TOWN OF OKOTOKS

WATERWORKS SYSTEM

2019 ANNUAL REPORT

Approval # 1029-03-00

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1. Waterworks Introduction

The Town of Okotoks Water Services has prepared the Waterworks Annual report. EPCOR Water Services Inc. operated and maintained the waterworks system on behalf of the Town of Okotoks from Jun 1st, 2005 until Nov 25th, 2019. Effective Nov 25th, 2019 the Town of Okotoks resumed responsibility to operate and maintain the waterworks system.
The Quality Assurance Program described was in effect until from Jun 1st, 2005 to Nov 25th, 2019.
The Town of Okotoks Water Services Department will be developing its QA Program.

2. Quality Assurance Program

The EPCOR Water Services Quality Assurance Program for external sites is intended to be part of a larger overall company Quality Management System which ensures that the utility:

- can demonstrate that it can consistently meet regulatory requirements
- can demonstrate that it can meet internal operational requirements
- can enhance customer protection through effective application of a quality system
- continuously improves the overall quality system.

The EPCOR QA program was in place to ensure that water and wastewater quality data is reliable and technically (and legally) defensible, data is reported correctly, violations are reported in a timely manner, approval requirements are met, and water or wastewater quality problems are responded to effectively. For external and internal audit purposes EPCOR was also be able to demonstrate that:

- it is doing what it says it is doing in all of its operations and it has the documentation to back this claim up,
- data, and procedures for generating data, are verified by a qualified group that is independent of operations, and
- it is exercising due diligence by requiring that a reasonable level of quality assurance is in place at all external sites, and not only at the Edmonton operations.
- has identified risks to the utility and has prepared remedial action plans for improvements.

An acceptable defined level of quality assurance on operational performance is specifically required by the EPCOR Risk Management Internal Audit.

Components of the External Sites QA Program

To satisfy these general requirements, the EPCOR Water Services Quality Assurance section will act as an auditor independent of operational management at each external site. The goal is to ensure that data is produced, recorded and reported in manners that are consistent with ISO 17025 requirements.

The components of the quality assurance program will include:

1. Initial QA assessments of new sites.
2. Ongoing routine site QA audits.
3. Preparation of audit reports and follow-up.
4. Analysis of EPCOR internal monthly Proficiency Testing (PT) samples.
5. Review of monthly and annual utility performance reports.
6. Tracking and review of site incident reports.
7. Development and review of site cross-connection control program (CCC).
8. Development and review of site watershed protection programs.
9. Training of operators at external sites on analytical procedures as required.

The plan and procedures will be reviewed regularly, at least on an annual basis, and amended as necessary.

3. Annual Summary - Raw & Distribution Volumes

Approval # 1029-03-00; Schedule 3A - Raw Water & Schedule 3A Treated Water Quality: Monitoring - Town of Okotoks Waterworks System
Water Parameter - Raw & Distribution Volume

Parameter	Units of Measure	Frequency	Sample Type	Sampling Location	Approval Limit		Jan	Feb	Mar	Apr	May	Jun	Jul
Raw Water Volume	m^3	Once Per Day	Continuous	Raw Water Entering the WTP	N/A	MIN	6576	7134	7320	6338	6231	6573	6467
						MAX	8778	8281	10549	8133	9411	10826	10847
						AVG	7538	7699	7940	6906	7398	8743	8278
						Total	233688	215585	246146	207167	229324	262299	256615
Distribution Volume Zone 1 South	m^3	Once Per Day	Continuous	Distribution Water Entering Zone 1 South	N/A	MIN	2944	2903	3023	2988	2952	2964	2796
						MAX	3420	3396	3504	3492	4145	5200	5370
						AVG	3123	3114	3190	3155	3335	3893	3720
						Total	96816	87203	98897	94644	103376	116804	115320
Distribution Volume Zone 2 North	m^3	Once Per Day	Continuous	Distribution Water Entering Zone 2 North	N/A	MIN	3326	3496	3532	2495	2459	2570	2520
						MAX	3946	3724	3787	4357	3629	4261	4298
						AVG	3467	3598	3650	2854	2875	3273	3098
						Total	107487	100731	113153	85616	89134	98194	96048
Distribution Volume Zone 3 North	m^3	Once Per Day	Continuous	Distribution Water Entering Zone 3 North	N/A	MIN	978	1215	960	0	1094	1061	1024
						MAX	1551	1615	3465	1881	2082	2800	2731
						AVG	1377	1409	1491	1289	1585	1906	1780
						Total	42686	39452	46226	38663	49136	57174	55181
Total Distribution Volume	m^3	Once Per Day	Continuous	Sum of Three Zones Distribution Volume	N/A	MIN	6978	7308	7354	6280	6321	6324	6402
						MAX	8188	8720	9666	8042	9463	10904	11000
						AVG	7550	7691	7925	6885	7332	8652	8160
						Total	234042	215346	245675	206553	227281	259548	252947

NOTE: The water meter at Zone 2 does not measure accurately. The flow meter measuring the transfer of water from Zone 2 to Zone 3 plus the Zone 1 South water meter is used to calculate the Total Distribution Volume.

NOTE: 03 Apr 10:00am:Leak in valve at Zone 3, bypass station and feed from Zone 2

Approval # 1029-03-00; Schedule 3A - Raw Water & Schedule 3A Treated Water Quality: Monitoring - Town of Okotoks Waterworks System
Water Quality Parameter - Raw & Distribution Volume

Parameter	Units of Measure	Frequency	Sample Type	Sampling Location	Approval Limit		Aug	Sep	Oct	Nov	Dec	Annual
Raw Water Volume	m^3	Once Per Day	Continuous	Raw Water Entering the WTP	N/A	MIN	6968	5818	4824	5620	6096	**4824**
						MAX	10054	8731	7653	7678	7575	**10847**
						AVG	8383	7258	6564	6483	6630	**7485**
						Total	259869	217726	203481	194481	205536	**2731917**
Distribution Volume Zone 1 South	m^3	Once Per Day	Continuous	Distribution Water Entering Zone 1 South	N/A	MIN	2976	2771	2628	2616	2692	**2616**
						MAX	5008	3960	3300	3193	3166	**5370**
						AVG	3826	3234	2885	2810	2880	**3264**
						Total	118596	97023	89423	84289	89268	**1191659**
Distribution Volume Zone 2 North	m^3	Once Per Day	Continuous	Distribution Water Entering Zone 2 North	N/A	MIN	2503	2481	2557	2566	2637	**2459**
						MAX	3864	3274	2986	2782	2863	**4357**
						AVG	3026	2809	2689	2658	2751	**3062**
						Total	93810	84262	83368	79753	85295	**1116851**
Distribution Volume Zone 3 North	m^3	Once Per Day	Continuous	Distribution Water Entering Zone 3 North	N/A	MIN	1068	360	1242	1460	1495	**0**
						MAX	2773	2491	2453	1687	1701	**3465**
						AVG	1884	1594	1521	1548	1579	**1580**
						Total	58409	47805	47143	46453	48942	**577270**
Total Distribution Volume	m^3	Once Per Day	Continuous	Sum of Three Zones Distribution Volume	N/A	MIN	6622	5420	5358	5948	6253	**5358**
						MAX	9992	8882	7935	7268	7260	**11000**
						AVG	8303	7186	6559	6443	6613	**7441**
						Total	257401	215572	203330	193288	204996	**2715979**

NOTE: The water meter at Zone 2 does not measure accurately. The flow meter measuring the transfer of water from Zone 2 to Zone 3 plus the Zone 1 South water meter is used to calculate the Total Distribution Volume.

NOTE: 03 Apr 10:00am:Leak in valve at Zone 3, bypass station and feed from Zone 2

4. Annual Summary – Turbidity

Approval # 1029-03-00; Schedule 3A - Raw Water & Schedule 3A Treated Water Quality: Monitoring - Town of Okotoks Waterworks System
Water Quality Parameter - Turbidity

Parameter	Units of Measure	Frequency	Sample Type	Sampling Location	Approval Limit		Jan	Feb	Mar	Apr	May	Jun	Jul
Turbidity Raw Water	NTU	Once Per Day	Grab	Raw Water Entering the WTP	N/A	MIN	0.06	0.05	0.05	0.06	0.06	0.07	0.05
						MAX	0.18	0.15	0.18	0.20	0.70	1.83	0.14
						AVG	0.08	0.08	0.08	0.08	0.14	0.26	0.10
Turbidity Treated Water	NTU	Daily Maiximum	Continuous	Filter Train #1	≤ 1.0 NTU, 100% of the time	MIN	0.03	0.03	0.03	0.03	0.02	0.04	0.03
					≤ 0.3 NTU, at least 99% of the samples on a daily basis	MAX	0.04	0.04	0.04	0.17	0.21	0.18	0.09
						AVG	0.03	0.03	0.04	0.04	0.05	0.05	0.04
					Minutes between 0.3 - 1.0 NTU	Total	0	0	0	0	0	0	0
Turbidity Treated Water	NTU	Daily Maiximum	Continuous	Filter Train #2	≤ 1.0 NTU, 100% of the time	MIN	0.02	0.02	0.02	0.03	0.03	0.03	0.02
					≤ 0.3 NTU, at least 99% of the samples on a daily basis	MAX	0.03	0.03	0.04	0.13	0.20	0.15	0.23
						AVG	0.03	0.03	0.03	0.04	0.07	0.05	0.04
					Minutes between 0.3 - 1.0 NTU	Total	0	0	0	0	0	0	0
Turbidity Treated Water	NTU	Daily Maiximum	Continuous	Filter Train #3	≤ 1.0 NTU, 100% of the time	MIN	0.03	0.03	0.03	0.03	0.04	0.04	0.03
					≤ 0.3 NTU, at least 99% of the samples on a daily basis	MAX	0.04	0.04	0.07	0.21	0.14	0.15	0.24
						AVG	0.04	0.04	0.04	0.06	0.07	0.07	0.05
					Minutes between 0.3 - 1.0 NTU	Total	0	0	0	0	0	0	0
Turbidity Distribution Centre	NTU	Weekly	Grab	Water Distribution Bacteriological Random Locations	N/A	MIN	0.06	0.05	0.05	0.05	0.05	0.05	0.05
						MAX	0.20	0.17	0.16	0.91	0.15	0.13	0.21
						AVG	0.09	0.09	0.09	0.13	0.08	0.08	0.08

NOTE: Samples collected on April 5 & 10, 2019 were a result of water line repairs, depressurizations in the distribution system. April 5, 2019 AE Reference # 351655. April 10, 2019 AE Reference # 351862

NTU - Nephelometric Turbidity Units

Approval # 1029-03-00; Schedule 3A - Raw Water & Schedule 3A Treated Water Quality: Monitoring - Town of Okotoks Waterworks System
Water Quality Parameter - Turbidity

