

Summerside



WATER SYSTEM REPORT

2013

Prepared By

Municipal Services - City of Summerside

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Water System Report
January – December, 2013
City of Summerside, Prince Edward Island
Department of Municipal Services

Introduction

The City of Summerside began sampling and testing drinking water on a bi-weekly basis in the 1960’s. In 2001 Summerside established the present policy for water sampling. This policy ensures that the drinking water quality in Summerside is maintained according to the standards set out in the Guidelines for Canadian Drinking Water Quality. In unique situations which are not addressed by these Guidelines, the City is committed to follow the guidance of the PEI Chief Health Officer. This report fulfills the City’s regulated requirement for summarizing system water quality on an annual basis and is intended to be public information.

Summary

City officials have divided the water distribution system into 8 representative areas. Water samples (one from each area as well as one from each active well) are collected and analyzed for bacteria every two weeks. The number of sample locations and frequency of sampling was determined in accordance with the Guidelines for Canadian Drinking Water Quality. **Table 1** lists below the most commonly used sample locations for 2013.

Sample Location	Civic Address (Summerside, P.E.I.)	City Sampling Zone
St. Eleanor’s Community Center	1 West Drive	1
Illsley’s Feed Store	61 Mill Crescent	2
Granville Street Gas and Convenience	486 Granville Street	3
Lions Club Senior’s Residence	326 Brophy Avenue	4
Summerside Fire Hall #1	251 Foundry Street	5
Circle K Convenience Store	96 Water Street	6
Ben’s Bakery Outlet Store	686 Water Street East	7
Read’s Corner Tim Horton’s	820 Water Street East	8
City Water Source Location		
S1 Well	411 Northmarket Street	6
S7 Well	123 Walker Avenue	3
S10 Well	277 Greenwood Drive	2
SE4 Well	26 Briggs Street	1
Wilmot Well Field (5 wells)	855 Read Drive	8

Table 1: Water Sample Locations

The sampling zones listed in Table 1 are shown below in **Figure 1: Summerside Water Sample Areas**. These 8 sampling zones were selected according to the EPA Drinking Water and Wastewater Facility Operating Regulations. If any of the regular sampling locations are inaccessible to City staff on a scheduled sampling day, an alternate location from the same zone is sampled as a substitute.

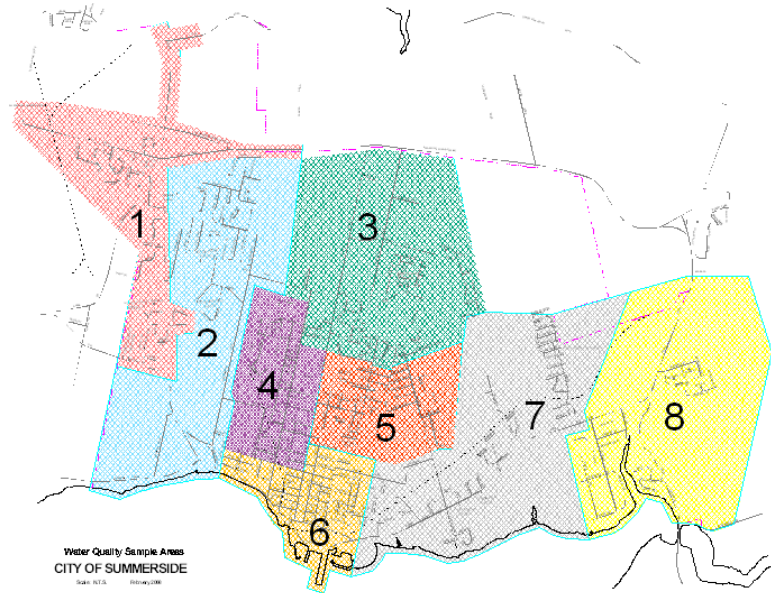


Figure 1: Summerside Water Sample Areas

Following collection, all water samples are sent to the Provincial Department of Environment Analytical Laboratory in Charlottetown. Each sample is tested for Total Coliforms DC and Escherichia Coli DC (E. Coli). In addition to the bacteria tests which are performed at the Provincial lab, the Free Chlorine Residual is analyzed and recorded by City Staff at the time of sample collection, as required by section 11(1)(e) of the Drinking Water and Wastewater Facility Operating Regulations.

Bacteria Testing Results

During the 2013 year 324 water samples from the Summerside distribution system and wells were tested for Bacteria at the P.E.I. Analytical Laboratory. Of these 318 samples were taken from the public drinking water system as regular testing. The remaining 6 samples were taken because of requests from customers for testing services. 100% of samples taken for customer requests passed the requirements for the Guidelines for Canadian Drinking Water.

During 2013 there were 11 samples which showed non-zero bacteria counts. Since none of the bacteria counts were of the E Coli type and all samples showed an acceptable level of chlorination, no boil orders were needed. All of these non-zero bacteria count tests resulted in resampling the same locations at which time zero bacteria counts were found. Note that staff believe the reoccurring bacteria counts at S8 Well were caused by a contaminated sample nozzle which was later replaced.

Chemistry Analysis

The EPA Drinking Water and Wastewater Facility Operating Regulations require all active wells to be subject to chemical analysis. A general chemical analysis of each well must be performed annually and a detailed analysis every three years. All water chemistry analysis for Summerside is performed at the Provincial Analytical Laboratory. The Guidelines for Canadian Drinking Water Quality set a Maximum Allowable Concentration (MAC) for various chemical contents of drinking water.

General chemistry analysis on water from all of Summerside's active wells was performed on March 20, 2014 and included in this report. As shown in the general chemistry spreadsheet, all wells contained water which falls within the Health Canada Guidelines for drinking water – that is to say that no water sample collected exceeded the Maximum Allowable Concentration (MAC) for any chemical component.

Summerside performs detailed chemical analysis on wells on a 3 year rotation as required by the province. These detailed chemical analysis were performed in 2011 and are due to be performed again in 2014.

During 2013 City of Summerside staff collected 73 samples for nitrate analysis. The Guidelines for Canadian Drinking Water Quality set 10 mg/L as the Maximum Allowable Concentration for Nitrates. All samples taken during 2013 from the Summerside system were within the allowable limits. The lowest Nitrate value measured for 2013 was 3.0 parts per million (ppm) and the highest value measured was 8.3 ppm.

