
Total Hardness (CaCO <sub>3</sub> )	mg/L	-	-	-	22.1	41.2	0.50	7576024
Nitrate (N)	mg/L	10	-	-	0.045	<0.020	0.020	7576054
<b>Misc. Inorganics</b>								
Fluoride (F)	mg/L	1.5	-	-	0.024	0.011	0.010	7578440
Alkalinity (Total as CaCO <sub>3</sub> )	mg/L	-	-	-	17.6	34.8	0.50	7578765
Alkalinity (PP as CaCO <sub>3</sub> )	mg/L	-	-	-	<0.50	<0.50	0.50	7578765
Bicarbonate (HCO <sub>3</sub> )	mg/L	-	-	-	21.5	42.5	0.50	7578765
Carbonate (CO <sub>3</sub> )	mg/L	-	-	-	<0.50	<0.50	0.50	7578765
Hydroxide (OH)	mg/L	-	-	-	<0.50	<0.50	0.50	7578765
<b>Anions</b>								
Dissolved Sulphate (SO <sub>4</sub> )	mg/L	-	500	-	4.48	6.03	0.50	7577336
Dissolved Chloride (Cl)	mg/L	-	250	-	<0.50	20	0.50	7577325
<b>MISCELLANEOUS</b>								
True Colour	Col. Unit	-	15	-	<5.0	40.0	5.0	7577992
<b>Nutrients</b>								
Nitrate plus Nitrite (N)	mg/L	-	-	-	0.045	<0.020	0.020	7577142
<b>Physical Properties</b>								
Conductivity	uS/cm	-	-	-	53.5	152	1.0	7578768
pH	pH	-	6.5:8.5	-	7.37	6.79	N/A	7578767
<b>Physical Properties</b>								
Total Dissolved Solids	mg/L	-	500	-	28	118	10	7577907
Turbidity	NTU	see remark	see remark	see remark	0.17	3.78	0.10	7577256
<b>Elements</b>								
Total Mercury (Hg)	ug/L	1	-	-	<0.010	<0.010	0.010	7581739
<b>Total Metals by ICPMS</b>								
Total Aluminum (Al)	ug/L	-	-	100	18.3	17.1	3.0	7583158
Total Antimony (Sb)	ug/L	6	-	-	<0.50	<0.50	0.50	7583158
Total Arsenic (As)	ug/L	10	-	-	0.15	<0.10	0.10	7583158
Total Barium (Ba)	ug/L	1000	-	-	4.9	44.2	1.0	7583158
Total Boron (B)	ug/L	5000	-	-	<50	<50	50	7583158
Total Cadmium (Cd)	ug/L	5	-	-	<0.010	<0.010	0.010	7583158
Total Chromium (Cr)	ug/L	50	-	-	<1.0	<1.0	1.0	7583158
Total Cobalt (Co)	ug/L	-	-	-	<0.50	1.01	0.50	7583158
Total Copper (Cu)	ug/L	-	1000	-	4.68	6.48	0.20	7583158
RDL = Reportable Detection Limit N/A = Not Applicable								

Maxxam Job #: B463114  
 Report Date: 2014/07/31

VILLAGE OF PEMBERTON

**DRINKING WATER PACKAGE WITH CV HG (DRINKING WATER)**

Maxxam ID					KE1672	KE1673		
Sampling Date								
COC Number					002397	002397		
	Units	Criteria A	Criteria B	Criteria C	INDUSTRIAL PARK	PEMBERTON WELL 1	RDL	QC Batch
Total Iron (Fe)	ug/L	-	300	-	8.9	21700	5.0	7583158
Total Lead (Pb)	ug/L	10	-	-	0.50	0.38	0.20	7583158
Total Manganese (Mn)	ug/L	-	50	-	<1.0	354	1.0	7583158
Total Molybdenum (Mo)	ug/L	-	-	-	<1.0	<1.0	1.0	7583158
Total Nickel (Ni)	ug/L	-	-	-	<1.0	<1.0	1.0	7583158
Total Selenium (Se)	ug/L	10	-	-	<0.10	<0.10	0.10	7583158
Total Silver (Ag)	ug/L	-	-	-	<0.020	<0.020	0.020	7583158
Total Uranium (U)	ug/L	20	-	-	<0.10	<0.10	0.10	7583158
Total Vanadium (V)	ug/L	-	-	-	<5.0	<5.0	5.0	7583158
Total Zinc (Zn)	ug/L	-	5000	-	<5.0	14.0	5.0	7583158
Total Calcium (Ca)	mg/L	-	-	-	7.67	14.9	0.050	7576562
Total Magnesium (Mg)	mg/L	-	-	-	0.704	0.942	0.050	7576562
Total Potassium (K)	mg/L	-	-	-	0.487	1.82	0.050	7576562
Total Sodium (Na)	mg/L	-	200	-	1.42	6.79	0.050	7576562
Total Sulphur (S)	mg/L	-	-	-	<3.0	<3.0	3.0	7576562
RDL = Reportable Detection Limit								

**DRINKING WATER PACKAGE WITH CV HG (DRINKING WATER)**

Maxxam ID					KE1674	KE1675		
Sampling Date								
COC Number					002397	002397		
	Units	Criteria A	Criteria B	Criteria C	PEMBERTON WELL 2	PEMBERTON WELL 3	RDL	QC Batch
<b>ANIONS</b>								
Nitrite (N)	mg/L	1	-	-	<0.0050	<0.0050	0.0050	7577153
<b>Calculated Parameters</b>								
Total Hardness (CaCO <sub>3</sub> )	mg/L	-	-	-	73.0	22.6	0.50	7576024
Nitrate (N)	mg/L	10	-	-	0.022	0.116	0.020	7576054
<b>Misc. Inorganics</b>								
Fluoride (F)	mg/L	1.5	-	-	0.022	0.013	0.010	7578440
Alkalinity (Total as CaCO <sub>3</sub> )	mg/L	-	-	-	34.4	14.4	0.50	7578765
Alkalinity (PP as CaCO <sub>3</sub> )	mg/L	-	-	-	<0.50	<0.50	0.50	7578765
Bicarbonate (HCO <sub>3</sub> )	mg/L	-	-	-	41.9	17.5	0.50	7578765
Carbonate (CO <sub>3</sub> )	mg/L	-	-	-	<0.50	<0.50	0.50	7578765
Hydroxide (OH)	mg/L	-	-	-	<0.50	<0.50	0.50	7578765
<b>Anions</b>								
Dissolved Sulphate (SO <sub>4</sub> )	mg/L	-	500	-	19.0	8.05	0.50	7577336
Dissolved Chloride (Cl)	mg/L	-	250	-	35	4.7	0.50	7577325
<b>MISCELLANEOUS</b>								
True Colour	Col. Unit	-	15	-	10.0	5.0	5.0	7577992
<b>Nutrients</b>								
Nitrate plus Nitrite (N)	mg/L	-	-	-	0.022	0.116	0.020	7577142
<b>Physical Properties</b>								
Conductivity	uS/cm	-	-	-	241	70.6	1.0	7578768
pH	pH	-	6.5:8.5	-	7.24	6.93	N/A	7578767
<b>Physical Properties</b>								
Total Dissolved Solids	mg/L	-	500	-	171	50	10	7577907
Turbidity	NTU	see remark	see remark	see remark	0.52	<0.10	0.10	7577256
<b>Elements</b>								
Total Mercury (Hg)	ug/L	1	-	-	<0.010	<0.010	0.010	7581739
<b>Total Metals by ICPMS</b>								
Total Aluminum (Al)	ug/L	-	-	100	13.7	21.3	3.0	7583158
Total Antimony (Sb)	ug/L	6	-	-	<0.50	<0.50	0.50	7583158
Total Arsenic (As)	ug/L	10	-	-	0.17	<0.10	0.10	7583158
Total Barium (Ba)	ug/L	1000	-	-	45.3	16.0	1.0	7583158
Total Boron (B)	ug/L	5000	-	-	118	<50	50	7583158
Total Cadmium (Cd)	ug/L	5	-	-	0.017	0.018	0.010	7583158
Total Chromium (Cr)	ug/L	50	-	-	<1.0	<1.0	1.0	7583158
Total Cobalt (Co)	ug/L	-	-	-	0.62	<0.50	0.50	7583158
Total Copper (Cu)	ug/L	-	1000	-	0.45	18.2	0.20	7583158
RDL = Reportable Detection Limit N/A = Not Applicable								