Parameter	Units of Measure	Frequency	Sample Type	Sampling Location	Approval Limit		Aug	Sep	Oct	Nov	Dec	Annual
Turbidity Raw Water	NTU	Once Per Day	Grab	Raw Water Entering the WTP	N/A	MIN	0.06	0.06	0.05	0.05	0.05	**0.05**
						MAX	0.11	0.09	0.14	0.15	0.11	**1.83**
						AVG	0.08	0.07	0.07	0.07	0.06	**0.10**
Turbidity Treated Water	NTU	Daily Maiximum	Continuous	Filter Train #1	≤ 1.0 NTU, 100% of the time	MIN	0.04	0.03	0.04	0.03	0.03	**0.02**
					≤ 0.3 NTU, at least 99% of the samples on a daily basis	MAX	0.04	0.04	0.07	0.05	0.05	**0.21**
						AVG	0.04	0.04	0.04	0.04	0.03	**0.04**
					Minutes between 0.3 - 1.0 NTU	Total	0	0	0	0	0	**0**
Turbidity Treated Water	NTU	Daily Maiximum	Continuous	Filter Train #2	≤ 1.0 NTU, 100% of the time	MIN	0.02	0.02	0.02	0.02	0.02	**0.02**
					≤ 0.3 NTU, at least 99% of the samples on a daily basis	MAX	0.03	0.07	0.05	0.09	0.04	**0.23**
						AVG	0.02	0.03	0.03	0.03	0.03	**0.04**
					Minutes between 0.3 - 1.0 NTU	Total	0	0	0	0	0	**0**
Turbidity Treated Water	NTU	Daily Maiximum	Continuous	Filter Train #3	≤ 1.0 NTU, 100% of the time	MIN	0.03	0.03	0.03	0.03	0.02	**0.02**
					≤ 0.3 NTU, at least 99% of the samples on a daily basis	MAX	0.05	0.06	0.11	0.15	0.04	**0.24**
						AVG	0.03	0.03	0.04	0.06	0.03	**0.05**
					Minutes between 0.3 - 1.0 NTU	Total	0	0	0	0	0	**0**
Turbidity Distribution Centre	NTU	Weekly	Grab	Water Distribution Bacteriological Random Locations	N/A	MIN	0.05	0.05	0.05	0.04	0.12	**0.04**
						MAX	0.21	0.14	0.55	0.39	0.05	**0.91**
						AVG	0.08	0.08	0.11	0.08	0.23	**0.10**

NOTE: Samples collected on April 5 & 10, 2019 were a result of water line repairs, depressurizations in the distribution system. April 5, 2019 AE Reference # 351655. April 10, 2019 AE Reference # 351862

NTU - Nephelometric Turbidity Units

5. Annual Summary - UV Disinfection – Log Reduction of Giardia & Cryptosporidium

Approval # 1029-03-00; Schedule 2A - Raw Water & Schedule 3A Treated Water Quality: Monitoring - Town of Okotoks Waterworks System
Water Quality Parameter - UV Flow & Transmittance

Parameter	Units of Measure	Frequency	Sample Type	Sampling Location	Approval Limit		Jan	Feb	Mar	Apr	May	Jun	Jul
UV Flow	m^3/hr	Daily Maximum	Continuous	UV Reactor # 1	≥ 47.3 m^3/hr and ≤ 772 m3/hr	MIN	42.7	49.2	51.1	26.0	44.4	59.0	56.1
						MAX	220.9	162.6	159.1	178.0	219.4	210.3	199.6
						AVG MIN	60.3	56.7	56.8	51.9	55.7	83.4	77.6
						AVG MAX	152.4	155.1	153.0	143.7	161.0	166.1	160.2
UV Flow	m^3/hr	Daily Maximum	Continuous	UV Reactor # 2	≥ 47.3 m^3/hr and ≤ 772 m3/hr	MIN	42.7	49.2	50.0	26.0	44.4	59.0	56.1
						MAX	175.5	162.6	159.1	178.0	226.7	210.3	199.6
						AVG MIN	60.3	56.7	56.6	51.9	55.7	83.4	77.6
						AVG MAX	148.6	155.1	153.0	143.7	161.2	166.1	160.2
UV Flow	m^3/hr	Daily Maximum	Continuous	UV Reactor # 3	≥ 47.3 m^3/hr and ≤ 772 m3/hr	MIN	43.7	50.9	51.2	26.0	44.4	59.0	56.1
						MAX	220.7	162.4	159.1	177.2	224.2	210.5	201.9
						AVG MIN	60.3	56.7	56.7	51.9	55.7	83.3	77.7
						AVG MAX	152.5	155.2	153.0	143.8	161.2	165.8	160.3
UV Transmittance	% per cm	Daily	Grab	Entering UV Reactors 1,2 & 3	≥ 70 % per cm	MIN	95.5	94.5	95.1	95.2	87.1	89.7	89.8
						MAX	98.6	98.2	98.7	98.8	98.2	96.5	94.6
						AVG	97.6	97.5	97.5	96.7	93.7	93.1	92.3

Approval # 1029-03-00; Schedule 2A - Raw Water & Schedule 3A Treated Water Quality: Monitoring - Town of Okotoks Waterworks System
Water Quality Parameter - UV Flow & Transmittance

Parameter	Units of Measure	Frequency	Sample Type	Sampling Location	Approval Limit		Aug	Sep	Oct	Nov	Dec	Annual
UV Flow	m^3/hr	Daily Maximum	Continuous	UV Reactor # 1	≥ 47.3 m^3/hr and ≤ 772 m3/hr	MIN	56.9	54.9	29.3	49.3	50.3	**26.0**
						MAX	201.9	162.0	239.0	181.7	169.3	**239.0**
						AVG MIN	74.6	63.0	58.0	52.4	52.3	**61.9**
						AVG MAX	161.9	150.1	157.3	134.1	131.2	**152.2**
UV Flow	m^3/hr	Daily Maximum	Continuous	UV Reactor # 2	≥ 47.3 m^3/hr and ≤ 772 m3/hr	MIN	56.9	54.9	29.3	49.3	50.3	**26.0**
						MAX	201.9	162.0	167.1	181.7	169.3	**226.7**
						AVG MIN	74.6	63.0	57.2	52.4	52.3	**61.8**
						AVG MAX	161.9	150.1	146.9	132.0	131.7	**150.9**
UV Flow	m^3/hr	Daily Maximum	Continuous	UV Reactor # 3	≥ 47.3 m^3/hr and ≤ 772 m3/hr	MIN	56.3	54.9	29.3	50.5	50.3	**26.0**
						MAX	201.9	162.3	239.0	181.7	169.2	**239.0**
						AVG MIN	74.4	62.9	58.2	52.5	52.0	**61.9**
						AVG MAX	162.1	150.1	157.3	132.1	131.8	**152.1**
UV Transmittance	% per cm	Daily	Grab	Entering UV Reactors 1,2 & 3	≥ 70 % per cm	MIN	93.9	95.3	95.1	94.7	94.9	**87.1**
						MAX	96.0	97.3	98.5	96.7	99.6	**99.6**
						AVG	95.1	96.3	96.8	95.8	96.0	**95.7**

Approval # 1029-03-00; Schedule 2A - Raw Water & Schedule 3A Treated Water Quality: Monitoring - Town of Okotoks Waterworks System
Water Quality Parameter - UV Dose

Parameter	Units of Measure	Frequency	Sample Type	Sampling Location	Approval Limit		Jan	Feb	Mar	Apr	May	Jun	Jul
UV Dose	mJ/cm^2	Daily Min	Continuous	UV Reactor # 1	≥ 18 mJ/cm^2	MIN	39.8	40.1	40.0	40.8	40.3	40.1	40.5
						MAX	45.6	48.4	47.4	46.6	47.8	43.0	45.7
						AVG	41.5	43.6	42.2	43.8	42.0	41.4	42.8
UV Dose	mJ/cm^2	Daily Avg	Continuous	UV Reactor # 1	≥ 18 mJ/cm^2	MIN	43.9	46.6	45.2	45.5	45.6	44.2	45.2
						MAX	52.0	52.4	51.7	52.3	53.4	55.5	52.7
						AVG	48.2	48.8	48.5	48.5	48.7	47.8	49.1
UV Dose	mJ/cm^2	Daily Min	Continuous	UV Reactor # 2	≥ 18 mJ/cm^2	MIN	38.9	39.8	40.0	40.0	40.0	39.8	40.5
						MAX	45.6	47.5	46.9	42.6	44.5	43.3	49.0
						AVG	42.0	43.6	41.6	40.8	41.1	40.9	44.8
UV Dose	mJ/cm^2	Daily Avg	Continuous	UV Reactor # 2	≥ 18 mJ/cm^2	MIN	43.1	45.4	42.8	42.5	43.0	42.8	45.3
						MAX	50.8	51.5	50.3	49.5	53.2	50.1	52.0
						AVG	47.8	48.6	46.9	45.7	47.3	45.7	49.6
UV Dose	mJ/cm^2	Daily Min	Continuous	UV Reactor # 3	≥ 18 mJ/cm^2	MIN	40.2	40.9	38.8	40.0	30.9	34.1	37.1
						MAX	44.6	45.1	45.4	44.2	44.1	47.4	45.3
						AVG	41.8	42.1	41.8	40.8	40.6	42.5	40.6
UV Dose	mJ/cm^2	Daily Avg	Continuous	UV Reactor # 3	≥ 18 mJ/cm^2	MIN	43.8	43.7	43.8	42.6	41.5	42.3	42.3
						MAX	49.9	48.6	50.3	50.1	51.7	60.2	48.5
						AVG	47.1	45.7	46.5	46.4	47.1	49.4	45.1

Approval # 1029-03-00; Schedule 2A - Raw Water & Schedule 3A Treated Water Quality: Monitoring - Town of Okotoks Waterworks System
Water Quality Parameter - UV Dose

Parameter	Units of Measure	Frequency	Sample Type	Sampling Location	Approval Limit		Aug	Sep	Oct	Nov	Dec	Annual
UV Dose	mJ/cm^2	Daily Min	Continuous	UV Reactor # 1	≥ 18 mJ/cm^2	MIN	39.4	40.0	40.1	41.7	41.5	**39.4**
						MAX	45.8	50.4	45.9	51.7	49.3	**51.7**
						AVG	41.3	45.0	41.1	46.9	47.0	**43.2**
UV Dose	mJ/cm^2	Daily Avg	Continuous	UV Reactor # 1	≥ 18 mJ/cm^2	MIN	41.5	45.5	44.5	48.0	48.7	**41.5**
						MAX	52.4	55.6	51.9	53.7	52.9	**55.6**
						AVG	46.1	51.6	48.2	51.6	50.4	**49.0**
UV Dose	mJ/cm^2	Daily Min	Continuous	UV Reactor # 1	≥ 18 mJ/cm^2	MIN	40.0	30.3	26.5	39.9	40.1	**26.5**
						MAX	51.9	56.5	63.5	59.0	53.5	**63.5**
						AVG	44.7	40.9	44.2	41.9	43.7	**42.5**
UV Dose	mJ/cm^2	Daily Avg	Continuous	UV Reactor # 1	≥ 18 mJ/cm^2	MIN	46.1	48.1	34.5	56.1	53.8	**34.5**
						MAX	62.0	72.0	78.6	82.1	74.1	**82.1**
						AVG	53.3	58.5	64.5	71.7	61.5	**53.4**
UV Dose	mJ/cm^2	Daily Min	Continuous	UV Reactor # 1	≥ 18 mJ/cm^2	MIN	40.0	37.8	40.1	36.4	40.1	**30.9**
						MAX	48.8	44.8	48.0	46.0	46.2	**48.8**
						AVG	44.2	41.9	41.8	42.3	41.8	**41.8**
UV Dose	mJ/cm^2	Daily Avg	Continuous	UV Reactor # 1	≥ 18 mJ/cm^2	MIN	42.6	44.4	41.1	44.0	45.2	**41.1**
						MAX	52.3	51.7	56.4	52.2	52.3	**60.2**
						AVG	47.8	47.3	47.9	47.9	48.3	**47.2**