Chlorination of Water System

Drinking water in the Summerside system is subject to only 1 type of treatment. Chlorine (as hypochlorite) is applied at each well. The goal of chlorination is to maintain a Free Chlorine Residual of at least 0.1 mg/L or higher at all points in the system at all times. This level of chlorination is the industry minimum standard for drinking water disinfection and is recommended by the Guidelines for Canadian Drinking Water Quality.

City Staff evaluate the free chlorine residual of each water sample used for bacteria testing. This means that on average 12 free chlorine residual tests are performed at the same locations as bacteria tests on a biweekly basis. Chlorine Residuals are also tested at each well 3 or 4 times

per week. During 2013 the lowest chlorine level measured was 0.10 mg/L and the highest was 0.99 mg/L. Therefore, all chlorine residuals were within acceptable levels.

Statistic Summary

Statistic	Value for 2013
Samples Tested for Bacteria	324
Bacteria Tests done at Customer Request	6 (100% pass rate)
Bacteria Tests with non-zero results	11
Bacteria Test Re-sample with 0 Bacteria Counts	11 (100% pass rate)
Nitrate Samples Tested	73 (100% pass rate)
General Chemistry Tests	9 – 100% pass rate
Highest Nitrate Concentration	8.3 ppm (10ppm allowable maximum)
Lowest Nitrate Concentration	3.2 ppm
Sampling Areas	8
Number of Active Wells in System	10
Highest Chlorine Residual Measured	0.99 mg/L
Lowest Chlorine Residual Measured	0.10 mg/L (0.1 minimum recommended)

Table 2: Statistic Summary for Summerside 2013

Table 2 summarizes statistics for the Summerside water system for 2013. Please note that 2 spreadsheets of test results (Bacteria testing, and Nitrate monitoring) are available on the City website. For help understanding results please feel free to contact the City.

Conclusion

The City of Summerside Municipal Works department continues to operate and maintain a safe water utility, delivering water which meets the Canadian Drinking Water Guidelines as set out by Health Canada. Although general chemistry samples were late in analysis (March 2014) all wells contained water meeting the Health Canada Guidelines and an automated scheduling system has been set in place to ensure future sample schedules are met. The public are welcome to contact the Municipal Services Director at 902-432-1272 with any questions.

Suggested Reading Material

1. Bacterial Drinking Water Analysis

This brochure was prepared by the PEI Department of Environment and explains how water samples are tested for bacteria on PEI. The handout also explains what types of bacteria are tested for and what the test results mean. <http://www.gov.pe.ca/photos/original/watertest.pdf>

2. Guidelines for Canadian Drinking Water Quality (Health Canada)

This detailed document lists the Maximum Allowable Concentration of numerous components which we test our water for.

<http://www.hc-sc.gc.ca/ewh-semt/water-eau/drink-potab/guide/index-eng.php>

Summerside

Free Chlorine Residual - Should be a minimum of 0.1 at all locations at all times

E. Coli. Bacteria Colony Count - required to be 0. If non-zero count is present water is deemed unfit for human consumption.

Total Coliforms Bacteria Colony Count - If 10 or less bacteria is present but not sufficient to regard water unfit for drinking. Water must be re-tested.

Background Growth Bacteria Colony Count - Must be below 200 at all times

Sample ID	Location	Date	Address	City Sample Zone	Free Chlorine Residual	Total Coliforms	E. Coli.	Background Growth
P130108063	St. Eleanor's Community Center	Jan-8-2013	1 West Drive	1	0.68	0	0	0
P130108062	Illsley's Feed Store	Jan-8-2013	61 Mill Cr.	2	0.61	0	0	0
P130108061	Granville Gas and Convenience Center	Jan-8-2013	486 Granville Street	3	0.51	0	0	0
P130108060	Lions Club Senior Housing	Jan-8-2013	326 Brophy St	4	0.47	0	0	0
P130108059	Summerside Firehall 1	Jan-8-2013	251 Foundry Street	5	0.53	0	0	0
P130108058	Circle K Water St	Jan-8-2013	96 Water Street	6	0.42	0	0	0
P130108057	Bens Bakery Outlet Store	Jan-8-2013	686 Water Street East	7	0.47	0	0	0
P130108056	Tim Hortons Esso	Jan-8-2013	820 Water Street East	8	0.40	0	0	0
P130108054	S1 Well	Jan-8-2013	411 Northmarket St	6	0.77	0	0	0
P130108055	S7 Well	Jan-8-2013	123 Walker Avenue	3	0.76	0	0	0
P130108050	S8 Well	Jan-8-2013	507 MacEwen Rd	3	0.55	12	0	>200
P130108052	S10 Well	Jan-8-2013	277 Greenwood Dr	2	0.53	0	0	0
P130108051	SE4 Well	Jan-8-2013	26 Briggs St	1	0.71	0	0	0
P130108053	Wilmot Wellfield Gallery	Jan-8-2013	855 Read Drive	8	0.77	0	0	0
P130123030	St. Eleanor's Community Center	Jan-23-2013	1 West Drive	1	0.65	0	0	0
P130123031	Illsley's Feed Store	Jan-23-2013	61 Mill Cr.	2	0.44	0	0	0
P130123032	Granville Gas and Convenience Center	Jan-23-2013	486 Granville Street	3	0.58	0	0	0
P130123033	Lions Club Senior Housing	Jan-23-2013	326 Brophy Street	4	0.45	0	0	0
P130123034	Summerside Firehall 1	Jan-23-2013	251 Foundry Street	5	0.40	0	0	0
P130123035	Circle K Water St	Jan-23-2013	96 Water Street	6	0.46	0	0	0
P130123036	Bens Bakery Outlet Store	Jan-23-2013	686 Water Street East	7	0.43	0	0	0
P130123037	Tim Hortons Esso	Jan-23-2013	820 Water Street East	8	0.57	0	0	0
P130123039	S1 Well	Jan-23-2013	411 Northmarket St	6	0.89	0	0	0
P130123038	S7 Well	Jan-23-2013	123 Walker Avenue	3	0.71	0	0	0
P130123041	S10 Well	Jan-23-2013	277 Greenwood Dr	2	0.56	0	0	0