Maxxam Job #: B463114  
 Report Date: 2014/07/31

VILLAGE OF PEMBERTON

**DRINKING WATER PACKAGE WITH CV HG (DRINKING WATER)**

Maxxam ID					KE1674	KE1675		
Sampling Date								
COC Number					002397	002397		
	Units	Criteria A	Criteria B	Criteria C	PEMBERTON WELL 2	PEMBERTON WELL 3	RDL	QC Batch
Total Iron (Fe)	ug/L	-	300	-	269	19.5	5.0	7583158
Total Lead (Pb)	ug/L	10	-	-	0.40	1.96	0.20	7583158
Total Manganese (Mn)	ug/L	-	50	-	145	3.4	1.0	7583158
Total Molybdenum (Mo)	ug/L	-	-	-	1.8	<1.0	1.0	7583158
Total Nickel (Ni)	ug/L	-	-	-	<1.0	<1.0	1.0	7583158
Total Selenium (Se)	ug/L	10	-	-	<0.10	<0.10	0.10	7583158
Total Silver (Ag)	ug/L	-	-	-	<0.020	<0.020	0.020	7583158
Total Uranium (U)	ug/L	20	-	-	<0.10	<0.10	0.10	7583158
Total Vanadium (V)	ug/L	-	-	-	<5.0	<5.0	5.0	7583158
Total Zinc (Zn)	ug/L	-	5000	-	23.3	<5.0	5.0	7583158
Total Calcium (Ca)	mg/L	-	-	-	26.5	8.33	0.050	7576562
Total Magnesium (Mg)	mg/L	-	-	-	1.67	0.447	0.050	7576562
Total Potassium (K)	mg/L	-	-	-	2.18	0.761	0.050	7576562
Total Sodium (Na)	mg/L	-	200	-	10.9	2.59	0.050	7576562
Total Sulphur (S)	mg/L	-	-	-	7.3	3.6	3.0	7576562
RDL = Reportable Detection Limit								



**GENERAL COMMENTS**

Criteria A, Criteria B, Criteria C: The guidelines that have been included in this report have been taken from the Canadian Drinking Water Quality Summary Table, August 2012.

Criteria A = Maximum Acceptable Concentration (MAC) / Criteria B = Aesthetic Objectives (AO) / Criteria C = Operational Guidance Values (OG)  
It is recommended to consult these guidelines when interpreting your data since there are non-numerical guidelines that are not included on this report.

**Turbidity Guidelines:**

1. Chemically assisted filtration: less than or equal to 0.3 NTU in 95% of the measurements or 95% of the time each month. Shall not exceed 1.0 NTU at any time.
2. Slow sand / diatomaceous earth filtration: less than or equal to 1.0 NTU in 95% of the measurements or 95% of the time each month. Shall not exceed 3.0 NTU at any time.
3. Membrane filtration: less than or equal to 0.1 NTU in 99% of the measurements made or at least 99% of the time each calendar month. Shall not exceed 0.3 NTU at any time.

**Results relate only to the items tested.**

Maxxam Job #: B463114  
 Report Date: 2014/07/31

VILLAGE OF PEMBERTON

**QUALITY ASSURANCE REPORT**

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7577142	Nitrate plus Nitrite (N)	2014/07/24	111	80 - 120	108	80 - 120	<0.020	mg/L	0.5	25
7577153	Nitrite (N)	2014/07/24	104	80 - 120	103	80 - 120	<0.0050	mg/L	NC	20
7577256	Turbidity	2014/07/24			100	80 - 120	<0.10	NTU		
7577325	Dissolved Chloride (Cl)	2014/07/24	94	80 - 120	105	80 - 120	<0.50	mg/L		
7577336	Dissolved Sulphate (SO4)	2014/07/24	NC	80 - 120	101	80 - 120	<0.50	mg/L		
7577907	Total Dissolved Solids	2014/07/26	101	80 - 120	92	80 - 120	<10	mg/L		
7577992	True Colour	2014/07/25					<5.0	Col. Unit	NC	20
7578440	Fluoride (F)	2014/07/25	100	80 - 120	102	80 - 120	<0.010	mg/L		
7578765	Alkalinity (PP as CaCO3)	2014/07/25					<0.50	mg/L		
7578765	Alkalinity (Total as CaCO3)	2014/07/25	NC	80 - 120	92	80 - 120	<0.50	mg/L		
7578765	Bicarbonate (HCO3)	2014/07/25					<0.50	mg/L		
7578765	Carbonate (CO3)	2014/07/25					<0.50	mg/L		
7578765	Hydroxide (OH)	2014/07/25					<0.50	mg/L		
7578767	pH	2014/07/25			101	97 - 103				
7578768	Conductivity	2014/07/25			100	80 - 120	1.2 ,RDL=1.0	uS/cm		
7581739	Total Mercury (Hg)	2014/07/29	95	80 - 120	94	80 - 120	<0.010	ug/L	NC	20
7583158	Total Aluminum (Al)	2014/07/30	105	80 - 120	105	80 - 120	<3.0	ug/L		
7583158	Total Antimony (Sb)	2014/07/30	108	80 - 120	104	80 - 120	<0.50	ug/L		
7583158	Total Arsenic (As)	2014/07/30	NC	80 - 120	100	80 - 120	<0.10	ug/L		
7583158	Total Barium (Ba)	2014/07/30	NC	80 - 120	102	80 - 120	<1.0	ug/L		
7583158	Total Boron (B)	2014/07/30					<50	ug/L		
7583158	Total Cadmium (Cd)	2014/07/30	104	80 - 120	103	80 - 120	<0.010	ug/L		
7583158	Total Chromium (Cr)	2014/07/30	101	80 - 120	100	80 - 120	<1.0	ug/L		
7583158	Total Cobalt (Co)	2014/07/30	99	80 - 120	101	80 - 120	<0.50	ug/L		
7583158	Total Copper (Cu)	2014/07/30	95	80 - 120	100	80 - 120	<0.20	ug/L		
7583158	Total Iron (Fe)	2014/07/30	NC	80 - 120	104	80 - 120	<5.0	ug/L		
7583158	Total Lead (Pb)	2014/07/30	101	80 - 120	101	80 - 120	<0.20	ug/L		
7583158	Total Manganese (Mn)	2014/07/30	NC	80 - 120	100	80 - 120	<1.0	ug/L		
7583158	Total Molybdenum (Mo)	2014/07/30	NC	80 - 120	98	80 - 120	<1.0	ug/L		
7583158	Total Nickel (Ni)	2014/07/30	96	80 - 120	99	80 - 120	<1.0	ug/L		
7583158	Total Selenium (Se)	2014/07/30	101	80 - 120	96	80 - 120	<0.10	ug/L		
7583158	Total Silver (Ag)	2014/07/30	100	80 - 120	93	80 - 120	<0.020	ug/L		
7583158	Total Uranium (U)	2014/07/30	107	80 - 120	101	80 - 120	<0.10	ug/L		

Maxxam Job #: B463114  
 Report Date: 2014/07/31

VILLAGE OF PEMBERTON

**QUALITY ASSURANCE REPORT(CONT'D)**

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7583158	Total Vanadium (V)	2014/07/30	103	80 - 120	98	80 - 120	<5.0	ug/L		
7583158	Total Zinc (Zn)	2014/07/30	112	80 - 120	104	80 - 120	<5.0	ug/L		

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).