6. Annual Summary – Primary Disinfection: CT & Log Removal

CT – NORTH DISTRIBUTION

Approval # 1029-03-00; Schedule 3A - Raw Water & Schedule 3A Treated Water Quality: Monitoring - Town of Okotoks Waterworks System
Water Quality Parameter - Primary Disinfection - Log Reduction of Viruses - CT North Distribution

Parameter	Units of Measure	Frequency	Sample Type	Sampling Location	Approval Limit		Jan	Feb	Mar	Apr	May	Jun	Jul
CT required NORTH Distribution	N/A	Once Per Day	Calculated	Entering North Distribution System	N/A	MIN	6	6	6	6	6	4	4
						MAX	6	6	6	6	6	6	4
						AVG	6	6	6	6	6	5	4
CT lowest actual NORTH Distribution	N/A	Once Per Day	Calculated	Entering North Distribution System	N/A	MIN	1385	1499	1422	1511	1096	1147	1214
						MAX	1745	1656	1675	1702	1689	1666	2141
						AVG	1510	1566	1567	1621	1313	1440	1448
CT performance ratio NORTH Distribution	N/A	Once Per Day	Calculated	Entering North Distribution System	≥ 1 except for one day per month, which must be > 0.9	MIN	230.8	249.8	167.9	167.9	182.7	220.5	303.6
						MAX	290.5	276.0	279.2	275.0	281.5	378.4	535.3
						AVG	251.7	261.0	245.1	218.8	218.8	276.4	361.4

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Water Quality Parameter -Primary Disinfection - Log Reduction of Viruses - CT North Distribution

Parameter	Units of Measure	Frequency	Sample Type	Sampling Location	Approval Limit		Aug	Sep	Oct	Nov	Dec	Annual
CT required NORTh Distribution	N/A	Once Per Day	Calculated	Entering South Distribution System	N/A	MIN	4	3	3	4	6	**3**
						MAX	4	4	4	6	6	**6**
						AVG	4	4	4	6	6	**5**
CT lowest actual NORTH Distribution	N/A	Once Per Day	Calculated	Entering South Distribution System	N/A	MIN	1447	1337	1347	1381	1384	**1096**
						MAX	1857	1563	1764	1604	1600	**2141**
						AVG	1564	1467	1502	1485	1502	**1499**
CT performance ratio NORTH Distribution	N/A	Once Per Day	Calculated	Entering South Distribution System	≥ 1 except for one day per month, which must be > 0.9	MIN	365.4	334.2	336.7	230.1	230.7	**167.9**
						MAX	464.2	390.8	441.0	401.0	266.7	**535.3**
						AVG	391.3	366.7	376.9	256.4	250.3	**289.6**

CT – SOUTH DISTRIBUTION

Approval # 1029-03-00; Schedule 3A - Raw Water & Schedule 3A Treated Water Quality: Monitoring - Town of Okotoks Waterworks System Water Quality Parameter -Primary Disinfection - Log Reduction of Viruses - CT South Distribtuion														
Parameter	**Units of Measure**	**Frequency**	**Sample Type**	**Sampling Location**	**Approval Limit**		**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**
CT required SOUTH Distribution	N/A	Once Per Day	Calculated	Entering South Distribution System	N/A	MIN	3	6	6	6	4	4	4
						MAX	6	6	9	6	6	4	4
						AVG	6	6	6	6	5	4	4
CT lowest actual SOUTH Distribution	N/A	Once Per Day	Calculated	Entering South Distribution System	N/A	MIN	1061	1204	1112	1193	918	1020	1132
						MAX	1561	1316	1336	1367	1346	1448	1845
						AVG	1205	1240	1238	1279	1090	1260	1271
CT performance ratio SOUTH Distribution	N/A	Once Per Day	Calculated	Entering South Distribution System	≥ 1 except for one day per month, which must be > 0.9	MIN	176.8	138.3	146.2	198.9	153.0	255.0	283.1
						MAX	260.1	212.5	222.7	227.8	280.5	362.1	461.2
						AVG	200.9	192.6	200.8	213.2	202.3	315.5	317.7

Approval # 1029-03-00; Schedule 3A - Raw Water & Schedule 3A Treated Water Quality: Monitoring - Town of Okotoks Waterworks System Water Quality Parameter - Primary Disinfection - Log Reduction of Viruses - CT South Distribtuion													
Parameter	**Units of Measure**	**Frequency**	**Sample Type**	**Sampling Location**	**Approval Limit**		**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Annual**
CT required				Entering South		MIN	3	3	3	6	6	**3**
SOUTH		Once per	Calculated	Distribution	N/A	MAX	4	3	6	6	6	**9**
Distribution		day		System		AVG	3	3	4	6	6	**5**
CT lowest actual				Entering South		MIN	1204	1173	1091	1081	1071	**918**
SOUTH		Once per	Calculated	Distribution	N/A	MAX	1571	1326	1364	1346	1306	**1845**
Distribution		day		System		AVG	1319	1251	1213	1224	1195	**1232**
CT performance ratio				Entering South	≥ 1 except for one day	MIN	339.2	391.0	203.4	180.2	178.5	**138.3**
SOUTH		Once per	Calculated	Distribution	per month, which	MAX	448.8	442.0	431.8	224.4	217.6	**461.2**
Distribution		day		System	must be > 0.9	AVG	410.0	417.0	323.2	204.3	199.1	**266.4**

Approval # 1029-03-00; Schedule 2A - Raw Water & Schedule 3A Treated Water Quality: Monitoring - Town of Okotoks Waterworks System
Water Quality Parameter - Primary Disinfection - Log Reduction of Viruses

Parameter	Units of Measure	Frequency	Sample Type	Sampling Location	Approval Limit		Jan	Feb	Mar	Apr	May	Jun	Jul
VOLUME	m^3	Daily Minimum	Continuous	Clearwell	N/A	MIN	726.6	834.2	796.9	828.0	772.2	702.8	723.1
						MAX	876.2	885.1	875.3	960.9	878.4	902.2	899.5
						AVG	841.9	871.6	854.4	875.0	846.3	844.6	857.5
FLOW	MAXIMUM L/min	Once Per Day	Continuous	Entering Distribution System	N/A	MIN	10893	11130	11001	11043	11049	10961	11021
						MAX	13691	14307	14968	14677	14813	18328	15001
						AVG	11599	11854	11934	11751	12286	13115	12355
pH	N/A	Once Per Day	Grab	Entering Distribution System	6.5 - 8.5 pH	MIN	7.6	7.5	7.3	7.2	7.3	7.4	7.4
						MAX	7.7	7.7	7.7	7.7	7.7	7.7	7.7
						AVG	7.6	7.6	7.6	7.6	7.5	7.6	7.5
Temperature	Degrees Celcius	Once Per Day	Grab	Entering Distribution System	N/A	MIN	5.9	5.2	4.1	3.8	5.6	7.0	9.3
						MAX	7.1	6.9	5.7	6.4	7.5	14.4	12.4
						AVG	6.4	5.8	5.0	4.6	6.4	8.7	10.1

Approval # 1029-03-00; Schedule 2A - Raw Water & Schedule 3A Treated Water Quality: Monitoring - Town of Okotoks Waterworks System
Water Quality Parameter - Primary Disinfection - Log Reduction of Viruses

Parameter	Units of Measure	Frequency	Sample Type	Sampling Location	Approval Limit		Aug	Sep	Oct	Nov	Dec	Annual
VOLUME	m^3	Daily Minimum	Continuous	Clearwell	N/A	MIN	744.9	813.2	612.0	777.9	765.2	**612.0**
						MAX	900.0	868.9	871.5	890.5	893.2	**960.9**
						AVG	851.9	862.5	854.7	863.9	866.3	**857.6**
FLOW	MAXIMUM L/min	Once Per Day	Continuous	Entering Distribution System	N/A	MIN	11243	10583	10709	10502	10314	**10314**
						MAX	14938	13298	14511	14285	12190	**18328**
						AVG	12580	11624	11563	11500	11469	**11969**
pH	N/A	Once Per Day	Grab	Entering Distribution System	6.5 - 8.5 pH	MIN	7.2	7.5	7.4	7.3	7.4	**7.2**
						MAX	7.6	7.6	7.7	7.8	7.6	**7.8**
						AVG	7.5	7.5	7.5	7.5	7.5	**7.6**
Temperature	Degrees Celcius	Once Per Day	Grab	Entering Distribution System	N/A	MIN	10.9	11.7	9.5	7.6	6.1	**7.2**
						MAX	13.1	13.0	12.4	9.9	7.7	**9.7**
						AVG	12.1	12.6	11.2	8.6	6.9	**8.2**

7. Annual Summary – Distribution Chlorine Residual

Approval # 1029-03-00; Schedule 3A - Raw Water & Schedule 3A Treated Water Quality: Monitoring - Town of Okotoks Waterworks System Water Quality Parameter - Primary Disinfection: Chlorine Residual - Free														
Parameter	**Units of Measure**	**Frequency**	**Sample Type**	**Sampling Location**	**Approval Limit**		**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**
Free Chlorine Residual	mg/L	Daily Min	Continuous	South Reservoir	≥ 0.2 mg/L	MIN	1.02	1.15	1.06	1.17	0.88	0.98	1.09
						MAX	1.40	1.27	1.30	1.44	1.29	1.46	1.34
						AVG	1.15	1.21	1.20	1.24	1.05	1.21	1.19
Free Chlorine Residual	mg/L	Daily Min	Continuous	Zone 2N Reservoir	≥ 0.2 mg/L	MIN	1.03	1.15	1.10	1.16	0.82	0.90	0.95
						MAX	1.28	1.24	1.30	1.31	1.31	1.30	1.24
						AVG	1.14	1.20	1.21	1.23	1.00	1.09	1.09
Water Quality Parameter - Secondary Disinfection: Chlorine Residual - Free													
Free Chlorine Residual	mg/L	Once per day	Grab	Water Distribution Random Locations	≥ 0.1 mg/L, based on 75% of the samples taken on a particular day	MIN	0.77	0.63	0.78	0.92	0.58	0.70	0.41
						MAX	1.22	1.23	1.29	1.25	1.05	1.35	1.30
						AVG	1.01	1.05	1.04	1.07	0.87	0.98	0.91
Free Chlorine Residual	mg/L	One sample taken with Bacteriological	Grab	Water Distribution Bacteriological Random Locations	≥ 0.1 mg/L, based on 75% of the samples taken on a particular day	MIN	0.70	0.66	0.78	0.78	0.60	0.54	0.47
						MAX	1.25	1.31	1.33	1.52	1.13	1.27	1.35
						AVG	1.00	1.07	1.09	1.07	0.90	0.98	0.91