P130123043	S8 Well	Jan-23-2013	507 MacEwen Road	3	0.87	0	0	0
P130123042	SE4	Jan-23-2013	26 Briggs St	1	0.73	0	0	0
P130123040	Wilmot Wellfield Gallery	Jan-23-2013	855 Read Drive	8	0.63	0	0	0
P130207045	St. Eleanor's Community Center	Feb-7-2013	1 West Drive	1	0.59	0	0	0
P130207044	Illsley's Feed Store	Feb-7-2013	61 Mill Cr	2	0.65	0	0	0
P130207043	Granville Gas and Convenience Center	Feb-7-2013	486 Granville Street	3	0.38	0	0	0
P130207042	Lions Club Seniors Appartments	Feb-7-2013	326 Brophy Street	4	0.56	0	0	0
P130207041	Summerside Firehall 1	Feb-7-2013	251 Foundry Street	5	0.48	0	0	0
P130207040	Circle K Water St	Feb-7-2013	96 Water Street	6	0.41	0	0	0
P130207039	Bens Bakery Outlet Store	Feb-7-2013	686 Water Street East	7	0.47	0	0	0
P130207038	Tim Hortons Esso	Feb-7-2013	820 Water Street East	8	0.47	0	0	0
P130207036	S1 Well	Feb-7-2013	411 Northmarket St	6	0.79	0	0	0
P130207037	S7 Well	Feb-7-2013	123 Walker Avenue	3	0.53	0	0	0
P130207034	S10 Well	Feb-7-2013	277 Greenwood Drive	2	0.49	0	0	0
P130207032	S8 Well	Feb-7-2013	507 MacEwen Road	3	0.73	0	0	125
P130207033	SE4 Well	Feb-7-2013	26 Briggs St	1	0.76	0	0	0
P130207035	Wilmot Wellfield Gallery	Feb-7-2013	855 Read Drive	8	0.60	0	0	0
P130219006	St. Eleanor's Community Center	Feb-19-2013	1 West Drive	1	0.47	0	0	0
P130219008	Illsley's Feed Store	Feb-19-2013	61 Mill Cr	2	0.38	0	0	0
P130219009	Granville Gas and Convenience Center	Feb-19-2013	486 Granville Street	3	0.37	0	0	0
P130219010	Lions Club Seniors Appartments	Feb-19-2013	326 Brophy Street	4	0.45	0	0	0
P130219011	Summerside Firehall 1	Feb-19-2013	251 Foundry Street	5	0.36	0	0	0
P130219012	Circle K Water St	Feb-19-2013	96 Water Street	6	0.44	0	0	0
P130219013	Bens Bakery Outlet Store	Feb-19-2013	686 Water Street East	7	0.39	0	0	0
P130219014	Tim Hortons Esso	Feb-19-2013	820 Water Street East	8	0.53	0	0	0
P130219016	S1 Well	Feb-19-2013	411 Northmarket St	6	0.67	0	0	0
P130219015	S7 Well	Feb-19-2013	123 Walker Avenue	3	0.68	0	0	0
P130219018	S10 Well	Feb-19-2013	277 Greenwood Drive	2	0.73	0	0	0
P130219019	SE4 Well	Feb-19-2013	26 Briggs Street	1	0.59	0	0	0
P130219017	Wilmot Wellfield Gallery	Feb-19-2013	855 Read Drive	8	0.60	0	0	0
P130305038	St. Eleanor's Community Center	Mar-5-2013	1 West Drive	1	0.74	0	0	0
P130305037	Illsley's Feed Service	Mar-5-2013	61 Mill Cr	2	0.53	0	0	0
P130305036	Granville Gas and Convenience Center	Mar-5-2013	486 Granville Street	3	0.37	0	0	0
P130305035	Lions Club Seniors Appartments	Mar-5-2013	326 Brophy Street	4	0.53	0	0	0
P130305034	Summerside Firehall 1	Mar-5-2013	251 Foundry Street	5	0.51	0	0	0
P130305033	Circle K Water St	Mar-5-2013	96 Water Street	6	0.43	0	0	0
P130305032	Bens Bakery Outlet Store	Mar-5-2013	686 Water Street East	7	0.31	0	0	0
P130305031	Tim Hortons Esso	Mar-5-2013	820 Water Street East	8	0.59	0	0	0
P130305025	S1 Well	Mar-5-2013	411 Northmarket St	6	0.66	0	0	0
P130305027	Provincial Auto	Mar-5-2013	255 MacWen Rd	6	0.27	0	0	0
P130305030	S7 Well	Mar-5-2013	123 Walker Avenue	3	0.57	0	0	0
P130305029	S10 Well	Mar-5-2013	277 Greenwood Drive	2	0.46	0	0	0