Burnaby: 4606 Canada Way, Burnaby, BC V5G 1K5 Ph: (604) 734-7276 Fax: (604) 731-2386, Toll Free: (800) 665-8566

DRINKING WATER SUBMISSION CHAIN OF CUSTODY RECORD

Maxxam Job #: B463114

COC #: 002397

002397

Page: of

Invoice To: Require Report? Yes No

Report To:

Company Name: VILLAGE OF PEMBERTON
Contact Name: JEFF WESTLAKE
Address: PO BOX 100 PEMBERTON B.C. V0N 2L0
Phone / Fax#: Ph: 604-894-6125 Fax:
E-mail: jwestlake@pemberton.ca

Company Name: SAME
Contact Name:
Address:
Phone / Fax#: Ph: Fax:
E-mail:

Table with 2 columns: Label (PO #, Quotation #, Project #, Proj. Name, Location, Sampled by) and Value

SERVICE REQUESTED:

- Regular Turn Around Time (TAT) (5 days for most tests)
RUSH (Please contact the lab)
1 Day 2 Day 3 Day

Date Required:

SPECIAL INSTRUCTIONS:

Return Cooler Ship Sample Bottles (please specify)

Table with 5 columns: Sample Identification, Lab Identification, Water Type, Date/Time Sampled, and 3 columns for test results (Drinking Water Package, Total Coliform, Number of Containers)

Are the samples from a drinking water source? YES NO
Does the water source supply multiple households? YES NO
Are individuals drinking this water? YES NO

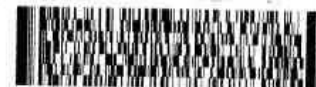
- FRASER HEALTH AUTHORITY
VANCOUVER ISLAND HEALTH AUTHORITY
INTERIOR HEALTH AUTHORITY
NORTHERN HEALTH AUTHORITY
VANCOUVER COASTAL HEALTH AUTHORITY - check any areas below if applicable

Coast Garibaldi MHO: 604-885-8708 and select one of the DWO below

- Powell River: 604-485-3335 Sechelt Area: 604-885-8711
Sea to Sky (Howe Sound): 604-815-6841 or 604-892-2293 ext. 273

North Shore MHO: 604-983-6751 / 604-983-6813 and select one of the DWO below

- Bowen Island, Lions Bay, Bella Bella: 604-904-6200 ext. 1265
Mount Seymour, Indian Arm, Bella
Grouse Mountain and Municipal Sy



B463114

Table for Chain of Custody with columns: Relinquished By, Date, Time, Received by, Date, Time, Temperature on Receipt, Custody Seal, Yes, No, N/A

BBY FOD-00077R3

Maxxam Success Through Science



DRINKING WATER SUBMISSION CHAIN OF CUSTODY RECORD

Maxxam Job #: **B463114**

COC #: **002397**

Page: **1** of **1**

Invoice To: Require Report? Yes  No

Report To:

Company Name: **VILLAGE OF PEMBERTON**  
Contact Name: **JEFF WESTLAKE**  
Address: **PO BOX 100 PEMBERTON BC V0N 2L0**  
Phone / Fax#: **Ph: 604-894-6175 Fax:**  
E-mail: **jwestlake@peberton.ca**

Company Name: **SAME**  
Contact Name:  
Address:  
Phone / Fax#: **Ph: PC: Fax:**  
E-mail:

PO #:   
Quotation #:   
Project #:   
Proj. Name:   
Location:   
Sampled by:

SERVICE REQUESTED:

- Regular Turn Around Time (TAT) (5 days for most tests)
- RUSH (Please contact the lab)
  - 1 Day  2 Day  3 Day

Date Required: **07/24/14**

SPECIAL INSTRUCTIONS:

Return Cooler  Ship Sample Bottles (please specify)

Drinking Water Package (includes total metals, total coliform & E. coli)  
Total Coliform and E. coli  
Number of Containers

	Sample Identification	Lab Identification	Water Type	Date/Time Sampled	Drinking Water Package (includes total metals, total coliform & E. coli)	Total Coliform and E. coli	Number of Containers
1	INDUSTRIAL PARK	KE1672			X		
2	PEMBERTON WELL 1	KE1673			X		
3	PEMBERTON WELL 2	KE1674			X		
4	PEMBERTON WELL 3	KE1675			X		
5							
6							

Are the samples from a drinking water source? YES  NO   
Does the water source supply multiple households? YES  NO   
Are individuals drinking this water? YES  NO

Please check the region where the samples were collected from:  
MHO = Medical Health Officer; DWO = Drinking Water Officer

- FRASER HEALTH AUTHORITY  
MHO: 604-527-4806; DWO: 604-870-7900 or 1-866-749-7900
- VANCOUVER ISLAND HEALTH AUTHORITY  
MHO: 1-800-204-6166; DWO: 250-755-6215
- INTERIOR HEALTH AUTHORITY  
MHO: 1-866-748-1691; DWO: 250-851-7338
- NORTHERN HEALTH AUTHORITY  
MHO: 250-565-7424 or 250-565-2000; DWO: 250-565-2150
- VANCOUVER COASTAL HEALTH AUTHORITY - check any areas below if applicable  
MHO: 604-527-4893; DWO: 604-983-6751

Coast Garibaldi MHO: 604-885-8708 and select one of the DWO below

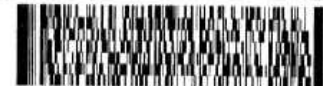
- Powell River: 604-485-3335  Sechelt Area: 604-885-8711
- Sea to Sky (Howe Sound): 604-815-6841 or 604-892-2293 ext. 273

North Shore MHO: 604-983-6751 / 604-983-6813 and select one of the DWO below

- Bowen Island, Lions Bay, Bella Bella: 604-904-6200 ext. 1265
- Mount Seymour, Indian Arm, Bella Coola, Anahim Lake: 604-904-6457
- Grouse Mountain and Municipal Systems: 604-904-6200 ext. 1264

Print name and sign			Print name and sign (laboratory use only)			Laboratory Use Only					
*Relinquished By:	Date (yy/mm/dd):	Time (24hr):	Received by:	Date (yy/mm/dd):	Time (24hr):	Time Sensitive	Temperature on Receipt (°C)	Custody Seal	Yes	No	N/A
JEFF WESTLAKE	14/07/23	10:30	LABORATOR	14/07/24	09:30	<input type="checkbox"/>	A) 9 B) 10 C) 10	Present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
						<input type="checkbox"/>	Just sampled & rec'd on ice:	Intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

\*IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORDS. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.



Appendix 3

Pemberton Weekly Chlorine and pH Levels				Appendix 3	
<b>Chlorine in mg/L</b>					
<b>Sample Station</b>					
<b>Date</b>	7-Jan-14	14-Jan-14	21-Jan-14	28-Jan-14	
SCADA	0.19	0.23	0.22		
Firehall	0.19	0.27	0.17	0.22	
Collins Rd	n/a	0.16	n/a		
Pem. Meadows Rd	n/a	0.20	n/a		
Pem. Farm Rd	n/a	0.19	n/a		
Urdal	n/a	0.32	n/a		
Oak St	0.34	0.30	0.23	0.27	
Village Office	0.05	0.02	0.03	0.00	
Health Centre	0.31	0.29	0.31	0.17	
Treatment Plant	0.11	0.00	0.07	0.13	
Plateau	0.31	0.24	0.19	0.24	
<b>pH</b>					
<b>Sample Station</b>					
<b>Date</b>	7-Jan-14	14-Jan-14	21-Jan-14	28-Jan-14	
Collins Rd	n/a	5.95/14.9	n/a		
Pem. Meadows Rd	n/a	6.01/16.00	n/a		
Pem. Farm Rd	n/a	6.38/16.2	n/a		
Urdal	n/a	6.38/15.9	n/a		
Oak St	6.08/9.70	6.44/17.2	6.67/4.6	6.39/13.6	
Village Office	6.06/9.10	6.37/17.00	6.98/7.3	6.27/16.3	
Health Centre	6.08/10	6.45/17.40	6.48/7.3	6.37/16.1	
Treatment Plant	6.31/14.8	6.44/14.2	6.48/15.2	5.91/14.8	
Plateau	6.08/9.2	6.22/14.80	6.71/4.9	6.38/14.6	
<b>Chlorine in mg/L</b>					
<b>Sample Station</b>					
<b>Date</b>	12-Feb-14	19-Feb-14	25-Feb-14		
SCADA		0.24			
Firehall	0.18		0.22		
Collins Rd	n/a				
Pem. Meadows Rd	n/a				
Pem. Farm Rd	n/a				
Urdal	n/a				
Oak St	0.26	0.23			
Village Office	0.12	0.00	0.12		
Health Centre	0.18	0.18	0.27		