Approval # 1029-03-00; Schedule 3A - Raw Water & Schedule 3A Treated Water Quality: Monitoring - Town of Okotoks Waterworks System																			
Water Quality Parameter - Primary Disinfection: Chlorine Residual - Free																			
Parameter	**Units of Measure**	**Frequency**	**Sample Type**	**Sampling Location**	**Approval Limit**			**Aug**		**Sep**		**Oct**		**Nov**		**Dec**		**Annual**
Free Chlorine Residual	mg/L	Daily Min	Continuous	South Reservoir	≥ 0.2 mg/L	MIN		1.16		1.09		1.04		1.06		1.05		**0.88**
						MAX		1.52		1.27		1.31		1.47		1.26		**1.52**
						AVG		1.28		1.21		1.16		1.20		1.15		**1.19**
Free Chlorine Residual	mg/L	Daily Min	Continuous	Zone 2N Reservoir	≥ 0.2 mg/L	MIN		1.11		1.05		1.02		0.99		1.07		**0.82**
						MAX		1.41		1.22		1.35		1.34		1.22		**1.41**
						AVG		1.19		1.13		1.13		1.13		1.14		**1.14**
Water Quality Parameter - Secondary Disinfection: Chlorine Residual - Free																			
Free Chlorine Residual	mg/L	Once per day	Grab	Water Distribution Random Locations	≥ 0.1 mg/L, based on 75% of the samples taken on a particular day	MIN		0.73		0.76		0.74		0.72		0.80		**0.41**
						MAX		1.28		1.30		1.27		1.25		1.45		**1.45**
						AVG		0.98		1.02		0.99		0.99		0.99		**0.99**
Free Chlorine Residual	mg/L	One sample taken with Bacteriological	Grab	Water Distribution Bacteriological Random Locations	≥ 0.1 mg/L, based on 75% of the samples taken on a particular day	MIN		0.68		0.83		0.55		0.74		0.69		**0.47**
						MAX		1.33		1.23		1.33		1.22		1.45		**1.52**
						AVG		1.03		1.02		0.95		1.02		0.99		**1.00**

8. Annual Summary – Waste Stream Monitoring

A. FILTER WASTE TANK

The filter to waste water is pumped to the overland channel.

Approval # 1029-03-00; Section 4.5.3: Waste Streams Monitoring Program - Town of Okotoks Waterworks System
Filter Waste Monitoring (Samples taken directly from the Filter Backwash Holding Tank)

Parameter	Units of Measure	Frequency	Sample Type	Sampling Location	Approval Limit		Jan	Feb	Mar	Apr	May	Jun	Jul
pH	N/A	Once per week	Grab	Filter Waste Holding Tank	N/A	MIN	7.6	7.7	7.6	7.5	7.1	7.4	7.7
						MAX	8.0	7.7	7.7	7.9	7.5	7.9	7.9
						AVG	7.8	7.7	7.7	7.7	7.3	7.7	7.8
Turbidity	NTU	Once per week	Grab	Filter Waste Holding Tank	N/A	MIN	0.71	0.34	0.60	0.52	0.74	1.01	0.61
						MAX	5.99	9.21	1.41	10.60	45.90	4.76	5.61
						AVG	2.95	2.94	1.15	3.07	12.28	2.91	3.01
Free Chlorine	mg/L	Once per week	Grab	Filter Waste Holding Tank	N/A	MIN	<0.02	<0.02	<0.02	<0.02	<0.02	<0.03	<0.03
						MAX	0.03	0.04	<0.02	<0.02	<0.02	0.06	0.03
						AVG	0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.03
TSS	mg/L	Once per week	Grab	Filter Waste Holding Tank	N/A	MIN	3.6	11.8	2.6	2.4	3.6	8.0	2.0
						MAX	12.0	37.8	13.6	16.9	100.0	33.0	51.3
						AVG	8.0	19.8	8.8	10.7	32.8	19.7	15.9
VOLUME	m^3	Daily	Calculated	FW Tank	N/A	TOTAL	7077	7026	7693	7377	10441	12591	11566

NOTE: Filter to waste water was pumped to the overland channel from Jan 1 to Oct 23, 2019. Filter to waste was pumped to the sanitary sewer system from Oct 24 to Dec 31, 2019.

Approval # 1029-03-00; Section 4.5.3: Waste Streams Monitoring Program - Town of Okotoks Waterworks System
Filter Waste Monitoring (Samples taken directly from the Filter Waste Tank)

Parameter	Units of Measure	Frequency	Sample Type	Sampling Location	Approval Limit		Aug	Sep	Oct	Nov	Dec	Annual
pH	N/A	Once per week	Grab	Filter Waste Holding Tank	N/A	MIN	7.6	7.4	7.8	0.0	0.0	**0.0**
						MAX	7.9	7.8	7.8	0.0	0.0	**8.0**
						AVG	7.8	7.6	7.8	0.0	0.0	**6.4**
Turbidity	NTU	Once per week	Grab	Filter Waste Holding Tank	N/A	MIN	0.40	0.13	1.01	0.00	0.00	**0.00**
						MAX	2.32	209.00	1.75	0.00	0.00	**209.00**
						AVG	1.29	43.10	1.35	0.00	0.00	**6.17**
Free Chlorine	mg/L	Once per week	Grab	Filter Waste Holding Tank	N/A	MIN	<0.03	<0.03	<0.03	0.00	0.00	**<0.02**
						MAX	<0.03	<0.03	<0.03	0.00	0.00	**0.06**
						AVG	<0.03	<0.03	<0.03	0.00	0.00	**0.02**
TSS	mg/L	Once per week	Grab	Filter Waste Holding Tank	N/A	MIN	2.8	<2.5	3.0	0.0	0.0	**0.0**
						MAX	16.0	75.2	14.0	0.0	0.0	**100.0**
						AVG	10.1	37.6	8.0	0.0	0.0	**14**
VOLUME	m^3	Daily	Calculated	FW Tank	N/A	TOTAL	10912	9804	9036	6728	6460	**106711**

NOTE: Filter to waste water was pumped to the overland channel from Jan 1 to Oct 23, 2019. Filter to waste was pumped to the sanitary sewer system from Oct 24 to Dec 31, 2019.

B. CLARIFIER WASTE TANK

- All Clarifier waste was pumped directly to the sanitary sewer in 2019.

Approval # 1029-03-00; Section 4.5.3: Waste Streams Monitoring Program - Town of Okotoks Waterworks System
Clarifier Waste Monitoring (Samples taken directly from the Clarifier Waste Tank)

Parameter	Units of Measure	Frequency	Sample Type	Sampling Location	Approval Limit		Jan	Feb	Mar	Apr	May	Jun	Jul
pH	N/A	Once per day	Grab	Clarifier Waste Tank	N/A	MIN							
						MAX							
						AVG							
Turbidity	NTU	Once per day	Grab	Clarifier Waste Tank	N/A	MIN							
						MAX							
						AVG							
TSS	mg/L	Once per week	Grab	Clarifier Waste Tank	N/A	MIN							
						MAX							
						AVG							
VOLUME	m^3	Daily	Calculated	FW Tank	N/A	TOTAL							

NOTE: All clarifier waste was pumped directly to the sanitary sewer in 2019

Approval # 1029-03-00; Section 4.5.3: Waste Streams Monitoring Program - Town of Okotoks Waterworks System
Clarifier Waste Monitoring (Samples taken directly from the Clarifier Waste Tank)

Parameter	Units of Measure	Frequency	Sample Type	Sampling Location	Approval Limit		Aug	Sep	Oct	Nov	Dec	Annual
pH	N/A	Once per day	Grab	Clarifier Waste Tank	N/A	MIN						
						MAX						
						AVG						
Turbidity	NTU	Once per day	Grab	Clarifier Waste Tank	N/A	MIN						
						MAX						
						AVG						
TSS	mg/L	Once per week	Grab	Clarifier Waste Tank	N/A	MIN						
						MAX						
						AVG						
VOLUME	m^3	Daily	Calculated	FW Tank	N/A	TOTAL						

NOTE: All clarifier waste was pumped directly to the sanitary sewer in 2019

9. Annual Summary – Bacteriological Analysis: Water Distribution System

JANUARY 2019

DATE	TIME	Sampled By	Tested By	North Location	South Location	Bacti Sample Collected Bottle #	*E-Coli* Present or Absent/100 mL	Total Coliform Present or Absent/100 mL	TURBIDITY (NTU)	FREE CHLORINE RESIDUAL (mg/L)
7-Jan-19	7:15am	bs	bs	200-1118 North Railway Street		1446735	Absent	Absent	0.19	0.77
7-Jan-19	7:36am	bs	bs	261 Don Seaman Way		1446737	Absent	Absent	0.10	0.92
7-Jan-19	8:21am	bs	bs	99 Okotoks Drive		1446736	Absent	Absent	0.07	1.07
7-Jan-19	8:37am	bs	bs	51 Drake Landing Loop		1446734	Absent	Absent	0.08	0.92
7-Jan-19	7:50am	ma	ma		100 Southbank Road	1446730	Absent	Absent	0.08	1.08
7-Jan-19	8:25am	ma	ma		280 Southridge Drive	1446732	Absent	Absent	0.10	0.95
7-Jan-19	8:49am	ma	ma		22 Southridge Drive	1446733	Absent	Absent	0.10	1.06
7-Jan-19	9:00am	ma	ma		400 Big Rock Lane	1446731	Absent	Absent	0.13	1.07
14-Jan-19	7:59am	df	df	261 Don Seaman Way		1446727	Absent	Absent	0.07	1.01
14-Jan-19	8:22am	df	df	51 Drake Landing Loop		1446728	Absent	Absent	0.07	0.95
14-Jan-19	8:38am	df	df	235 Milligan Drive		1446729	Absent	Absent	0.06	1.03
14-Jan-19	8:57am	df	df	309 Sunset Place		1446726	Absent	Absent	0.06	1.02
14-Jan-19	8:18am	pk1	pk1		22 Southridge Drive	1446723	Absent	Absent	0.12	1.05
14-Jan-19	8:31am	pk1	pk1		44 Southridge Drive	1446725	Absent	Absent	0.12	0.94
14-Jan-19	8:50am	pk1	pk1		280 Southridge Drive	1446722	Absent	Absent	0.09	0.92
14-Jan-19	9:06am	pk1	pk1		69 Cimarron Meadows Crescent	1446724	Absent	Absent	0.13	1.25
21-Jan-19	7:30am	ch	ch	200-1118 North Railway Street		1446716	Absent	Absent	0.20	0.94
21-Jan-19	7:40am	ch	ch	261 Don Seaman Way		1446717	Absent	Absent	0.06	0.70
21-Jan-19	7:55am	ch	ch	51 Drake Landing Loop		1446715	Absent	Absent	0.07	1.05
21-Jan-19	8:15am	ch	ch	50 Elizabeth Street		1446721	Absent	Absent	0.10	0.93
21-Jan-19	8:00am	pk1	pk1		100 Southbank Road	1446719	Absent	Absent	0.06	1.08
21-Jan-19	8:05am	pk1	pk1		212-112 Southbank Blvd	1446718	Absent	Absent	0.09	0.99
21-Jan-19	8:40am	pk1	pk1		280 Southridge Drive	1446720	Absent	Absent	0.06	1.03
21-Jan-19	8:50am	pk1	pk1		22 Southridge Drive	1446714	Absent	Absent	0.08	0.95
28-Jan-19	7:00am	ch	ch	200-1118 North Railway Street		1446707	Absent	Absent	0.13	0.95
28-Jan-19	8:00am	pw	pw	280 Don Seaman Way		1446713	Absent	Absent	0.07	1.00
28-Jan-19	8:55am	pw	pw	111 Waldron Avenue		1446712	Absent	Absent	0.08	1.13
28-Jan-19	9:15am	pw	pw	69 Okotoks Drive		1446706	Absent	Absent	0.07	1.21
28-Jan-19	7:22am	ch	ch		280 Southridge Drive	1446710	Absent	Absent	0.06	0.90
28-Jan-19	8:05am	ch	ch		40 Southridge Drive	1446711	Absent	Absent	0.07	0.97
28-Jan-19	8:15am	ch	ch		22 Southridge Drive	1446708	Absent	Absent	0.08	1.02
28-Jan-19	8:20am	ch	ch		400 Big Rock Lane	1446709	Absent	Absent	0.06	1.01
								MINIMUM	0.06	0.70
								MAXIMUM	0.20	1.25
								AVERAGE	0.09	1.00
						TOTAL # OF SAMPLES	32			
Approval	Frequency			Weekly	Weekly	29 Samples per Month			Weekly	Daily
Requirements	Limit			Random	Random	Random			≤ 5 NTU	≥0.1 mg/L