P130305028	SE4 Well	Mar-5-2013	26 Briggs Street	1	0.72	0	0	0
P130305026	Wilmot Wellfield Gallery	Mar-5-2013	855 Read Drive	8	0.63	0	0	0
P130319040	St. Eleanor's Community Center	Mar-19-2013	1 West Drive	1	0.99	0	0	0
P130319041	Illsley's Feeds Store	Mar-19-2013	61 Mill Cr	2	0.97	0	0	0
P130319042	Granville Gas and Convinience Center	Mar-19-2013	486 Granville Street	3	0.43	0	0	0
P130319043	Lions Club Seniors Appartments	Mar-19-2013	326 Brophy Street	4	0.98	0	0	0
P130319044	Summerside Firehall 1	Mar-19-2013	251 Foundry Street	5	0.39	0	0	0
P130319045	Circle K Water St	Mar-19-2013	96 Water Street	6	0.39	0	0	0
P130319046	Bens Bakery Outlet Store	Mar-19-2013	686 Water Street East	7	0.38	0	0	0
P130319047	Tim Hortons Esso	Mar-19-2013	820 Water Street East	8	0.48	0	0	0
P130319049	S1 Well	Mar-19-2013	411 Northmarket St	6	0.93	0	0	0
P130319048	S7 Well	Mar-19-2013	123 Walker Avenue	3	0.54	0	0	0
P130319051	S10 Well	Mar-19-2013	277 Greenwood Dr	2	0.48	0	0	0
P130319052	SE4 Well	Mar-19-2013	26 Briggs St	1	0.86	0	0	0
P130319050	Wilmot Wellfield Gallery	Mar-19-2013	855 Read Drive	8	0.63	0	0	0
P130402029	St. Eleanor's Community Center	April-2-2103	1 West Drive	1	0.69	0	0	0
P130402028	Illsley's Feeds Store	April-2-2103	61 Mill Cr	2	0.66	0	0	0
P130402027	Granville Gas and Convinience Center	April-2-2103	486 Granville Street	3	0.53	0	0	0
P130402026	Lions Club Seniors Appartments	April-2-2103	326 Brophy Street	4	0.73	0	0	0
P130402025	Summerside Firehall 1	April-2-2103	251 Foundry Street	5	0.35	0	0	0
P130402024	Circle K Water St	April-2-2103	96 Water Street	6	0.30	0	0	0
P130402023	Bens Bakery Outlet Store	April-2-2103	686 Water Street East	7	0.42	0	0	0
P130402022	Tim Hortons Esso	April-2-2103	820 Water Street East	8	0.28	0	0	0
P130402020	S1 Well	April-2-2103	411 Northmarket St	6	0.53	0	0	0
P130402021	S7 Well	April-2-2103	123 Walker Avenue	3	0.51	0	0	0
P130402016	S8 Well	April-2-2103	507 MacEwen Road	3	0.47	0	0	57
P130402018	S10 Well	April-2-2103	277 Greenwood Dr	2	0.61	0	0	0
P130402017	SE4 Well	April-2-2103	26 Briggs Street	1	0.71	0	0	0
P130402019	Wilmot Wellfield Gallery	April-2-2103	855 Read Drive	8	0.63	0	0	0
P130405007	S8 Well	April-4-2013	507 MacEwen road	3	0.42	0	0	0
P130415011	St. Eleanor's Community Center	April-15-2013	1 West Drive	1	0.79	0	0	0
P130415012	Illsleys Feed Store	April-15-2013	61 Mill Crescent	2	0.47	0	0	0
P130415013	Granville Gas and Convinience Center	April-15-2013	486 Granville Street	3	0.41	0	0	0
P130415025	Summerside Medical Center	April-15-2013	455 Granville st	3	0.22	0	0	0
P130415014	Lions Club Seniors Appartments	April-15-2013	326 Brophy Street	4	0.58	0	0	0
P130415023	Private Residence	April-15-2013	381 Chestnut Ave	4	0.25	0	0	0
P130415015	Summerside Firehall 1	April-15-2013	251 Foundry Street	5	0.46	0	0	0
P130415016	Circle K Water St	April-15-2013	96 Water Street	6	0.31	0	0	0
P130415017	Private Residence	April-15-2013	641 Murphy St	7	0.35	0	0	0
P130415018	Tim Hortons Esso	April-15-2013	820 Water Street East	8	0.41	0	0	0
P130415019	S1 Well	April-15-2013	411 Northmarket St	6	0.78	0	0	0

P130415021	S7 Well	April-15-2013	123 Walker Avenue	3	0.54	0	0	0
P130415024	S8 Well	April-15-2013	507 MacEwen Road	3	0.58	0	0	0
P130415022	SE4 Well	April-15-2013	26 Briggs Street	1	0.86	0	0	0
P130415020	Wilmot Wellfield Gallery	April-15-2013	855 Read Drive	8	0.63	0	0	0
P130430049	St. Eleanor's Community Center	April-30-2013	1 West Drive	1	0.75	0	0	0
P130430048	Ilsley's Feed Store	April-30-2013	61 Mill Cres	2	0.65	0	0	0
P130430047	Granville Gas and Convenience Center	April-30-2013	486 Granville Street	3	0.32	0	0	0
P130430046	Lions Club Seniors Appartments	April-30-2013	326 Brophy Street	4	0.59	0	0	0
P130430045	Summerside Fire Station 1	April-30-2013	251 Foundry Street	5	0.51	0	0	0
P130430044	Circle K Water St	April-30-2013	96 Water Street	6	0.4	0	0	0
P130430043	Bens Bakery Outlet Store	April-30-2013	686 Water Street East	7	0.32	0	0	0
P130430042	Tim Hortons Esso	April-30-2013	820 Water Street East	8	0.39	0	0	0
P130430041	S1 Well	April-30-2013	411 Northmarket St	6	0.65	0	0	0
P130430037	S8 Well	April-30-2013	507 MacEwen Road	3	0.54	0	0	150
P130430039	S10 Well	April-30-2013	277 Greenwood Drive	2	0.61	0	0	0
P130430038	SE4 Well	April-30-2013	26 Briggs Street	1	0.72	0	0	0
P130430040	Wilmot Wellfield Gallery	April-30-2013	855 Read Drive	8	0.67	0	0	0
P130514071	St. Eleanor's Community Center	May-14-2013	1 West Drive	1	0.49	0	0	0
P130514070	Ilsley's Feed Store	May-14-2013	61 Mill Cres	2	0.61	0	0	0
P130514069	Granville Gas and Convenience Center	May-14-2013	486 Granville Street	3	0.50	0	0	0
P130514068	Lions Club Seniors Appartments	May-14-2013	326 Brophy Street	4	0.49	0	0	0
P130514067	Summerside Fire Station 1	May-14-2013	251 Foundry Street	5	0.34	0	0	0
P130514066	Circle K Water St	May-14-2013	96 Water Street	6	0.39	0	0	0
P130514065	Bens Bakery Outlet Store	May-14-2013	686 Water Street East	7	0.39	0	0	0
P130514064	Tim Hortons Esso	May-14-2013	820 Water Street East	8	0.43	0	0	0
P130514062	S1 Well	May-14-2013	411 Northmarket Street	6	0.10	0	0	0
P130514063	S7 Well	May-14-2013	123 Walker Avenue	3	0.59	0	0	0
P130514058	S8 Well	May-14-2013	507 MacEwen Road	3	0.51	0	0	34
P130514060	S10 Well	May-14-2013	277 Greenwood Drive	2	0.61	0	0	0
P130514059	SE4 Well	May-14-2013	26 Briggs Street	1	0.77	0	0	0
P130514061	Wilmot Wellfield Gallery	May-14-2013	855 Read Drive	8	0.63	0	0	0
P130528090	St. Eleanor's Community Center	May-28-2013	1 West Drive	1	0.71	0	0	0
P130528089	Ilsley's Feed Store	May-28-2013	61 Mill Crescent	2	0.57	0	0	0
P130528088	Granville Gas and Convenience Center	May-28-2013	486 Granville Street	3	0.38	0	0	0
P130528087	Lions Club Seniors Appartments	May-28-2013	326 Brophy Street	4	0.47	0	0	0
P130528086	Summerside Fire Station 1	May-28-2013	251 Foundry Street	5	0.31	0	0	0
P130528083	Circle K Water St	May-28-2013	96 Water Street	6	0.39	1	0	6
P130528082	Bens Bakery Outlet Store	May-28-2013	686 Water Street East	7	0.36	0	0	0
P130528085	Tim Hortons Esso	May-28-2013	820 Water Street East	8	0.53	0	0	0
P130528081	S1 Well	May-28-2013	411 Northmarket Street	6	0.47	0	0	0
P130528084	S7 Well	May-28-2013	123 Walker Avenue	3	0.53	0	0	0
P130528077	S8 Well	May-28-2013	507 MacEwen Road	3	0.50	0	0	0