	Treatment Plant	0.11	0.02	0.04		
	Plateau	0.21	0.21	0.27		
	<b>pH</b>					
	<b>Sample Station</b>					
	<b>Date</b>	12-Feb-14	19-Feb-14	25-Feb-14		
	Firehall			6.37/12.8		
	Collins Rd	n/a				
	Pem. Meadows Rd	n/a				
	Pem. Farm Rd	n/a				
	Urdal	n/a				
	Oak St	6.42/14.2	6.27/14.8			
	Village Office	6.13/14.3	6.51/13.8	6.43/13.0		
	Health Centre	6.38/12.5	6.49/13.5	6.23/12.8		
	Treatment Plant	6.22/15.4	6.26/14.9	6.28/13.2		
	Plateau	6.10/13.5	6.36/13.6	6.1/12.6		
	<b>Chlorine in mg/L</b>					
	<b>Sample Station</b>					
	<b>Date</b>	5-Mar-14				
	SCADA					
	Firehall	0.17				
	Collins Rd					
	Pem. Meadows Rd					
	Pem. Farm Rd					
	Urdal Rd					
	Oak St	0.31				
	Village Office	0.07				
	Health Centre	0.30				
	Treatment Plant	0.09				
	Plateau	0.29				
	<b>pH</b>					
	<b>Sample Station</b>					
	<b>Date</b>	5-Mar-14				
	Firehall	6.38/8.5				
	Collins Rd					
	Pem. Meadows Rd					





					after sample	
	<b>Chlorine in mg/L</b>					
	<b>Sample Station</b>					
	<b>Date</b>	7-May-13	14-May-13	22-May-13	28-May-13	
	SCADA	0.20	0.15	0.16	0.20	
	Firehall	0.21	0.15	0.16	0.20	
	Collins Rd	0.15	0.14	0.07	0.13	
	Pem. Meadows Rd	0.18	0.13	0.11	0.18	
	Pem. Farm Rd	0.17	0.14	0.15	0.20	
	Urdal	0.20	0.13	0.20	0.24	
	Oak St	0.21	0.14	0.21	0.24	
	Village Office	0.06	0.02	0.07	0.06	
	Health Centre	0.18	0.17	0.20	0.24	
	Treatment Plant	0.03	0.02	0.06	0.02	
	Plateau	0.15	0.13	0.10	0.20	
	<b>pH/Temp in C</b>					
	<b>Sample Station</b>					
	<b>Date</b>	7-May-13	14-May-13	22-May-13	28-May-13	
	Collins Rd	5.84 / 15.5	6.65 / 16.6	6.36 / 9.9	6.37 / 17.3	
	Pem. Meadows Rd	5.87 / 15.3	6.20 / 17.4	6.48 / 9.9	6.62 / 16.4	
	Pem. Farm Rd	5.85 / 15.9	6.05 / 17.2	6.45 / 9.8	6.38 / 16.5	
	Urdal	5.82 / 16.0	6.65 / 16.6	6.56 / 9.9	6.34 / 16.7	
	Oak St	5.87 / 15.6	6.40 / 17.0	6.63 / 9.8	6.39 / 17.5	
	Village Office	5.85 / 15.7	6.61 / 18.1	6.39 / 9.9	6.37 / 18.1	
	Health Centre	6.38 / 14.3	6.03 / 16.9	6.61 / 10.5	6.38 / 17.7	
	Treatment Plant	5.32 / 15.1	5.91 / 16.9	5.98 / 16.6	6.369 / 15.9	
	Plateau	5.84 / 15.7	6.61 / 16.1	6.32 / 10.2	6.37 / 17.2	
	<b>Chlorine in mg/L</b>					
	<b>Sample Station</b>					
	<b>Date</b>	4-Jun-13	11-Jun-13	18-Jun-13	25-Jun-13	
	SCADA	0.20	0.19	0.15	0.17	
	Firehall	0.20	0.23	0.16	0.17	
	Collins Rd	0.18	0.23	0.20	n/a	
	Pem. Meadows Rd	0.25	0.20	0.14	0.02	



	Treatment Plant	0.12	0.11	0.16	0.01	
	Plateau	0.33	0.16	0.29	0.19	
	<b>pH/Temp in C</b>					
	<b>Sample Station</b>					
	<b>Date</b>	2-Jul-14	15-Jul-14	22-Jul-14	30-Jul-14	
	Firehall				6.54/17.1	
	Industrial Park	6.88/16.3	6.58/15.2	6.72/17.1	6.87/17.8	
	Collins Rd	6.62/16.3	6.43/16.3	6.59/17.7	6.49/17.8	
	Pem. Meadows Rd	6.62/14.9	6.56/15.5	6.63/15.1	6.46/17.9	
	Pem. Farm Rd	6.64/15.6	6.6/14.2	6.70/16.7	6.47/18.1	
	Urdal Rd	6.58/15.0	6.41/15.6	6.55/14.0	6.58/16.9	
	Oak St	6.7/15.8	6.63/16.3	6.55/18.0		
	Village Office	6.69/16.9	6.59/16.6	6.55/18.7		
	Health Centre		6.42/16.6	6.53/18.6	6.61/16.8	
	Treatment Plant	6.52/18.2	6.46/19.7	6.15/17.8	6.32/19.4	
	Plateau	6.69/15.1	6.57/14.6	6.66/15.0	6.50/17.2	
	<b>Chlorine in mg/L</b>					
	<b>Sample Station</b>					
	<b>Date</b>	6-Aug-14	12-Aug-14	19-Aug-14	27-Aug-14	
	Firehall	0.20		0.11		
	Industrial Park			0.05	0.01	
	Collins Rd	0.25	0.28	0.21	0.24	
	Pem. Meadows Rd	0.26	0.29	0.18	0.15	
	Pem. Farm Rd	0.39	0.29	0.16	0.33	
	Urdal	0.24	0.32	0.20	0.25	
	Oak St	0.27	0.36	0.18	0.28	
	Village Office	0.07	0.01	0.00	0.05	
	Plateau	0.23	0.26	0.23	0.24	
	Treatment Plant	0.00	0.27		0.14	
	Health Centre	0.32	0.29	0.18	0.20	
	<b>pH/Temp in C</b>					
	<b>Sample Station</b>					
	<b>Date</b>	6-Aug-14	12-Aug-14	19-Aug-14	27-Aug-14	
	Firehall					
	Industrial Park				6.52/18.3	