FEBRUARY 2019

DATE	TIME	Sampled By	Tested By	North Location	South Location	Bacti Sample Collected	*E-Coli* Present or Absent/100 mL	Total Coliform Present or Absent/100 mL	TURBIDITY (NTU)	FREE CHLORINE RESIDUAL (mg/L)
4-Feb-19	8:15am	ma	ma	99 Milligan Drive		1444099	Absent	Absent	0.10	0.89
4-Feb-19	8:34am	ma	ma	51 Drake Landing Loop		1444098	Absent	Absent	0.10	0.94
4-Feb-19	8:48am	ma	ma	261 Don Seaman Way		1444100	Absent	Absent	0.08	1.08
4-Feb-19	9:00am	ma	ma	61 Downey Road		1446701	Absent	Absent	0.09	1.20
4-Feb-19	8:25am	bs	bs		22 Southridge Drive	1446705	Absent	Absent	0.17	1.00
4-Feb-19	8:42am	bs	bs		280 Southridge Drive	1446703	Absent	Absent	0.13	1.01
4-Feb-19	8:58am	bs	bs		400 Bigrock Lane	1446702	Absent	Absent	0.12	1.14
4-Feb-19	9:10am	bs	bs		204 Community Way	1446704	Absent	Absent	0.09	1.14
11-Feb-19	6:40am	ch	ch	261 Don Seaman Way		1444092	Absent	Absent	0.06	0.95
11-Feb-19	6:50am	ch	ch	51 Drake Landing Loop		1444090	Absent	Absent	0.06	1.00
11-Feb-19	7:20am	ch	ch	50 Elizabeth Street		1444097	Absent	Absent	0.06	1.18
11-Feb-19	7:30am	ch	ch	125 Elizabeth Street		1444091	Absent	Absent	0.06	1.20
11-Feb-19	9:08am	pk	pk		22 Southridge Drive	1444094	Absent	Absent	0.09	1.01
11-Feb-19	9:23am	pk	pk		280 Southridge Drive	1444093	Absent	Absent	0.08	0.99
11-Feb-19	9:32am	pk	pk		109-201 Southridge Drive	1444095	Absent	Absent	0.10	1.19
11-Feb-19	9:44am	pk	pk		204 Community Way	1444096	Absent	Absent	0.08	0.66
19-Feb-19	8:50am	pk	pk	40 Crystal Shores Heights		1444082	Absent	Absent	0.12	1.16
19-Feb-19	9:20am	pk	pk	200-235- Milligan Drive		1444083	Absent	Absent	0.11	1.17
19-Feb-19	9:43am	pk	pk	51 Drake Landing Loop		1444084	Absent	Absent	0.10	0.98
19-Feb-19	10:03am	pk	pk	261 Don Seaman Way		1444085	Absent	Absent	0.15	1.09
19-Feb-19	10:15am	ts	ts		22 Southridge Drive	1444086	Absent	Absent	0.10	1.21
19-Feb-19	10:25am	ts	ts		280 Southridge Drive	1444089	Absent	Absent	0.09	1.09
19-Feb-19	10:35am	ts	ts		109-201 Southridge Drive	1444087	Absent	Absent	0.15	1.21
19-Feb-19	10:45am	ts	ts		30 Cimarron Crescent	1444088	Absent	Absent	0.12	1.17
25-Feb-19	8:26am	pk1	pk1		22 Southridge Drive	1444072	Absent	Absent	0.10	1.16
25-Feb-19	8:48am	pk1	pk1		69 Cimarron Meadows Crescent	1444078	Absent	Absent	0.05	1.13
25-Feb-19	9:02am	pk1	pk1		280 Southridge Drive	1444077	Absent	Absent	0.05	1.06
25-Feb-19	9:45am	pk1	pk1		101-109 Southbank Blvd	1444080	Absent	Absent	0.06	0.85
25-Feb-19	7:20am	bs	bs	200-1118 North Railway Street		1444074	Absent	Absent	0.10	1.31
25-Feb-19	7:53am	bs	bs	261 Don Seaman Way		1444076	Absent	Absent	0.07	1.08
25-Feb-19	8:22am	bs	bs	51 Drake Landing Loop		1444075	Absent	Absent	0.08	0.99
25-Feb-19	8:50am	bs	bs	99 Okotoks Drive		1444073	Absent	Absent	0.07	1.11
								MINIMUM	0.05	0.66
								MAXIMUM	0.17	1.31
								AVERAGE	0.09	1.07
						TOTAL # OF SAMPLES	32			
Approval	Frequency			Weekly	Weekly	29 Samples per Month			Weekly	Daily
Requirements	Limit			Random	Random	Random			≤ 5 NTU	≥0.1 mg/L

MARCH 2019

DAY	TIME	Sampled By	Tested By	North Location	South Location	Bacti Sample Collected	*E-Coli* Present or Absent/100 mL	Total Coliform Present or Absent/100 mL	TURBIDITY (NTU)	FREE CHLORINE RESIDUAL (mg/L)
4/Mar/19	7:10am	ch	ch	200-1118 North Railway Street		1444065	Absent	Absent	0.10	1.04
4/Mar/19	7:20am	ch	ch	261 Don Seaman Way		1444066	Absent	Absent	0.07	1.05
4/Mar/19	7:50am	ch	ch	51 Drake Landing Loop		1444067	Absent	Absent	0.08	1.00
4/Mar/19	8:10am	ch	ch	50 Elizabeth Street		1444064	Absent	Absent	0.06	1.09
4/Mar/19	8:15am	jb	jb		100 Southbank Road	1444069	Absent	Absent	0.09	1.02
4/Mar/19	9:10am	jb	jb		280 Southridge Drive	1444071	Absent	Absent	0.11	0.99
4/Mar/19	9:30am	jb	jb		22 Southridge Drive	1444068	Absent	Absent	0.08	1.11
4/Mar/19	10:00am	jb	jb		28 Southridge Drive	1444070	Absent	Absent	0.12	0.99
11/Mar/19	8:15am	ts	ts		22 Southridge Drive	1444057	Absent	Absent	0.08	1.14
11/Mar/19	8:30am	ts	ts		280 Southridge Drive	1444059	Absent	Absent	0.10	1.15
11/Mar/19	8:45am	ts	ts		30 Cimarron Crescent	1444056	Absent	Absent	0.09	1.17
11/Mar/19	9:00am	ts	ts		100 Southbank Road	1444058	Absent	Absent	0.05	1.14
11/Mar/19	7:55am	ma	ma	261 Don Seaman Way		1444060	Absent	Absent	0.12	1.11
11/Mar/19	8:20am	ma	ma	51 Drake Landing Loop		1444062	Absent	Absent	0.11	0.98
11/Mar/19	9:30am	ma	ma	61 Downey Road		1444061	Absent	Absent	0.08	1.17
11/Mar/19	9:50am	ma	ma	200-1118 North Railway Street		1444063	Absent	Absent	0.13	0.89
18/Mar/19	7:50am	jab	jab	200 1118 North Railway Street		1045999	Absent	Absent	0.09	1.12
18/Mar/19	8:05am	jab	jab	261 Don Seaman Way		1444055	Absent	Absent	0.12	0.78
18/Mar/19	8:30am	jab	jab	51 Drake Landing Loop		1045998	Absent	Absent	0.08	1.04
18/Mar/19	8:50am	jab	jab	14 Lock Crescent		1046000	Absent	Absent	0.07	1.33
18/Mar/19	7:50am	ma	ma		100 Southbank Road	1444032	Absent	Absent	0.09	1.19
18/Mar/19	8:24am	ma	ma		212 - Southbank Blvd	1444053	Absent	Absent	0.13	1.03
18/Mar/19	8:36am	ma	ma		280 Southridge Drive	1444054	Absent	Absent	0.07	1.08
18/Mar/19	8:50am	ma	ma		22 Southridge Drive	1444051	Absent	Absent	0.12	1.30
25-Mar-19	7:25am	ma	ma	200-1118 North Railway Street		1045997	Absent	Absent	0.16	1.03
25-Mar-19	7:42am	ma	ma	261 Don Seaman Way		1045974	Absent	Absent	0.08	1.16
25-Mar-19	7:55am	ma	ma	51 Drake Landing Loop		1045996	Absent	Absent	0.11	1.17
25-Mar-19	8:15am	ma	ma	61 Downey Road		1045995	Absent	Absent	0.14	1.16
25-Mar-19	7:48am	bs	bs		22 Southridge Drive	1045993	Absent	Absent	0.10	1.11
25-Mar-19	8:09am	bs	bs		280 Southridge Drive	1045991	Absent	Absent	0.05	1.12
25-Mar-19	8:45am	bs	bs		204 Community Way	1045990	Absent	Absent	0.07	0.97
25-Mar-19	9:05am	bs	bs		400 Bigrock Lane	1045992	Absent	Absent	0.06	1.10
								MINIMUM	0.05	0.78
								MAXIMUM	0.16	1.33
								AVERAGE	0.09	1.09
						TOTAL # OF SAMPLES	32			
Approval	Frequency			Weekly	Weekly	29 Samples per Month			Weekly	Daily
Requirements	Limit			Random	Random	Random			≤ 5 NTU	≥0.1 mg/L