P130528079	S10 Well	May-28-2013	277 Greenwood Drive	2	0.60	0	0	0
P130528078	SE4 Well	May-28-2013	26 Briggs Street	1	0.73	0	0	0
P130528080	Wilmot Wellfield Gallery	May-28-2013	855 Read Drive	8	0.67	0	0	0
P130611079	St. Eleanor's Community Center	June-11-2013	1 West Drive	1	0.18	0	0	0
P130611080	Illsley's Feed Store	June-11-2013	61 Mill Crescent	2	0.66	0	0	0
P130611081	Granville Gas and Convenience Center	June-11-2013	486 Granville Street	3	0.53	0	0	0
P130611082	Lions Club Seniors Apartments	June-11-2013	326 Brophy Street	4	0.67	0	0	0
P130611083	Summerside Fire Station 1	June-11-2013	251 Foundry	5	0.38	0	0	0
P130611084	Circle K Water St	June-11-2013	96 Water Street	6	0.38	0	0	0
P130611085	Bens Bakery Outlet Store	June-11-2013	686 Water Street East	7	0.41	0	0	0
P130611086	Tim Hortons Esso	June-11-2013	820 Water Street East	8	0.53	0	0	0
P130611088	S7 Well	June-11-2013	123 Walker Avenue	3	0.39	0	0	0
P130611089	S10 Well	June-11-2013	277 Greenwood Drive	2	0.53	0	0	0
P130611090	SE4 Well	June-11-2013	26 Briggs Street	1	0.39	0	0	0
P130611091	S8	June-11-2013	507 MacEwen Road	3	0.63	0	0	0
P130611087	Wilmot Wellfield Gallery	June-11-2013	855 Read Drive	8	0.67	0	0	0
P130611092	Summerside Port	June-11-2013	162 Harbour Drive	6	0.16	0	0	0
P130625083	St. Eleanor's Community Center	June-25-2013	1 West Drive	1	0.57	0	0	0
P130625082	Illsley's Feed Store	June-25-2013	61 Mill	2	0.43	0	0	0
P130625081	Granville Gas and Convenience Center	June-25-2013	486 Granville Street	3	0.47	0	0	0
P130625080	Lions Club Seniors Apartments	June-25-2013	326 Brophy Street	4	0.47	0	0	0
P130625079	Summerside Fire Station 1	June-25-2013	251 Foundry	5	0.32	0	0	0
P130625078	Circle K Water St	June-25-2013	96 Water Street	6	0.28	0	0	0
P130625077	Bens Bakery Outlet Store	June-25-2013	686 Water Street East	7	0.24	0	0	0
P130625076	Tim Hortons Esso	June-25-2013	820 Water Street East	8	0.37	0	0	0
P130625074	S1 Well	June-25-2013	411 Northmarket St	6	0.22	1	0	0
P130625075	S7 Well	June-25-2013	123 Walker Avenue	3	0.69	0	0	0
P130625072	S10 Well	June-25-2013	277 Greenwood Drive	2	0.57	0	0	0
P130625071	SE4 Well	June-25-2013	26 Briggs Street	1	0.60	0	0	0
P130625070	S8 Well	June-25-2013	507 MacEwen	3	0.68	0	0	0
P130625073	Wilmot Wellfield Gallery	June-25-2013	855 Read Drive	8	0.49	0	0	0
P130718086	St. Eleanor's Community Center	July-18-2013	1 West Drive	1	0.44	0	0	0
P130718085	Illsley's Feed Store	July-18-2013	61 Mill cr	2	0.52	0	0	0
P130718084	Granville Gas and Convenience Center	July-18-2013	486 Granville Street	3	0.54	2	0	0
P130718083	Lions Club Seniors Apartments	July-18-2013	326 Brophy Street	4	0.58	0	0	0
P1307018082	Summerside Fire Station 1	July-18-2013	251 Foundry	5	0.13	0	0	0
P130718081	Circle K Water St	July-18-2013	96 Water Street	6	0.14	0	0	0
P130718080	Bens Bakery Outlet Store	July-18-2013	686 Water Street East	7	0.28	0	0	0
P130718079	Tim Hortons Esso	July-18-2013	820 Water Street East	8	0.42	0	0	0
P130718078	S7 Well	July-18-2013	123 Walker Avenue	3	0.83	0	0	0
P130718076	S10 Well	July-18-2013	277 Greenwood Drive	2	0.40	0	0	0