	Collins Rd	5.84/19.3	5.63/19.10		6.31/17.8	
	Pem. Meadows Rd	5.86/18.8	5.59/19.2		6.23/17.2	
	Pem. Farm Rd	5.86/18.8	5.62/19.6		6.35/16.9	
	Urdal	5.82/19.0	5.58/19.8		6.24/17.5	
	Oak St	5.81/19.4	5.61/19.2		6.30/17.5	
	Village Office	5.94/20.8	5.6/19.4		6.25/17.2	
	Plateau	5.95/18.3	5.57/19.3		6.29/17.5	
	Treatment Plant	5.85/17.3	6.14/22.8		6.05/17.8	
	Health Centre	5.95/18.3	5.62/20.6		6.27/18.6	
	<b>Chlorine in mg/L</b>					
	<b>Sample Station</b>					
	<b>Date</b>	2-Sep-14	9-Sep-14	17-Sep-13	23-Sep-14	30-Sep-14
	Firehall		0.31	0.30		
	Industrial Park	0.08	0.05	0.09	0.07	0.00
	Collins Rd	0.28	0.27	0.29	0.13	1.00
	Pem. Meadows Rd	0.14	0.24	0.25	0.10	0.13
	Pem. Farm Rd	0.23	0.31	0.09	0.16	0.13
	Urdal	0.38	0.33	0.34	0.25	0.25
	Oak St	0.39	0.39	0.36	0.26	0.22
	Village Office	0.01	0.01	0.01	0.05	0.03
	Plateau	0.23	0.30	0.30	0.09	0.10
	Treatment Plant	0.16	0.01	0.01	0.04	
	Health Centre		0.33	0.30	0.20	0.19
	<b>pH/Temp in C</b>					
	<b>Sample Station</b>					
	<b>Date</b>	2-Sep-14	9-Sep-14	17-Sep-13	23-Sep-14	30-Sep-14
	Firehall		6.21/19.7	6.3/18.4		
	Industrial Park	6.58/16.8	7.17/19.8	6.74/17.8	6.64/15.6	6.26
	Collins Rd	6.19/16.4	6.18/19.0	6.23/17.4	6.14/17.2	6.38
	Pem. Meadows Rd	6.21/17.1	6.17/19.2	6.31/17.0	6.2/17.1	5.97
	Pem. Farm Rd	6.28/17.5	6.27/19.1	6.39/17.9	6.26/17.0	6.85
	Urdal	6.35/17.2	6.17/18.9	6.37/18.6	6.14/17.3	6.85
	Oak St	6.16/17.9	6.23/18.7	6.3/17.2	6.09/17.4	6.39
	Village Office	6.22/16.3	6.3/196.0	6.31/18.5	6.27/17.1	5.89
	Plateau	6.29/16	6.18/18.7	6.32/17.8	6.19/17.4	6.12
	Treatment Plant`	6.27/18.1	6.15/20.2	6.36/19.9	6.08/21.2	
	Health Centre		6.17/18.9	6.14/17.6	6.13/18.2	6.6



	Plateau	0.15	0.22	0.23	0.24	
	Treatment Plant	0.00	0.05	0.03	0.11	
	Health Centre	0.23	0.31	0.39	0.30	
	<b>pH/Temp in C</b>					
	<b>Sample Station</b>					
	<b>Date</b>	Nov 4/14	Nov 12/14	Nov 19/14	Nov 26/14	
	Firehall			5.47/13.6		
	Industrial Park	6.73/13.1	6.12/14.7	5.73/14.0	6.03/10.6	
	Collins Rd	6.38/14.3		5.47/13.7	5.87/10.9	
	Pem. Meadows Rd	6.36/13.6		5.46/14.2	5.71/10.8	
	Pem. Farm Rd	6.36/12.9		5.47/13.9	5.70/11.1	
	Urdal	6.38/12.6			5.70/11.2	
	Oak St	6.36/13.1	5.84/14.6	5.44/13.8	5.71/11.6	
	Village Office	6.39/14.4	5.83/14.9	5.47/14.5	5.71/10.8	
	Plateau	6.35/12.1	5.89/14.6	5.47/14.2	5.70/11.3	
	Treatment Plant`	6.39/15.1	5.94/17.2	5.48/13.7	5.89/16.8	
	Health Centre	6.40/14.8	5.86/15.2	5.47/14.3	5.72/11.7	
	<b>Chlorine in mg/L</b>					
	<b>Sample Station</b>					
	<b>Date</b>	Dec 3/14	Dec 9/14	Dec 16/14	Dec 22/14	
	Firehall	0.34	0.35		0.30	
	Industrial Park	0.20	0.08	0.18	0.10	
	Collins Rd		0.24		0.29	
	Pem. Meadows Rd		0.31		0.38	
	Pem. Farm Rd		0.32		0.36	
	Urdal				0.38	
	Oak St	0.44	0.44	0.46	0.41	
	Village Office	0.04	0.27	0.37	0.07	
	Plateau	0.32	0.36	0.37	0.36	
	Treatment Plant	0.04	0.17	0.03	0.04	
	Health Centre	0.43	0.37	0.39		
	<b>pH/Temp in C</b>					
	<b>Sample Station</b>					
	<b>Date</b>	Dec 3/14	Dec 9/14	Dec 16/14	Dec 22/14	

	Firehall	5.65/12.3	5.96/13.4		5.58/12.9	
	Industrial Park	6.48/12.3	6.49/13.5	6.46/15.8	6.77/13.4	
	Collins Rd		5.92/13.6		5.56/13.2	
	Pem. Meadows Rd			5.92/13.6	5.57/12.7	
	Pem. Farm Rd			6.00/13.5	5.49/12.1	
	Urdal				5.56/13.0	
	Oak St	5.79/12.5	5.97/13.4	6.11/15.2	5.53/12.4	
	Village Office	5.83/12.6	5.94/14.0	6.12/15.1	5.56/13.2	
	Plateau	5.79/12.0	5.99/13.3	6.04/14.7	5.52/12.5	
	Treatment Plant`	5.92/14.1	6.11/17.2	5.92/16.2	5.5/16	
	Health Centre	5.79/12.3	5.96/13.6	6.14/15.5		

Appendix 4

Your C.O.C. #: 002394

**Attention: Martin Kluffinger**VILLAGE OF PEMBERTON  
Box 100  
7400 Prospect St  
Pemberton, BC  
CANADA V0N 2L0**Report Date: 2014/07/31**

Report #: R1613941

Version: 1

**CERTIFICATE OF ANALYSIS****MAXXAM JOB #: B463124****Received: 2014/07/24, 09:00**Sample Matrix: Water  
# Samples Received: 3

Analyses	Quantity	Date		Laboratory Method	Analytical Method
		Extracted	Analyzed		
VOCs, VH, F1, LH in Water by HS GC/MS	1	2014/07/29	2014/07/30	BBY8-SOP-0009	EPA 8260C
VOCs, VH, F1, LH in Water by HS GC/MS	2	2014/07/30	2014/07/30	BBY8-SOP-0009	EPA 8260C

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

## Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Jared Rudek, Project Manager

Email: JRudek@maxxam.ca

Phone# (604) 734 7276

=====  
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



**VOLATILE ORGANICS BY GC-MS (WATER)**

Maxxam ID		KE1723	KE1724		
Sampling Date		2014/07/23	2014/07/23		
COC Number		002394	002394		
	Units	PEMBERTON WELL #2	PEMBERTON WELL #3	RDL	QC Batch
<b>Volatiles</b>					
Chloromethane	ug/L	<1.0	<1.0	1.0	7583324
Vinyl chloride	ug/L	<0.50	<0.50	0.50	7583324
Chloroethane	ug/L	<1.0	<1.0	1.0	7583324
Trichlorofluoromethane	ug/L	<4.0	<4.0	4.0	7583324
1,1,2Trichloro-1,2,2Trifluoroethane	ug/L	<2.0	<2.0	2.0	7583324
Dichlorodifluoromethane	ug/L	<2.0	<2.0	2.0	7583324
1,1-dichloroethene	ug/L	<0.50	<0.50	0.50	7583324
Dichloromethane	ug/L	<2.0	<2.0	2.0	7583324
trans-1,2-dichloroethene	ug/L	<1.0	<1.0	1.0	7583324
1,1-dichloroethane	ug/L	<0.50	<0.50	0.50	7583324
cis-1,2-dichloroethene	ug/L	<1.0	<1.0	1.0	7583324
Chloroform	ug/L	<1.0	<1.0	1.0	7583324
1,1,1-trichloroethane	ug/L	<0.50	<0.50	0.50	7583324
1,2-dichloroethane	ug/L	<0.50	<0.50	0.50	7583324
Carbon tetrachloride	ug/L	<0.50	<0.50	0.50	7583324
Benzene	ug/L	<0.40	<0.40	0.40	7583324
Methyl-tert-butylether (MTBE)	ug/L	<4.0	<4.0	4.0	7583324
1,2-dichloropropane	ug/L	<0.50	<0.50	0.50	7583324
cis-1,3-dichloropropene	ug/L	<1.0	<1.0	1.0	7583324
trans-1,3-dichloropropene	ug/L	<1.0	<1.0	1.0	7583324
Bromomethane	ug/L	<1.0	<1.0	1.0	7583324
1,1,2-trichloroethane	ug/L	<0.50	<0.50	0.50	7583324
Trichloroethene	ug/L	<0.50	<0.50	0.50	7583324
Chlorodibromomethane	ug/L	<1.0	<1.0	1.0	7583324
1,2-dibromoethane	ug/L	<0.20	<0.20	0.20	7583324
Tetrachloroethene	ug/L	<0.50	<0.50	0.50	7583324
Bromodichloromethane	ug/L	<1.0	<1.0	1.0	7583324
Toluene	ug/L	<0.40	<0.40	0.40	7583324
Ethylbenzene	ug/L	<0.40	<0.40	0.40	7583324
m & p-Xylene	ug/L	<0.40	<0.40	0.40	7583324
Bromoform	ug/L	<1.0	<1.0	1.0	7583324
Styrene	ug/L	<0.50	<0.50	0.50	7583324
o-Xylene	ug/L	<0.40	<0.40	0.40	7583324
Xylenes (Total)	ug/L	<0.40	<0.40	0.40	7583324
1,1,1,2-tetrachloroethane	ug/L	<0.50	<0.50	0.50	7583324
1,1,2,2-tetrachloroethane	ug/L	<0.50	<0.50	0.50	7583324
1,2-dichlorobenzene	ug/L	<0.50	<0.50	0.50	7583324
RDL = Reportable Detection Limit					