APRIL 2019

DAY	TIME	Sampled By	Tested By	North Location	South Location	Bacti Sample Collected	*E-Coli* Present or Absent/100 mL	Total Coliform Present or Absent/100 mL	TURBIDITY (NTU)	FREE CHLORINE RESIDUAL (mg/L)
1-Apr-19	7:42am	pk1	pk1	200-1118 North Railway Street		1446797	Absent	Absent	0.09	0.81
1-Apr-19	8:13am	pk1	pk1	261 Don Seaman Way		1446800	Absent	Absent	0.08	0.95
1-Apr-19	8:40am	pk1	pk1	51 Drake Landing Loop		1446793	Absent	Absent	0.07	0.93
1-Apr-19	9:10am	pk1	pk1	50 Elizabeth Street		1446796	Absent	Absent	0.08	1.03
1-Apr-19	7:55am	ma	ma		100 Southbank Road	1446799	Absent	Absent	0.16	1.05
1-Apr-19	8:07am	ma	ma		212-112 Southbank Blvd	1446798	Absent	Absent	0.12	0.97
1-Apr-19	8:50am	ma	ma		280 Southridge Drive	1446794	Absent	Absent	0.08	0.78
1-Apr-19	9:05am	ma	ma		22 Southridge Drive	1446795	Absent	Absent	0.10	1.09
5-Apr-19	8:01pm	ch	ch		149-71 Riverside Drive West	1446784	Absent	Absent	0.17	1.18
5-Apr-19	7:53am	ch	ch		40 Riverside Way	1446782	Absent	Absent	0.08	0.94
8-Apr-19	8:40am	pk	pk	261 Don Seaman Way		1446788	Absent	Absent	0.08	1.14
8-Apr-19	8:10am	pk	pk	200-1118 North Railway Street		1446786	Absent	Absent	0.09	1.02
8-Apr-19	9:20am	pk	pk	51 Drake Landing Loop		1446787	Absent	Absent	0.07	0.84
8-Apr-19	9:42am	pk	pk	40 Crystal Shores Hts		1446785	Absent	Absent	0.08	0.98
8-Apr-19	8:15am	pk1	pk1		22 Southridge Drive	1446789	Absent	Absent	0.05	1.10
8-Apr-19	8:27am	pk1	pk1		280 Southridge Drive	1446790	Absent	Absent	0.10	0.90
8-Apr-19	8:39am	pk1	pk1		69 Cimarron Meadows Cres	1446792	Absent	Absent	0.07	1.16
8-Apr-19	9:30am	pk1	pk1		100 Southbank Road	1446791	Absent	Absent	0.05	1.19
10-Apr-19	6:23pm	ch	ch	103 Suntree Place		1446773	Absent	Absent	0.67	1.08
10-Apr-19	6:32pm	ch	ch	109 Suntree Place		1446771	Absent	Absent	0.90	0.88
10-Apr-19	6:41pm	ch	ch	110 Suntree Place		1446772	Absent	Absent	0.91	0.93
15-Apr-19	7:32am	ma	ma	200 - 1118 Northway Street		1446781	Absent	Absent	0.09	1.19
15-Apr-19	7:42am	ma	ma	261 Don Seaman Way		1446778	Absent	Absent	0.05	1.04
15-Apr-19	8:00am	ma	ma	51 Drake Landing Loop		1446780	Absent	Absent	0.07	1.00
15-Apr-19	8:14am	ma	ma	61 Downey Road		1446779	Absent	Absent	0.06	1.27
15-Apr-19	8:40am	jb	jb		158 Southband Road	1446774	Absent	Absent	0.09	0.85
15-Apr-19	9:00am	jb	jb		100 Southbank Road	1446777	Absent	Absent	0.07	1.52
15-Apr-19	9:20am	jb	jb		280 Southridge Drive	1446776	Absent	Absent	0.10	1.33
15-Apr-19	9:45am	jb	jb		22 Southridge Drive	1446775	Absent	Absent	0.15	1.34
23-Apr-19	7:37am	pk	pk	261 Don Seaman Way		1446766	Absent	Absent	0.09	1.04
23-Apr-19	7:52am	pk	pk	200 - 235 Milligan Drive		1446765	Absent	Absent	0.06	1.15
23-Apr-19	8:30am	pk	pk	40 Crystal Shores Heights		1446763	Absent	Absent	0.09	1.05
23-Apr-19	8:10am	bs	bs		22 Southridge Drive	1446767	Absent	Absent	0.05	1.10
23-Apr-19	8:23am	bs	bs		280 Southridge Drive	1446768	Absent	Absent	0.06	1.06
23-Apr-19	8:57am	bs	bs		204 Community Way	1446769	Absent	Absent	0.09	1.20
23-Apr-19	9:12am	bs	bs		400 Big Rock Lane	1446770	Absent	Absent	0.06	1.24
29-Apr-19	7:20am	ma	ma	200-1118 North Railway Street		1446762	Absent	Absent	0.09	1.09
29-Apr-19	7:35am	ma	ma	261 Don Seaman Way		1446757	Absent	Absent	0.07	1.06
29-Apr-19	7:50am	ma	ma	51 Drake Landing Loop		1446761	Absent	Absent	0.06	1.01
29-Apr-19	8:05am	ma	ma	61 Downey Road		1446760	Absent	Absent	0.05	1.15
29-Apr-19	8:15am	ts	ts		22 Southridge Drive	1446758	Absent	Absent	0.06	1.14
29-Apr-19	8:30am	ts	ts		280 S0uthridge Drive	1446755	Absent	Absent	0.06	1.09
29-Apr-19	8:40am	ts	ts		109-201 Southridge Drive	1446759	Absent	Absent	0.05	1.13
29-Apr-19	8:55am	ts	ts		30 Cimarron Crescent	1446756	Absent	Absent	0.07	1.17
NOTE: Samples collected on April 5 & 10, 2019 were a result of water line repairs, depressurizations in the distribution system. April 5, 2019 AE Reference # 351655. April 10, 2019 AE Reference # 351862								**MINIMUM**	0.05	0.78
								MAXIMUM	0.91	1.52
								AVERAGE	0.13	1.07
						TOTAL # OF SAMPLES	44			
Approval	Frequency			Weekly	Weekly	30 Samples per Month			Weekly	Daily
Requirements	Limit			Random	Random	Random			≤ 5 NTU	≥0.1 mg/L

MAY 2019

DAY	TIME	Sampled By	Tested By	North Location	South Location	Bacti Sample Collected	*E. coli* Present or Absent/100 mL	Total Coliform Present or Absent/100 mL	TURBIDITY (NTU)	FREE CHLORINE RESIDUAL (mg/L)
6-May-19	7:30am	jab	jab	200-1118 North Railway Street		1045989	Absent	Absent	0.06	1.15
6-May-19	8:10am	jab	jab	261 Don Seaman Way		1045986	Absent	Absent	0.07	1.15
6-May-19	8:35am	jab	jab	51 Drake Landing Loop		1045987	Absent	Absent	0.06	1.17
6-May-19	9:17am	jab	jab	14 Lock Crescent		1045988	Absent	Absent	0.05	1.15
6-May-19	8:52am	pk1	pk1		22 Southridge Drive	1446751	Absent	Absent	0.10	1.08
6-May-19	9:05am	pk1	pk1		69 Cimarron Meadows Crescent	1446752	Absent	Absent	0.06	0.90
6-May-19	9:35am	pk1	pk1		280 Southridge Drive	1446754	Absent	Absent	0.05	0.92
6-May-19	9:50am	pk1	pk1		100 Southbank Road	1446753	Absent	Absent	0.08	1.13
13-May-19	7:50am	pk1	pk1	200-1118 North Railway Street		1045984	Absent	Absent	0.10	0.92
13-May-19	9:33am	pk1	pk1	261 Don Seaman Way		1045982	Absent	Absent	0.10	0.93
13-May-19	9:46am	pk1	pk1	51 Drake Landing Loop		1045985	Absent	Absent	0.05	0.87
13-May-19	10:16am	pk1	pk1	50 Elizabeth Street		1045983	Absent	Absent	0.07	0.95
13-May-19	8:15am	pk1	pk1		69 Cimarron Meadows Crescent	1045980	Absent	Absent	0.07	0.93
13-May-19	8:23am	pk1	pk1		22 Southridge Drive	1045981	Absent	Absent	0.09	0.97
13-May-19	9:00am	pk1	pk1		280 Southridge Drive	1045978	Absent	Absent	0.10	0.92
13-May-19	9:21am	pk1	pk1		100 Southbank Road	1045979	Absent	Absent	0.08	0.98
21-May-19	7:20am	pk	pk	200-1118 North Railway Street		1045974	Absent	Absent	0.09	0.86
21-May-19	8:22am	pk	pk	261 Don Seaman Way		1045975	Absent	Absent	0.07	1.02
21-May-19	8:40am	pk	pk	51 Drake Landing Loop		1045970	Absent	Absent	0.10	0.81
21-May-19	8:55am	pk	pk	40 Crystal Shores Heights		1045973	Absent	Absent	0.07	0.96
21-May-19	7:55am	bs	bs		22 Southridge Drive	1045976	Absent	Absent	0.06	0.80
21-May-19	8:12am	bs	bs		280 Southridge Drive	1045972	Absent	Absent	0.05	0.60
21-May-19	8:46am	bs	bs		204 Community Way	1045977	Absent	Absent	0.06	1.01
21-May-19	9:00am	bs	bs		400 Big Rock Lane	1045971	Absent	Absent	0.05	1.03
27-May-19	7:46am	pk1	pk1	261 Don Seaman Way		1045964	Absent	Absent	0.15	0.85
27-May-19	8:06am	pk1	pk1	200-1118 North Railway Street		1045963	Absent	Absent	0.08	0.90
27-May-19	8:29am	pk1	pk1	51 Drake Landing Loop		1045962	Absent	Absent	0.07	0.72
27-May-19	8:53am	pk1	pk1	99 Okotoks Drive		1045965	Absent	Absent	0.09	0.75
27-May-19	8:35am	ts	ts		22 Southridge Drive	1045966	Absent	Absent	0.08	0.84
27-May-19	8:55am	ts	ts		280 Southridge Drive	1045969	Absent	Absent	0.09	0.73
27-May-19	9:05am	ts	ts		109-201 Southridge Drive	1045967	Absent	Absent	0.08	0.98
27-May-19	9:15am	ts	ts		30 Cimarron Cresent	1045968	Absent	Absent	0.06	0.93
								MINIMUM	0.05	0.60
								MAXIMUM	0.15	1.13
								AVERAGE	0.08	0.90
						TOTAL # OF SAMPLES	32			
Approval	Frequency			Weekly	Weekly	30 Samples per Month			Weekly	Daily
Requirements	Limit			Random	Random	Random			≤ 5 NTU	≥0.1 mg/L