P130906005	Summerside Port Authority	Sept-5-2013	162 Harbor Dr	6		0	0	0
P130910001	Private Residence	Sept-9-2013	288 Greenwood Dr	2	0.54	0	0	0
P130916033	St. Eleanor's Community Center	Sept-16-2013	1 West Drive	1	0.52	0	0	0
P130916032	Illsley's Feed Store	Sept-16-2013	61 Mill Cr.	2	0.36	0	0	0
P130916031	Granville Gas and Convinience Center	Sept-16-2013	486 Granville st	3	0.39	0	0	0
P130916030	Lions Club Seniors Appartments	Sept-16-2013	326 Brophy Street	4	0.48	0	0	0
P130916028	Circle K Water Street	Sept-16-2013	96 Water Street	6	0.32	0	0	0
P130916026	Tim Hortons Esso	Sept-16-2013	820 Water Street East	8	0.44	0	0	0
P130916024	S1 Well	Sept-16-2013	411 North Market St	6	0.92	0	0	0
P130916025	S7 Well	Sept-16-2013	123 Walker Ave	3	0.63	0	0	0
P130916022	S10 Well	Sept-16-2013	277 Greenwood Drive	2	0.51	0	0	0
P130916021	SE4 Well	Sept-16-2013	26 Briggs St	1	0.59	0	0	0
P130916029	Summerside Fire Station 1	Sept-16-2013	251 Foundry Street	5	0.45	0	0	0
P130916027	Bens Bakery Outlet Store	Sept-16-2013	686 Water Street East	7	0.30	0	0	0
P130916023	Wilmot Wellfield Gallery	Sept-16-2013	855 Read Drive	8	0.48	0	0	0
P131001024	St. Eleanor's Community Center	Oct-1-2013	1 West Drive	1	0.22	0	0	0
P131001025	Illsley's Feed Store	Oct-1-2013	61 Mill Cr	2	0.47	0	0	0
P131001026	Granville Gas and Convinience Center	Oct-1-2013	486 Granville Street	3	0.36	0	0	0
P131001027	Lions Club Seniors Appartments	Oct-1-2013	326 Brophy Street	4	0.47	0	0	0
P131001028	Summerside Fire Station 1	Oct-1-2013	251 Foundry	5	0.28	0	0	0
P131001029	Circle K Water St	Oct-1-2013	96 Water Street	6	0.33	0	0	0
P131001030	Bens Bakery Outlet Store	Oct-1-2013	686 Water Street East	7	0.51	0	0	0
P131001031	Tim Hortons Esso	Oct-1-2013	820 Water Street East	8	0.53	0	0	0
P131001033	S1 Well	Oct-1-2013	411 North Market St	6	0.80	0	0	0
P131001032	S7 Well	Oct-1-2013	123 Walker Ave	3	0.64	0	0	0
P131001035	S10 Well	Oct-1-2013	277 Greenwood Drive	2	0.66	0	0	0
P131001036	SE4 Well	Oct-1-2013	26 Briggs Street	1		0	0	0
P131001034	Wilmot Wellfield Gallery	Oct-1-2013	855 Read Drive	8	0.66	0	0	0
P131022041	St. Eleanor's Community Center	Oct-22-2013	1 West Drive	1	0.30	0	0	0
P131022040	Pope Road Variety	Oct-22-2013	148 Pope Road	2	0.27	0	0	0
P131022039	Granville Gas and Convinience Center	Oct-22-2013	486 Granville Street	3	0.51	1	0	0
P131022038	Lions Club Seniors Appartments	Oct-22-2013	326 Brophy Street	4	0.43	0	0	0
P131022037	Summerside Fire Station 1	Oct-22-2013	251 Foundry St	5	0.33	0	0	0
P131022036	Circle K Water St	Oct-22-2013	96 Water Street	6	0.4	0	0	0
P131022035	Bens Bakery Outlet Store	Oct-22-2013	686 Water St East	8	0.22	0	0	0
P131022034	Tim Hortons Esso	Oct-22-2013	820 Water Street East	8	0.27	0	0	0
P131022032	S1 Well	Oct-22-2013	411 Northmarket St	6	0.71	0	0	0
P131022033	S7 Well	Oct-22-2013	123 Walker Ave	3	0.46	1	0	0
P131022030	S10 Well	Oct-22-2013	277 Greenwood Drive	2	0.68	0	0	0
P131022029	SE4 Well	Oct-22-2013	26 Briggs Street	1	0.55	0	0	0
P131022031	Wilmot Wellfield Gallery	Oct-22-2013	855 Read Drive	8	0.67	0	0	0

P131105055	St. Eleanor's Community Center	Nov-5-2013	1 West Drive	1	0.32	0	0	0
P131105054	Illsley's Feed Store	Nov-5-2013	148 Pope Road	2	0.22	0	0	0
P131105053	Granville Gas and Convinience Center	Nov-5-2013	486 Granville Street	3	0.41	0	0	0
P131105052	Lions Club Seniors Appartments	Nov-5-2013	326 Brophy Street	4	0.23	0	0	0
P131105051	Summerside Fire Station 1	Nov-5-2013	251 Foundry	5	0.36	0	0	0
P131105050	Circle K Water St	Nov-5-2013	96 Water Street	6	0.31	0	0	0
P131105049	Bens Bakery Outlet Store	Nov-5-2013	686 Water Street East	7	0.30	0	0	0
P131105048	Tim Hortons Esso	Nov-5-2013	820 Water Street East	8	0.43	0	0	0
P131105046	S1 Well	Nov-5-2013	411 Northmarket St	6	0.67	0	0	0
P131105047	S7 Well	Nov-5-2013	123 Walker Ave	3	0.51	0	0	0
P131105044	S10 Well	Nov-5-2013	277 Greenwood Drive	2	0.68	0	0	0
P131105043	SE4 Well	Nov-5-2013	26 Briggs Street	1	0.51	0	0	0
P131105045	Wilmot Wellfield Gallery	Nov-5-2013	855 Read Drive	8	0.67	0	0	0
P131119049	St. Eleanor's Community Center	Nov-19-2013	1 West Drive	1	0.61	0	0	0
P131119048	Illsley's Feed Store	Nov-19-2013	61 Mill Cr	2	0.35	0	0	0
P131119047	Granville Gas and Convinience Center	Nov-19-2013	486 Granville Street	3	0.38	0	0	0
P131119046	Lions Club Seniors Appartments	Nov-19-2013	326 Brophy Street	4	0.37	0	0	0
P131119045	Summerside Fire Station 1	Nov-19-2013	251 Foundry	5	0.38	0	0	0
P131119044	Circle K Water St	Nov-19-2013	96 Water Street	6	0.33	0	0	0
P131119043	Bens Bakery Outlet Store	Nov-19-2013	686 Water Street East	7	0.57	0	0	0
P131119042	Tim Hortons Esso	Nov-19-2013	820 Water Street East	8	0.51	0	0	0
P131119040	S1 Well	Nov-19-2013	411 Northmarket St	6	0.71	0	0	0
P131119041	S7 Well	Nov-19-2013	123 Walker Ave	3	0.63	0	0	0
P131119038	S10 Well	Nov-19-2013	277 Greenwood Drive	2	0.43	0	0	0
P131119037	SE4 Well	Nov-19-2013	26 Briggs Street	1	0.77	0	0	0
P131119039	Wilmot Wellfield Gallery	Nov-19-2013	855 Read Drive	8	0.67	0	0	0
P131203036	St. Eleanor's Community Center	Dec-3-2013	1 West Drive	1	0.54	0	0	0
P131203035	Illsley's Feed Store	Dec-3-2013	61 Mill Cr	2	0.50	0	0	0
P131203034	Granville Gas and Convinience Center	Dec-3-2013	486 Granville Street	3	0.48	0	0	1
P131203033	Lions Club Seniors Appartments	Dec-3-2013	326 Brophy Street	4	0.35	0	0	0
P131203032	Summerside Fire Station 1	Dec-3-2013	251 Foundry	5	0.26	0	0	0
P131203031	Circle K Water St	Dec-3-2013	96 Water Street	6	0.41	0	0	0
P131203030	Bens Bakery Outlet Store	Dec-3-2013	686 Water Street East	7	0.63	0	0	0
P131203029	Tim Hortons Esso	Dec-3-2013	820 Water Street East	8	0.57	0	0	0
P131203027	S1 Well	Dec-3-2013	411 Northmarket St	6	0.63	0	0	0
P131203028	S7 Well	Dec-3-2013	123 Walker Ave	3	0.54	0	0	0
P131203025	S10 Well	Dec-3-2013	277 Greenwood Drive	2	0.54	0	0	0
P131203024	SE4 Well	Dec-3-2013	26 Briggs Street	1	0.72	0	0	0
P131203026	Wilmot Wellfield Gallery	Dec-3-2013	855 Read Drive	8	0.68	0	0	0
P131217036	St. Eleanor's Community Center	Dec-17-2013	1 West Drive	1	0.56	0	0	0
P131217037	Illsley's Feed Store	Dec-17-2013	61 Mill Cr	2	0.49	0	0	0