Maxxam Job #: B463124  
 Report Date: 2014/07/31

VILLAGE OF PEMBERTON

**VOLATILE ORGANICS BY GC-MS (WATER)**

Maxxam ID		KE1723	KE1724		
Sampling Date		2014/07/23	2014/07/23		
COC Number		002394	002394		
	Units	PEMBERTON WELL #2	PEMBERTON WELL #3	RDL	QC Batch
1,3-dichlorobenzene	ug/L	<0.50	<0.50	0.50	7583324
1,4-dichlorobenzene	ug/L	<0.50	<0.50	0.50	7583324
Chlorobenzene	ug/L	<0.50	<0.50	0.50	7583324
1,2,3-trichlorobenzene	ug/L	<2.0	<2.0	2.0	7583324
1,2,4-trichlorobenzene	ug/L	<2.0	<2.0	2.0	7583324
Hexachlorobutadiene	ug/L	<0.50	<0.50	0.50	7583324
<b>Surrogate Recovery (%)</b>					
1,4-Difluorobenzene (sur.)	%	100	104		7583324
4-Bromofluorobenzene (sur.)	%	91	95		7583324
D4-1,2-Dichloroethane (sur.)	%	94	90		7583324
RDL = Reportable Detection Limit					

Maxxam Job #: B463124  
 Report Date: 2014/07/31

VILLAGE OF PEMBERTON

### TRIHALOMETHANES (THM) IN WATER

<b>Maxxam ID</b>		KE1725		
<b>Sampling Date</b>		2014/07/23		
<b>COC Number</b>		002394		
	<b>Units</b>	<b>OAK ST</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Volatiles</b>				
Chloroform	ug/L	<1.0	1.0	7583324
Chlorodibromomethane	ug/L	<1.0	1.0	7583324
Bromodichloromethane	ug/L	<1.0	1.0	7583324
Bromoform	ug/L	<1.0	1.0	7583324
<b>Surrogate Recovery (%)</b>				
1,4-Difluorobenzene (sur.)	%	100		7583324
4-Bromofluorobenzene (sur.)	%	93		7583324
D4-1,2-Dichloroethane (sur.)	%	93		7583324
RDL = Reportable Detection Limit				

Maxxam Job #: B463124  
Report Date: 2014/07/31

VILLAGE OF PEMBERTON

### GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Job #: B463124  
 Report Date: 2014/07/31

VILLAGE OF PEMBERTON

**QUALITY ASSURANCE REPORT**

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7583324	1,4-Difluorobenzene (sur.)	2014/07/30	99	70 - 130	105	70 - 130	104	%		
7583324	4-Bromofluorobenzene (sur.)	2014/07/30	96	70 - 130	102	70 - 130	98	%		
7583324	D4-1,2-Dichloroethane (sur.)	2014/07/30	92	70 - 130	93	70 - 130	93	%		
7583324	1,1,1,2-tetrachloroethane	2014/07/30	98	70 - 130	111	70 - 130	<0.50	ug/L		
7583324	1,1,1-trichloroethane	2014/07/30	100	70 - 130	109	70 - 130	<0.50	ug/L		
7583324	1,1,2,2-tetrachloroethane	2014/07/30	99	70 - 130	113	70 - 130	<0.50	ug/L		
7583324	1,1,2Trichloro-1,2,2Trifluoroethane	2014/07/30					<2.0	ug/L		
7583324	1,1,2-trichloroethane	2014/07/30	105	70 - 130	117	70 - 130	<0.50	ug/L		
7583324	1,1-dichloroethane	2014/07/30	98	70 - 130	106	70 - 130	<0.50	ug/L		
7583324	1,1-dichloroethene	2014/07/30	127	70 - 130	100	70 - 130	<0.50	ug/L		
7583324	1,2,3-trichlorobenzene	2014/07/30	113	70 - 130	129	70 - 130	<2.0	ug/L		
7583324	1,2,4-trichlorobenzene	2014/07/30	100	70 - 130	129	70 - 130	<2.0	ug/L		
7583324	1,2-dibromoethane	2014/07/30	97	70 - 130	112	70 - 130	<0.20	ug/L		
7583324	1,2-dichlorobenzene	2014/07/30	100	70 - 130	114	70 - 130	<0.50	ug/L		
7583324	1,2-dichloroethane	2014/07/30	107	70 - 130	119	70 - 130	<0.50	ug/L		
7583324	1,2-dichloropropane	2014/07/30	111	70 - 130	120	70 - 130	<0.50	ug/L		
7583324	1,3-dichlorobenzene	2014/07/30	104	70 - 130	113	70 - 130	<0.50	ug/L		
7583324	1,4-dichlorobenzene	2014/07/30	104	70 - 130	115	70 - 130	<0.50	ug/L		
7583324	Benzene	2014/07/30	92	70 - 130	101	70 - 130	<0.40	ug/L		
7583324	Bromodichloromethane	2014/07/30	95	70 - 130	105	70 - 130	<1.0	ug/L	NC	30
7583324	Bromoform	2014/07/30	99	70 - 130	110	70 - 130	<1.0	ug/L	NC	30
7583324	Bromomethane	2014/07/30	98	60 - 140	112	60 - 140	<1.0	ug/L		
7583324	Carbon tetrachloride	2014/07/30	106	70 - 130	117	70 - 130	<0.50	ug/L		
7583324	Chlorobenzene	2014/07/30	96	70 - 130	107	70 - 130	<0.50	ug/L		
7583324	Chlorodibromomethane	2014/07/30	96	70 - 130	107	70 - 130	<1.0	ug/L	NC	30
7583324	Chloroethane	2014/07/30	79	60 - 140	87	60 - 140	<1.0	ug/L		
7583324	Chloroform	2014/07/30	102	70 - 130	112	70 - 130	<1.0	ug/L	NC	30
7583324	Chloromethane	2014/07/30	85	60 - 140	115	60 - 140	<1.0	ug/L		
7583324	cis-1,2-dichloroethene	2014/07/30	100	70 - 130	108	70 - 130	<1.0	ug/L		
7583324	cis-1,3-dichloropropene	2014/07/30	96	70 - 130	108	70 - 130	<1.0	ug/L		
7583324	Dichlorodifluoromethane	2014/07/30	98	60 - 140	111	60 - 140	<2.0	ug/L		
7583324	Dichloromethane	2014/07/30	107	70 - 130	120	70 - 130	<2.0	ug/L		
7583324	Ethylbenzene	2014/07/30	104	70 - 130	115	70 - 130	<0.40	ug/L		

Maxxam Job #: B463124  
 Report Date: 2014/07/31

VILLAGE OF PEMBERTON

**QUALITY ASSURANCE REPORT(CONT'D)**

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7583324	Hexachlorobutadiene	2014/07/30	112	70 - 130	112	70 - 130	<0.50	ug/L		
7583324	m & p-Xylene	2014/07/30	102	70 - 130	110	70 - 130	<0.40	ug/L		
7583324	Methyl-tert-butylether (MTBE)	2014/07/30	101	70 - 130	112	70 - 130	<4.0	ug/L		
7583324	o-Xylene	2014/07/30	103	70 - 130	114	70 - 130	<0.40	ug/L		
7583324	Styrene	2014/07/30	96	70 - 130	122	70 - 130	<0.50	ug/L		
7583324	Tetrachloroethene	2014/07/30	101	70 - 130	110	70 - 130	<0.50	ug/L		
7583324	Toluene	2014/07/30	103	70 - 130	111	70 - 130	<0.40	ug/L		
7583324	trans-1,2-dichloroethene	2014/07/30	102	70 - 130	113	70 - 130	<1.0	ug/L		
7583324	trans-1,3-dichloropropene	2014/07/30	90	70 - 130	101	70 - 130	<1.0	ug/L		
7583324	Trichloroethene	2014/07/30	104	70 - 130	115	70 - 130	<0.50	ug/L		
7583324	Trichlorofluoromethane	2014/07/30	119	60 - 140	129	60 - 140	<4.0	ug/L		
7583324	Vinyl chloride	2014/07/30	102	60 - 140	114	60 - 140	<0.50	ug/L		
7583324	Xylenes (Total)	2014/07/30					<0.40	ug/L		

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).