JUNE 2019

DAY	TIME	Sampled By	Tested By	North Location	South Location	Bacti Sample Collected	*E. coli* Present or Absent/100 mL	Total Coliform Present or Absent/100 mL	TURBIDITY (NTU)	FREE CHLORINE RESIDUAL (mg/L)
3-Jun-19	7:25am	ma	ma	200-1118 North Railway Street		1444045	Absent	Absent	0.06	1.04
3-Jun-19	8:07am	ma	ma	261 Don Seaman Way		1444043	Absent	Absent	0.05	1.01
3-Jun-19	8:25am	ma	ma	51 Drake Landing Loop		1444044	Absent	Absent	0.09	0.54
3-Jun-19	8:43am	ma	ma	61 Downey Road		1444046	Absent	Absent	0.08	1.15
3-Jun-19	8:30am	ts	ts		22 Southridge Drive	1444047	Absent	Absent	0.07	1.00
3-Jun-19	8:50am	ts	ts		280 Southridge Drive	1444048	Absent	Absent	0.10	0.88
3-Jun-19	9:00am	ts	ts		109-201 Southridge Drive	1444049	Absent	Absent	0.07	1.10
3-Jun-19	9:10am	ts	ts		30 Cimarron Crescent	1444050	Absent	Absent	0.06	1.13
10-Jun-19	8:15am	ts	ts		22 Southridge Drive	1444037	Absent	Absent	0.09	1.17
10-Jun-19	8:30am	ts	ts		280 Southridge Drive	1444036	Absent	Absent	0.06	0.93
10-Jun-19	8:40am	ts	ts		109-201 Southridge Drive	1444042	Absent	Absent	0.08	1.27
10-Jun-19	8:50am	ts	ts		30 Cimarron Crescent	1444038	Absent	Absent	0.06	1.25
10-Jun-19	7:20am	ma	ma	200-1118 North Railway Street		1045961	Absent	Absent	0.06	0.98
10-Jun-19	7:50am	ma	ma	261 Don Seaman Way		1444041	Absent	Absent	0.06	1.01
10-Jun-19	8:10am	ma	ma	51 Drake Landing Loop		1444040	Absent	Absent	0.07	0.58
10-Jun-19	8:25am	ma	ma	61 Downey Road		1444039	Absent	Absent	0.08	1.22
17-Jun-19	7:10am	bs	bs	200-1118 North Railway Streeet		1045959	Absent	Absent	0.09	1.08
17-Jun-19	7:35am	bs	bs	261 Don Seaman Way		1045955	Absent	Absent	0.07	0.90
17-Jun-19	7:55am	bs	bs	51 Drake Landing Loop		1045958	Absent	Absent	0.06	0.76
17-Jun-19	8:20am	bs	bs	99 Okotoks Drive		1045956	Absent	Absent	0.10	0.90
17-Jun-19	8:30am	pk	pk		204 Community Way	1045952	Absent	Absent	0.10	1.07
17-Jun-19	8:40am	pk	pk		22 Southridge Drive	1045951	Absent	Absent	0.09	1.11
17-Jun-19	8:55am	pk	pk		280 Southridge Drive	1045954	Absent	Absent	0.13	0.98
24-Jun-19	8:05am	pk	pk	261 Don Seaman Way		1444026	Absent	Absent	0.09	1.01
24-Jun-19	8:25am	pk	pk	51 Drake Landing Loop		1444029	Absent	Absent	0.06	0.75
24-Jun-19	9:46am	pk	pk	111 Waldren Avenue		1444027	Absent	Absent	0.05	1.02
24-Jun-19	10:20am	pk	pk	40 Crystal Shores Heights		1444028	Absent	Absent	0.07	0.96
24-Jun-19	8:00am	ch	ch		280 Southridge Drive	1444032	Absent	Absent	0.07	0.91
24-Jun-19	8:17am	ch	ch		22 Southridge Drive	1444033	Absent	Absent	0.10	0.92
24-Jun-19	8:34am	ch	ch		12 Southridge Drive	1444031	Absent	Absent	0.08	0.99
24-Jun-19	8:41am	ch	ch		4 Westland Road	1444030	Absent	Absent	0.08	0.70
								MINIMUM	0.05	0.54
								MAXIMUM	0.13	1.27
								AVERAGE	0.08	0.98
						TOTAL # OF SAMPLES	31			
Approval	Frequency			Weekly	Weekly	30 Samples per Month			Weekly	Daily
Requirements	Limit			Random	Random	Random			≤ 5 NTU	≥0.1 mg/L

JULY 2019

DAY	TIME	Sampled By	Tested By	North Location	South Location	Bacti Sample Collected	*E. coli* Present or Absent/100 mL	Total Coliform Present or Absent/100 mL	TURBIDITY (NTU)	FREE CHLORINE RESIDUAL (mg/L)
2-Jul-19	7:50am	pk	pk	261 Don Seaman Way		1444025	Absent	Absent	0.18	0.77
2-Jul-19	8:30am	pk	pk	200-235 Milligan Drive		1444024	Absent	Absent	0.07	0.69
2-Jul-19	8:43am	pk	pk	51 Drake Landing Loop		1444023	Absent	Absent	0.09	0.93
2-Jul-19	9:05am	pk	pk	40 Crystal Shores Heights		1444022	Absent	Absent	0.10	0.72
2-Jul-19	8:30am	ts	ts		22 Southridge Drive	1444018	Absent	Absent	0.08	0.97
2-Jul-19	8:45am	ts	ts		280 Southridge Drive	1444021	Absent	Absent	0.09	0.97
2-Jul-19	8:55am	ts	ts		109-201 Southridge Drive	1444020	Absent	Absent	0.06	1.01
2-Jul-19	9:10am	ts	ts		30 Cimarron Crescent	1444019	Absent	Absent	0.06	1.07
8-Jul-19	6:45am	pw	pw	200-1118 North Railway Street		1444013	Absent	Absent	0.07	0.77
8-Jul-19	7:30am	pw	pw	111 Waldren Avenue		1444011	Absent	Absent	0.05	0.80
8-Jul-19	7:45am	pw	pw	69 Okotoks Drive		1444010	Absent	Absent	0.08	1.18
8-Jul-19	8:20am	pw	pw	50 Elizabeth Street		1444012	Absent	Absent	0.08	0.83
8-Jul-19	8:10am	jm	jm		40 Cimarron Meadows Way	1444016	Absent	Absent	0.09	1.13
8-Jul-19	8:25am	jm	jm		27 Sheep River Drive	1444014	Absent	Absent	0.07	1.13
8-Jul-19	9:00am	jm	jm		280 Southridge Drive	1444015	Absent	Absent	0.21	0.47
8-Jul-19	9:15am	jm	jm		212-112 Southbank Blvd	1444017	Absent	Absent	0.09	0.62
17-Jul-19	7:40am	pk	pk	200-1118 North Railway Street		1444005	Absent	Absent	0.20	0.68
17-Jul-19	8:20am	pk	pk	261 Don Seaman Way		1444003	Absent	Absent	0.10	0.89
17-Jul-19	8:50am	pk	pk	111 Waldron Avenue		1444002	Absent	Absent	0.08	0.81
17-Jul-19	9:20am	pk	pk	40 Crystal Shores Heights		1444004	Absent	Absent	0.07	0.65
17-Jul-19	8:10am	jab	jab		280 Southridge Drive	1444008	Absent	Absent	0.07	0.55
17-Jul-19	8:20am	jab	jab		109-201 Southridge Drive	1444007	Absent	Absent	0.05	1.06
17-Jul-19	8:50am	jab	jab		155 Woodhaven Drive	1444009	Absent	Absent	0.07	1.11
17-Jul-19	9:00am	jab	jab		400 Big Rock Lane	1444006	Absent	Absent	0.07	1.07
22-Jul-19	7:10am	bs	bs	200-1118 North Railway Street		1602545	Absent	Absent	0.10	0.60
22-Jul-19	7:32am	bs	bs	261 Don Seaman Way		1602544	Absent	Absent	0.06	0.99
22-Jul-19	7:54am	bs	bs	51 Drake Landing Loop		1602543	Absent	Absent	0.05	0.78
22-Jul-19	8:35am	bs	bs	99 Okotoks Drive		1602540	Absent	Absent	0.06	0.80
22-Jul-19	8:15am	df	df		280 Southridge Drive	1602550	Absent	Absent	0.07	0.68
22-Jul-19	8:30am	df	df		22 Southridge Drive	1602547	Absent	Absent	0.06	1.10
22-Jul-19	8:45am	df	df		400 Big Rock Lane	1602546	Absent	Absent	0.06	1.14
22-Jul-19	9:05am	df	df		212-112 Southbank Blvd	1602549	Absent	Absent	0.06	0.57
29-Jul-19	8:05am	pk	pk	261 Don Seaman Way		1602535	Absent	Absent	0.14	1.02
29-Jul-19	8:25am	pk	pk	200-235 Milligan Drive		1602536	Absent	Absent	0.08	1.06
29-Jul-19	8:40am	pk	pk	51 Drake Landing Loop		1602537	Absent	Absent	0.07	0.98
29-Jul-19	9:01am	pk	pk	40 Crystal Shores Heights		1602542	Absent	Absent	0.08	0.94
29-Jul-19	8:35am	ts	ts		22 Southridge Drive	1602538	Absent	Absent	0.06	1.16
29-Jul-19	8:50am	ts	ts		280 Southridge Drive	1602539	Absent	Absent	0.07	0.94
29-Jul-19	9:00am	ts	ts		109-201 Southridge Drive	1602540	Absent	Absent	0.06	1.35
29-Jul-19	9:10am	ts	ts		30 Cimarron Crescent	1602541	Absent	Absent	0.06	1.30
								MINIMUM	0.05	0.47
								MAXIMUM	0.21	1.35
								AVERAGE	0.08	0.91
						TOTAL # OF SAMPLES	40			
Approval	Frequency			Weekly	Weekly	30 Samples per Month			Weekly	Daily
Requirements	Limit			Random	Random	Random			≤ 5 NTU	≥0.1 mg/L