P131217038	Granville Gas and Convenience Center	Dec-17-2013	486 Granville Street	3	0.45	0	0	0
P131217039	Lions Club Seniors Appartments	Dec-17-2013	326 Brophy Street	4	0.47	0	0	0
P131217040	Summerside Fire Station 1	Dec-17-2013	251 Foundry	5	0.52	0	0	0
P131217041	Circle K Water St	Dec-17-2013	96 Water Street	6	0.53	0	0	0
P131217042	Bens Bakery Outlet Store	Dec-17-2013	686 Water Street East	7	0.60	0	0	0
P131217043	Tim Hortons Esso	Dec-17-2013	820 Water Street East	8	0.61	0	0	0
P131217045	S1 Well	Dec-17-2013	411 Northmarket St	6	0.73	0	0	0
P131217044	S7 Well	Dec-17-2013	123 Walker Ave	3	0.56	0	0	0
P131217047	S10 Well	Dec-17-2013	277 Greenwood Drive	2	0.61	0	0	0
P131217048	SE4 Well	Dec-17-2013	26 Briggs Street	1	0.45	0	0	0
P131217046	Wilmot Wellfield Gallery	Dec-17-2013	855 Read Drive	8	0.67	0	0	0

Summerside

Guideline to Chemistry Analysis:
All units are parts per million unless otherwise stated

Sample ID	P140320019	P140320016	P140320020	P140320017	P140320018	P140320013	P140320013	P140320014	P140320015	P1210030025	P121106051
Location	S1 Northmarket Well	S7 Walker Av Well	S8 Heritage Court Well	S10 Greenwood Drive Well	SE4 Briggs St Well	W1	W2	W3	W4	W2 Well	Parkside
Date	5/20/2014	5/20/2014	5/20/2014	5/20/2014	5/20/2014	5/20/2014	5/20/2014	5/20/2014	5/20/2014	5/20/2014	5/20/2014
Address	411 North Market St	123 Walker Av	511 MacEwen Road	277 Greenwood Dr	26 Briggs St	855 Read Dr	855 Read Dr	855 Read Dr	855 Read Dr	855 Read	195 Summer
City Sample Zone	6	3	3	2	1	8	8	8	8	8	5
Alkalinity (CaCO ₃)	159	154	132	152	134	119	113	113	145	107	134
Chloride	154.3	190.1	40.8	171.9	79.8	19.7	25.7	19.2	42.7	17.0	88.2
Copper dis	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	5ppb	54ppb
Calcium dis	119.6	127.7	67.9	129.1	80.7	62.9	63.6	67.9	91.56	52.9	86.26
Cadmium dis	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<2ppb	<2ppb
Chromium dis	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5ppb	<5ppb
Iron dis	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<9ppb	<9ppb
Potassium dis	1.4	1.23	0.70	1.08	1.01	0.69	0.76	0.65	0.84	0.62	1.14
Magnesium dis	4.1	3.46	1.73	2.69	2.12	1.72	2.16	1.47	2.14	1.18	2.20
Manganese dis	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<3ppb	<3ppb
Nickel dis	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<3ppb	<3ppb
Sodium dis	50.87	56.3	11.1	50.8	28.9	7.68	7.97	7.2	14.5	7.1	31.4
Phosphorus dis	0.02	0.03	0.03	0.02	0.04	0.03	0.02	0.03	0.03	0.02	0.02
Lead dis	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<2ppb	<2ppb
Sulfate calc from S dis	16.78	16.84	7.75	15.05	16.5	11.23	10.02	11.43	14.62	14.65	19.56
Zinc dis	<0.006	0.009	0.042	0.019	<0.006	<0.006	0.007	0.007	<0.006	<6ppb	47
Barium dis	0.849	0.639	0.55	0.291	0.245	0.381	0.894	0.375	0.422	393	342
pH	8.4	8.4	8.5	8.4	8.4	8.3	8.3	8.4	8.5	8.3	7.6
Hardness	315.5	333.1	176.7	333.5	210.3	164.3	167.7	175.6	237.4	137	224.5
Nitrate	3.2	3.8	2.7	3.2	6.5	8	5.8	9.3	9.8		

Summerside

Guideline to Nitrate Analysis:

Units for Nitrate are parts per million

Nitrate Maximum Allowable Concentration is 10.0 ppm.