DRINKING WATER SUBMISSION CHAIN OF CUSTODY RECORD

Maxxam Job #:

B463124

COC #:

002394

Page:

of

Invoice To: Require Report? Yes  No

Company Name: VILLAGE OF PEMBERTON
Contact Name: JEFF WESTLAK
Address: PO Box 100 PEMBERTON BC
Phone / Fax#: Ph: 604-844-6135 Fax:
E-mail: jwestlake@peberton.ca

Company Name:
Contact Name:
Address:
Phone / Fax#:
E-mail:

Report To:

PO #:
Quotation #:
Project #:
Proj. Name:
Location:
Sampled by:

SERVICE REQUESTED:

- Regular Turn Around Time (TAT) (5 days for most tests)
RUSH (Please contact the lab)
1 Day 2 Day 3 Day

Date Required:

SPECIAL INSTRUCTIONS:

Return Cooler Ship Sample Bottles (please specify)

Drinking Water Package (includes total coliform, total coliform & E. coli)
Total Coliform and E. coli
Number of Containers

Table with columns: Sample Identification, Lab Identification, Water Type, Date/Time Sampled, Total Coliform and E. coli, Number of Containers. Rows include PEMBERTON WELLS, OAK ST.

Please check the region where the samples were collected from: MHO = Medical Health Officer; DWO = Drinking Water Officer

- FRASER HEALTH AUTHORITY
VANCOUVER ISLAND HEALTH AUTHORITY
INTERIOR HEALTH AUTHORITY
NORTHERN HEALTH AUTHORITY
VANCOUVER COASTAL HEALTH AUTHORITY - check any areas below if applicable

Coast Garibaldi MHO: 604-885-8708 and select one of the DWO below

- Powell River: 604-485-3335
Sechelt Area: 604-885-8711
Sea to Sky (Howe Sound): 604-815-6841 or 604-892-2293 ext. 273

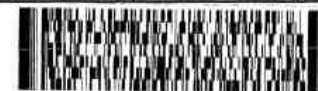
North Shore MHO: 604-983-6751 / 604-983-6813 and select one of the DWO below

- Bowen Island, Lions Bay, Bella Bella: 604-904-6200 ext. 1265
Mount Seymour, Indian Arm, Bella Coola, Anahim Lake: 604-904-6457
Grouse Mountain and Municipal Systems: 604-904-6200 ext. 1264

Are the samples from a drinking water source? YES X NO
Does the water source supply multiple households? YES X NO
Are individuals drinking this water? YES X NO

Chain of Custody Table with columns: Relinquished By, Date, Time, Received by, Date, Time, Temperature on Receipt, Custody Seal, Yes, No, N/A.

IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORDS. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.



Appendix 5

## Sample Range Report

Vancouver Coastal Health

**Facility Name:** Village of Pemberton  
**Date Range:** Jan 1 2014 to Dec 31 2014

**Operator** Jeff Westlake  
 P.O. Box 100  
 Pemberton, BC V0N 2L0

Sampling Site	Date Collected	Total Coliform	E. Coli	Fecal Coliform
<u>Oak Street At High School, Pemberton</u>				
	07/01/2014	L1	L1	
	14/01/2014	L1	L1	
	21/01/2014	L1	L1	
	28/01/2014	L1	L1	
	04/02/2014	L1	L1	
	12/02/2014	L1	L1	
	19/02/2014	L1	L1	
	25/02/2014	L1	L1	
	11/03/2014	L1	L1	
	18/03/2014	L1	L1	
	26/03/2014	L1	L1	
	02/04/2014	L1	L1	
	08/04/2014	L1	L1	
	16/04/2014	L1	L1	
	23/04/2014	L1	L1	
	29/04/2014	L1	L1	
	06/05/2014	L1	L1	
	14/05/2014	L1	L1	
	20/05/2014	L1	L1	
	28/05/2014	L1	L1	
	03/06/2014	L1	L1	
	17/06/2014	L1	L1	
	24/06/2014	L1	L1	
	02/07/2014	L1	L1	
	08/07/2014	L1	L1	
	15/07/2014	L1	L1	
	22/07/2014	L1	L1	
	30/07/2014	L1	L1	
	06/08/2014	L1	L1	
	12/08/2014	L1	L1	
	19/08/2014	L1	L1	
	27/08/2014	L1	L1	
	02/09/2014	L1	L1	
	09/09/2014	L1	L1	
	17/09/2014	L1	L1	
	23/09/2014	L1	L1	
	30/09/2014	L1	L1	
	07/10/2014	L1	L1	
	14/10/2014	L1	L1	



21/10/2014	L1	L1
28/10/2014	L1	L1
04/11/2014	L1	L1
12/11/2014	L1	L1
19/11/2014	L1	L1
25/11/2014	L1	L1
03/12/2014	L1	L1
09/12/2014	L1	L1
16/12/2014	L1	L1
22/12/2014	<u>L1</u>	<u>L1</u>
<b>Total Positive:</b>	<b>0</b>	<b>0</b>

Pemberton Plateau,  
Pemberton

07/01/2014	L1	L1
14/01/2014	L1	L1
21/01/2014	L1	L1
28/01/2014	L1	L1
04/02/2014	L1	L1
12/02/2014	L1	L1
19/02/2014	L1	L1
25/02/2014	L1	L1
04/03/2014	L1	L1
11/03/2014	L1	L1
18/03/2014	L1	L1
26/03/2014	L1	L1
02/04/2014	L1	L1
08/04/2014	L1	L1
16/04/2014	L1	L1
23/04/2014	L1	L1
29/04/2014	L1	L1
06/05/2014	L1	L1
14/05/2014	L1	L1
20/05/2014	L1	L1
28/05/2014	L1	L1
03/06/2014	L1	L1
17/06/2014	L1	L1
24/06/2014	L1	L1
02/07/2014	L1	L1
08/07/2014	L1	L1
15/07/2014	L1	L1
22/07/2014	L1	L1
30/07/2014	L1	L1
06/08/2014	L1	L1
12/08/2014	L1	L1
19/08/2014	L1	L1
27/08/2014	L1	L1
02/09/2014	L1	L1
09/09/2014	L1	L1
17/09/2014	L1	L1
23/09/2014	L1	L1
30/09/2014	L1	L1
07/10/2014	L1	L1
14/10/2014	L1	L1
21/10/2014	L1	L1

28/10/2014	L1	L1
04/11/2014	L1	L1
12/11/2014	L1	L1
19/11/2014	L1	L1
25/11/2014	L1	L1
03/12/2014	L1	L1
09/12/2014	L1	L1
16/12/2014	L1	L1
22/12/2014	<u>L1</u>	<u>L1</u>
<b>Total Positive:</b>	<b>0</b>	<b>0</b>

Pemberton Health  
Center, 1403  
Portage Road,  
Pemberton, B.C.

20/05/2014	L1	L1
28/05/2014	L1	L1
03/06/2014	L1	L1
24/06/2014	L1	L1
02/07/2014	L1	L1
08/07/2014	L1	L1
02/09/2014	L1	L1
17/09/2014	L1	L1
23/09/2014	L1	L1
30/09/2014	L1	L1
07/10/2014	L1	L1
14/10/2014	<u>L1</u>	<u>L1</u>
<b>Total Positive:</b>	<b>0</b>	<b>0</b>

Village Office, 7410  
Prospect

07/01/2014	L1	L1
14/01/2014	L1	L1
21/01/2014	L1	L1
28/01/2014	L1	L1
04/02/2014	L1	L1
12/02/2014	L1	L1
19/02/2014	L1	L1
25/02/2014	L1	L1
04/03/2014	L1	L1
11/03/2014	L1	L1
18/03/2014	L1	L1
26/03/2014	L1	L1
02/04/2014	L1	L1
08/04/2014	L1	L1
16/04/2014	L1	L1
23/04/2014	L1	L1
29/04/2014	L1	L1
06/05/2014	L1	L1
14/05/2014	L1	L1
20/05/2014	L1	L1
28/05/2014	L1	L1
03/06/2014	L1	L1
17/06/2014	L1	L1

24/06/2014	L1	L1
02/07/2014	L1	L1
08/07/2014	L1	L1
15/07/2014	L1	L1
22/07/2014	L1	L1
30/07/2014	L1	L1
06/08/2014	L1	L1
12/08/2014	L1	L1
19/08/2014	L1	L1
27/08/2014	L1	L1
02/09/2014	L1	L1
09/09/2014	L1	L1
17/09/2014	L1	L1
23/09/2014	L1	L1
30/09/2014	L1	L1
07/10/2014	L1	L1
14/10/2014	L1	L1
21/10/2014	L1	L1
28/10/2014	L1	L1
04/11/2014	L1	L1
12/11/2014	L1	L1
19/11/2014	L1	L1
25/11/2014	L1	L1
03/12/2014	L1	L1
09/12/2014	L1	L1
16/12/2014	L1	L1
22/12/2014	<u>L1</u>	<u>L1</u>
<b>Total Positive:</b>	<b>0</b>	<b>0</b>

Treatment  
Plant/Airport Rd.,  
Pemberton

07/01/2014	L1	L1
14/01/2014	L1	L1
21/01/2014	L1	L1
28/01/2014	L1	L1
04/02/2014	L1	L1
12/02/2014	L1	L1
19/02/2014	L1	L1
25/02/2014	L1	L1
04/03/2014	L1	L1
11/03/2014	L1	L1
18/03/2014	L1	L1
26/03/2014	L1	L1
02/04/2014	L1	L1
08/04/2014	L1	L1
16/04/2014	L1	L1
23/04/2014	L1	L1
29/04/2014	L1	L1
06/05/2014	L1	L1
14/05/2014	L1	L1
20/05/2014	L1	L1
28/05/2014	L1	L1
03/06/2014	L1	L1
17/06/2014	L1	L1

24/06/2014	L1	L1
02/07/2014	L1	L1
08/07/2014	L1	L1
15/07/2014	L1	L1
22/07/2014	L1	L1
30/07/2014	L1	L1
06/08/2014	L1	L1
12/08/2014	L1	L1
19/08/2014	L1	L1
27/08/2014	L1	L1
02/09/2014	L1	L1
09/09/2014	L1	L1
17/09/2014	L1	L1
23/09/2014	L1	L1
30/09/2014	L1	L1
07/10/2014	L1	L1
14/10/2014	L1	L1
21/10/2014	L1	L1
28/10/2014	L1	L1
04/11/2014	L1	L1
12/11/2014	L1	L1
19/11/2014	L1	L1
25/11/2014	L1	L1
03/12/2014	L1	L1
09/12/2014	L1	L1
16/12/2014	L1	L1
22/12/2014	<u>L1</u>	<u>L1</u>
<b>Total Positive:</b>	<b>0</b>	<b>0</b>

1403 Portage Road -  
audit site - PHN  
office tap.  
Pemberton Health  
Centre

07/01/2014	L1	L1
04/03/2014	L1	L1
11/03/2014	L1	L1
26/03/2014	L1	L1
02/04/2014	L1	L1
08/04/2014	L1	L1
17/06/2014	L1	L1
22/07/2014	L1	L1
30/07/2014	L1	L1
06/08/2014	L1	L1
12/08/2014	L1	L1
19/08/2014	L1	L1
27/08/2014	L1	L1
09/09/2014	L1	L1
21/10/2014	L1	L1
28/10/2014	L1	L1
04/11/2014	L1	L1
12/11/2014	L1	L1
25/11/2014	L1	L1
03/12/2014	L1	L1
09/12/2014	L1	L1

16/12/2014                      L1                      L1  
**Total Positive:**                      0                      0

Ad hoc /  
miscellaneous site,  
Pemberton

18/03/2014                      L1                      L1  
**Total Positive:**                      0                      0

Reservoir South,  
Pemberton

22/04/2014                      L1                      L1  
**Total Positive:**                      0                      0

**Result Values:**                      **E - estimated**                      **L - less than**                      **G - greater than**

Samples that contain total coliform:	0		0.00% of total
Samples that contain e. coli:	0		0.00% of total
Samples that contain fecal coliform:	0		0.00% of total
Number of consecutive samples that contain total coliform:	0		
Number of samples that contain total coliform in last 30 days:	0/19		
Total number of samples:	235		

**Comments:**

\_\_\_\_\_  
 Environmental Health Officer  
 Jun 26 2015

FOR FURTHER INFORMATION PLEASE CALL: Len Clarkson (604) 892-2293

## Sample Range Report

Vancouver Coastal Health

**Facility Name:** Pemberton Industrial Park Water System

**Date Range:** Jan 1 2014 to Dec 31 2014

**Operator** Jeff Westlake  
 Attn: Jeff Westlake Box 100  
 Pemberton, BC V0N 2L0

Sampling Site	Date Collected	Total Coliform	E. Coli	Fecal Coliform
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Sample Station at  
 Meter Chamber,  
 Pemberton Industrial  
 Park

14/01/2014	L1	L1
11/03/2014	L1	L1
18/03/2014	L1	L1
26/03/2014	L1	L1
08/04/2014	L1	L1
23/04/2014	L1	L1
28/05/2014	L1	L1
03/06/2014	L1	L1
17/06/2014	L1	L1
24/06/2014	L1	L1
02/07/2014	L1	L1
04/11/2014	L1	L1
12/11/2014	L1	L1
19/11/2014	L1	L1
25/11/2014	L1	L1
09/12/2014	L1	L1
16/12/2014	L1	L1
22/12/2014	<u>L1</u>	<u>L1</u>
<b>Total Positive:</b>	<b>0</b>	<b>0</b>

Yard Hydrant,  
 Pemberton Industrial  
 Park

06/05/2014	L1	L1
20/05/2014	L1	L1
08/07/2014	L1	L1
15/07/2014	L1	L1
22/07/2014	L1	L1
30/07/2014	L1	L1
06/08/2014	L1	L1
12/08/2014	L1	L1
19/08/2014	L1	L1
27/08/2014	L1	L1
02/09/2014	L1	L1
09/09/2014	L1	L1
23/09/2014	L1	L1

30/09/2014	L1	L1
07/10/2014	L1	L1
14/10/2014	L1	L1
21/10/2014	L1	L1
28/10/2014	L1	L1
03/12/2014	<u>L1</u>	<u>L1</u>
<b>Total Positive:</b>	<b>0</b>	<b>0</b>

**Result Values:**                      **E - estimated**                      **L - less than**                      **G - greater than**

Samples that contain total coliform:	0		0.00% of total
Samples that contain e. coli:	0		0.00% of total
Samples that contain fecal coliform:	0		0.00% of total
Number of consecutive samples that contain total coliform:	0		
Number of samples that contain total coliform in last 30 days:	0/4		
Total number of samples:	37		

**Comments:**

\_\_\_\_\_  
Environmental Health Officer  
Jun 26 2015

FOR FURTHER INFORMATION PLEASE CALL: Len Clarkson (604) 892-2293