Sample ID	Location	Date	Address	City Sample Zone	Nitrate
P130108059	Summerside Firehall 1	Jan-8-2013	251 Foundry Street	5	3.2
P130108057	Bens Bakery Outlet Store	Jan-8-2013	686 Water Street East	7	7.4
P130108053	Wilmot Wellfield Gallery	Jan-8-2013	855 Read Drive	8	7.4
P130123034	Summerside Firehall 1	Jan-23-2013	251 Foundry Street	5	3.3
P130123036	Bens Bakery Outlet Store	Jan-23-2013	686 Water Street East	7	7.5
P130123040	Wilmot Wellfield Gallery	Jan-23-2013	855 Read Drive	8	7.4
P130207041	Summerside Firehall 1	Feb-7-2013	251 Foundry Street	5	5.1
P130207039	Bens Bakery Outlet Store	Feb-7-2013	686 Water Street East	7	7.1
P130207035	Wilmot Wellfield Gallery	Feb-7-2013	855 Read Drive	8	7.3
P130219011	Summerside Firehall 1	Feb-19-2013	251 Foundry Street	5	3.1
P130219013	Bens Bakery Outlet Store	Feb-19-2013	686 Water Street East	7	7.4
P130219017	Wilmot Wellfield Gallery	Feb-19-2013	855 Read Drive	8	7.9
P130305026	Wilmot Wellfield Gallery	Mar-5-2013	855 Read Drive	8	6.4
P130305034	Summerside Firehall 1	Mar-5-2013	251 Foundry Street	5	5.8
P130305032	Bens Bakery Outlet Store	Mar-5-2013	686 Water Street East	7	7.2
P130319044	Summerside Firehall 1	Mar-19-2013	251 Foundry Street	5	3.3
P130319046	Bens Bakery Outlet Store	Mar-19-2013	686 Water Street East	7	7.8
P130319050	Wilmot Wellfield Gallery	Mar-19-2013	855 Read Drive	8	7.5
P130402025	Summerside Firehall 1	April-2-2013	251 Foundry Street	5	3.2
P130402023	Bens Bakery Outlet Store	April-2-2013	686 Water Street East	7	7.9
P130402019	Wilmot Wellfield Gallery	April-2-2013	855 Read Drive	8	7.7
P130415015	Summerside Fire Station 1	April-15-2013	251 Foundry Street	5	3.1
P130415017	Bens Bakery Outlet Store	April-15-2013	686 Water Street East	7	6.9
P130415020	Wilmot Wellfield Gallery	April-15-2013	855 Read Drive	8	7.6
P130415017	Priavte Residence	April-15-2013	641 Murphy St	7	6.9
P130430045	Summerside Fire Station 1	April-30-2013	251 Foundry Street	5	4.1
P130430043	Bens Bakery Outlet Store	April-30-2013	686 Water Street East	7	7.7
P130430040	Wilmot Wellfield Gallery	April-30-2013	855 Read Drive	8	6.9
P130514067	Summerside Fire Station 1	May-14-2013	251 Foundry Street	5	4.9
P130514065	Bens Bakery Outlet Store	May-14-2013	686 Water Street East	7	7.8
P130514061	Wilmot Wellfield Gallery	May-14-2013	855 Read Drive	8	7.8
P130528086	Summerside Fire Station 1	May-28-2013	251 Foundry Street	5	3.2.

P130528082	Bens Bakery Outlet Store	May-28-2013	686 Water Street East	7	7.7
P130528080	Wilmot Wellfield Gallery	May-28-2013	855 Read Drive	8	7.6
P130611083	Summerside Fire Station 1	June-11-2013	251 Foundry Street	5	4.9
P130611085	Bens Bakery Outlet Store	June-11-2013	686 Water Street East	7	7.7
P130611087	Wilmot Wellfield Gallery	June-11-2013	855 Read Drive	8	7.5
P130625073	Wilmot Wellfield Gallery	June-25-2013	855 Read Drive	8	7.6
P130625077	Bens Bakery Outlet Store	June-25-2013	686 Water Street East	7	7.1
P130625079	Summerside Fire Station 1	June-25-2013	251 Foundry Street	5	4.4
P130718080	Bens Bakery Outlet Store	July-18-2013	686 Water Street East	7	8.3
P130718082	Summerside Fire Station 1	July-18-2013	251 Foundry Street	5	6.8
P130718077	Wilmot Wellfield Gallery	July-18-2013	855 Read Drive	8	8.4
P130807073	Wilmot Wellfield Gallery	August-7-2013	855 Read Drive	8	7.8
P130807076	Bens Bakery Outlet Store	August-7-2013	686 Water Street East	7	7.7
P130807078	Summerside Fire Station 1	August-7-2013	251 Foundry Street	5	6.8
P130821054	Wilmot Wellfield Gallery	August-21-2013	855 Read Drive	8	6.1
P130821058	Bens Bakery Outlet Store	August-21-2013	686 Water Street East	7	7.7
P130821060	Summerside Fire Station 1	August-21-2013	251 Foundry Street	5	5.2
P130903036	Summerside Fire Station 1	Sept-3-2013	251 Foundry Street	5	4.8
P130903034	Bens Bakery Outlet Store	Sept-3-2013	686 Water Street East	7	7.2
P130903031	Wilmot Wellfield Gallery	Sept-3-2013	855 Read Drive	8	7.0
P130916023	Wilmot Wellfield Gallery	Sept-16-2013	855 Read Drive	8	7.4
P130916027	Bens Bakery Outlet Store	Sept-16-2013	686 Water Street East	7	7.3
P130916029	Summerside Fire Station 1	Sept-16-2013	251 Foundry Street	5	3.6
P131001028	Summerside Fire Station 1	Oct-1-2013	251 Foundry Street	5	3.1
P131001034	Wilmot Wellfield Gallery	Oct-1-2013	855 Read Drive	8	7.4
P131001030	Bens Bakery Outlet Store	Oct-1-2013	686 Water Street East	7	7.4
P1310220370	Summerside Fire Station 1	Oct-22-2013	251 Foundry Street	5	3.9
P131022031	Wilmot Wellfield Gallery	Oct-22-2013	855 Read Drive	8	7.0
P131022035	Bens Bakery Outlet Store	Oct-22-2013	686 Water Street East	7	7.0
P131105051	Summerside Fire Station 1	Nov-5-2013	251 Foundry Street	5	3.8
P131105045	Wilmot Wellfield Gallery	Nov-5-2013	855 Read Drive	8	6.0
P131105049	Bens Bakery Outlet Store	Nov-5-2013	686 Water Street East	7	7.2
P131119045	Summerside Fire Station 1	Nov-19-2013	251 Foundry Street	5	3.4
P131119043	Bens Bakery Outlet Store	Nov-19-2013	686 Water Street East	7	5.0
P131119039	Wilmot wellfield Gallery	Nov-19-2013	855 Read Drive	8	5.0
P131203032	Summerside Fire Station 1	Dec-3-2013	251 Foundry Street	5	3.6
P131203026	Wilmot Wellfield Gallery	Dec-3-2013	855 Read Drive	8	5.0
P131203030	Bens Bakery Outlet Store	Dec-3-2013	686 Water Street East	7	5.0
P131217040	Summerside Fire Station 1	Dec-17-2013	251 Foundry Street	5	3.0
P131217042	Bens Bakery Outlet Store	Dec-17-2013	686 Water Street East	7	5.2
P131217046	Wilmot Wellfield Gallery	Dec-17-2013	855 Read Drive	8	5.1