AUGUST 2019

DAY	TIME	Sampled By	Tested By	North Location	South Location	Bacti Sample Collected	*E. coli* Present or Absent/100 mL	Total Coliform Present or Absent/100 mL	TURBIDITY (NTU)	FREE CHLORINE RESIDUAL (mg/L)
6-Aug-19	8:10am	jab	jab		100 Southbank Blvd	1602528	Absent	Absent	0.09	1.07
6-Aug-19	8:30am	jab	jab		109-201 Southridge Drive	1602527	Absent	Absent	0.06	1.30
6-Aug-19	8:45am	jab	jab		280 Southridge Drive	1602530	Absent	Absent	0.09	0.76
6-Aug-19	9:30am	jab	jab		400 Big Rock Lane	1602529	Absent	Absent	0.06	1.33
6-Aug-19	7:20am	ma	ma	200-1118 North Railway Street		1602532	Absent	Absent	0.15	0.89
6-Aug-19	7:35am	ma	ma	261 Don Seaman Way		1602534	Absent	Absent	0.12	1.26
6-Aug-19	7:50am	ma	ma	51 Drake Landing loop		1602531	Absent	Absent	0.15	1.04
6-Aug-19	8:05am	ma	ma	61 Downey Road		1602533	Absent	Absent	0.21	1.26
12-Aug-19	7:30am	ma	ma		100 Southbank Road	1602526	Absent	Absent	0.08	1.18
12-Aug-19	7:50am	ma	ma		280 Southridge Drive	1602523	Absent	Absent	0.05	0.98
12-Aug-19	8:05am	ma	ma		22 Southridge Drive	1602525	Absent	Absent	0.06	1.32
12-Aug-19	8:15am	ma	ma		400 Big Rock Lane	1602521	Absent	Absent	0.07	1.24
12-Aug-19	7:15am	pk	pk	200-1118 North Railway Street		1602524	Absent	Absent	0.11	0.76
12-Aug-19	8:00am	pk	pk	261 Don Seaman Way		1602522	Absent	Absent	0.08	0.80
12-Aug-19	8:15am	pk	pk	51 Drake Landing Loop		1602519	Absent	Absent	0.07	0.96
12-Aug-19	8:45am	pk	pk	40 Crystal Shores Heights		1602520	Absent	Absent	0.07	0.88
19-Aug-19	8:00am	bs	bs		22 Southridge Drive	1602515	Absent	Absent	0.05	1.18
19-Aug-19	8:15am	bs	bs		280 southridge Drive	1602517	Absent	Absent	0.06	0.83
19-Aug-19	8:45am	bs	bs		3-204 Community Way	1602516	Absent	Absent	0.05	1.20
19-Aug-19	8:52am	bs	bs		400 Big Rock Lane	1602518	Absent	Absent	0.06	1.17
19-Aug-19	8:15am	pk	pk	261 Don Seaman Way		1602514	Absent	Absent	0.08	0.77
19-Aug-19	8:44am	pk	pk	200-235 North Railway Street		1602511	Absent	Absent	0.07	1.03
19-Aug-19	8:56am	pk	pk	51 Drake Landing Loop		1602513	Absent	Absent	0.05	0.97
19-Aug-19	9:15am	pk	pk	40 Crystal Shores Heights		1602512	Absent	Absent	0.08	1.00
26-Aug-19	7:55am	df	df		280 Southridge Drive	1602506	Absent	Absent	0.05	0.98
26-Aug-19	8:25am	df	df		22 Southridge Drive	1602505	Absent	Absent	0.08	1.11
26-Aug-19	8:40am	df	df		212-112 Southbank Blvd	1602503	Absent	Absent	0.05	0.68
26-Aug-19	9:05am	df	df		400 Big Rock Lane	1602504	Absent	Absent	0.06	1.12
26-Aug-19	7:10am	ma	ma	200-1118 Northrailway Street		1602507	Absent	Absent	0.12	0.75
26-Aug-19	7:25am	ma	ma	261 Don Seaman Way		1602509	Absent	Absent	0.06	1.03
26-Aug-19	7:40am	ma	ma	51 Drake Landing Loop		1602510	Absent	Absent	0.06	0.88
26-Aug-19	8:00am	ma	ma	61 Downey Road		1602508	Absent	Absent	0.07	1.16
								MINIMUM	0.05	0.68
								MAXIMUM	0.21	1.33
								AVERAGE	0.08	1.03
						TOTAL # OF SAMPLES	32			
Approval	Frequency			Weekly	Weekly	30 Samples per Month			Weekly	Daily
Requirements	Limit			Random	Random	Random			≤ 5 NTU	≥0.1 mg/L

SEPTEMBER 2019

DAY	TIME	Sampled By	Tested By	North Location	South Location	Bacti Sample Collected	*E. coli* Present or Absent/100 mL	Total Coliform Present or Absent/100 mL	TURBIDITY (NTU)	FREE CHLORINE RESIDUAL (mg/L)
3-Sep-19	6:55am	pk	pk	261 Don Seaman Way		1602450	Absent	Absent	0.07	0.92
3-Sep-19	7:10am	pk	pk	111 Waldron Ave		1602449	Absent	Absent	0.06	1.05
3-Sep-19	7:00am	pk	pk	40 Crystal Shores Heights		1602501	Absent	Absent	0.06	1.09
3-Sep-19	6:40am	pk	pk	51 Drake Landing Loop		1602502	Absent	Absent	0.08	0.87
3-Sep-19	8:35am	em	em		280 Southridge Drive	1602447	Absent	Absent	0.05	1.00
3-Sep-19	10:00am	em	em		100 Southbank Road	1602446	Absent	Absent	0.07	1.09
3-Sep-19	10:23am	em	em		22 Southridge Drive	1602448	Absent	Absent	0.05	1.11
3-Sep-19	10:50am	em	em		400 Big Rock Lane	1602445	Absent	Absent	0.06	1.11
9-Sep-19	8:20am	ts	ts	22 Southridge Drive		1602442	Absent	Absent	0.05	1.12
9-Sep-19	8:40am	ts	ts	280 Southridge Drive		1602441	Absent	Absent	0.07	0.89
9-Sep-19	8:50am	ts	ts	109-201 Southridge Drive		1602443	Absent	Absent	0.08	1.22
9-Sep-19	9:00am	ts	ts	30 Cimarron Drive		1602440	Absent	Absent	0.10	1.23
9-Sep-19	7:23am	bs	bs		200-1118 North Railway Street	1602437	Absent	Absent	0.07	0.90
9-Sep-19	7:35am	bs	bs		261 Don Seaman Way	1602438	Absent	Absent	0.10	0.97
9-Sep-19	7:56am	bs	bs		51 Drake Landing Loop	1602439	Absent	Absent	0.08	0.98
9-Sep-19	8:25am	bs	bs		99 Okotoks Drive	1602436	Absent	Absent	0.07	0.90
16-Sep-19	8:20am	ts	ts	261 Don Seaman Way		1602428	Absent	Absent	0.11	1.06
16-Sep-19	8:40am	ts	ts	51 Drake Landing Loop		1602434	Absent	Absent	0.07	0.96
16-Sep-19	9:00am	ts	ts	99 Okotoks Drive		1602432	Absent	Absent	0.07	0.90
16-Sep-19	9:10am	ts	ts	200 Sandstone Drive		1602435	Absent	Absent	0.08	1.12
16-Sep-19	8:55am	jm	jm		280 SouthRidge Drive	1602429	Absent	Absent	0.07	0.97
16-Sep-19	9:05am	jm	jm		40 Cimarron Meadows Way	1602430	Absent	Absent	0.06	1.20
16-Sep-19	9:40am	jm	jm		27 Sheep River Drive	1602431	Absent	Absent	0.05	1.17
16-Sep-19	10:00am	jm	jm		212-112 SouthBank Blvd	1602433	Absent	Absent	0.09	0.91
23-Sep-19	7:19am	bs	bs	200-1118 North Railway Street		1602421	Absent	Absent	0.14	0.87
23-Sep-19	7:35am	bs	bs	261 Don Seaman Way		1602423	Absent	Absent	0.06	0.99
23-Sep-19	8:00am	bs	bs	51 Drake Landing Loop		1602420	Absent	Absent	0.10	0.92
23-Sep-19	8:40am	bs	bs	99 Okotoks Drive		1602422	Absent	Absent	0.07	0.98
23-Sep-19	8:09am	kc	kc		280 Southridge Drive	1602427	Absent	Absent	0.05	0.88
23-Sep-19	8:46am	kc	kc		212-112 Southbank Blvd	1602426	Absent	Absent	0.06	0.83
23-Sep-19	9:05am	kc	kc		22 Southridge Drive	1602424	Absent	Absent	0.09	1.12
23-Sep-19	9:10am	kc	kc		400 Big Rock Lane	1602425	Absent	Absent	0.11	1.21
30-Sep-19	9:20am	kc	kc		280 Southridge Drive	1602417	Absent	Absent	0.10	0.90
30-Sep-19	9:40am	kc	kc		400 Big Rock Lane	1602418	Absent	Absent	0.08	0.87
30-Sep-19	11:19am	kc	kc		31 Southridge Drive	1602415	Absent	Absent	0.07	1.04
30-Sep-19	11:29am	kc	kc		22 Southridge Drive	1602416	Absent	Absent	0.06	1.09
30-Sep-19	11:30am	ma	ma	200-1118 North Railway Street		1602412	Absent	Absent	0.09	0.91
30-Sep-19	11:42am	ma	ma	261 Don Seaman Way		1602414	Absent	Absent	0.06	0.97
30-Sep-19	11:50am	ma	ma	51 Drake Landing Loop		1602413	Absent	Absent	0.09	0.99
30-Sep-19	11:55am	ma	ma	61 Downey Road		1602411	Absent	Absent	0.08	1.20
								MINIMUM	0.05	0.83
								MAXIMUM	0.14	1.23
								AVERAGE	0.08	1.02
						TOTAL # OF SAMPLES	40			
Approval	Frequency			Weekly	Weekly	30 Samples per Month			Weekly	Daily
Requirements	Limit			Random	Random	Random			≤ 5 NTU	≥0.1 mg/L

OCTOBER 2019

DAY	TIME	Sampled By	Tested By	North Location	South Location	Bacti Sample Collected	*E. coli* Present or Absent/100 mL	Total Coliform Present or Absent/100 mL	TURBIDITY (NTU)	FREE CHLORINE RESIDUAL (mg/L)
7-Oct-19	8:15am	ts	ts		22 Southridge Drive	1627395	Absent	Absent	0.06	1.12
7-Oct-19	8:45am	ts	ts		280 Southridge Drive	1627394	Absent	Absent	0.07	1.02
7-Oct-19	8:55am	ts	ts		109-201 Southridge Drive	1627396	Absent	Absent	0.06	1.26
7-Oct-19	9:10am	ts	ts		30 Cimarron Crescent	1602419	Absent	Absent	0.05	1.27
7-Oct-19	7:15am	bs	bs	200-1118 North Railway Street		1627398	Absent	Absent	0.18	0.74
7-Oct-19	7:34am	bs	bs	261 Don Seaman Way		1627399	Absent	Absent	0.55	0.80
7-Oct-19	7:58am	bs	bs	51 Drake Landing Loop		1627397	Absent	Absent	0.13	0.87
7-Oct-19	8:35am	bs	bs	99 Okotoks Drive		1627400	Absent	Absent	0.12	0.96
15-Oct-19	9:00am	jab	jab		112 Southbank Blvd	1627390	Absent	Absent	0.07	0.55
15-Oct-19	9:20am	jab	jab		280 Southridge Drive	1627393	Absent	Absent	0.07	0.62
15-Oct-19	9:30am	jab	jab		109-201 Southridge Drive	1627392	Absent	Absent	0.06	1.03
15-Oct-19	10:00am	jab	jab		400 Big Rock Lane	1627391	Absent	Absent	0.06	0.96
15-Oct-19	7:20am	bs	bs	200-1118 North Railway Street		1627389	Absent	Absent	0.41	0.71
15-Oct-19	7:43am	bs	bs	261 Don Seaman Way		1627388	Absent	Absent	0.07	0.89
15-Oct-19	8:05am	bs	bs	51 Drake Landing Loop		1627386	Absent	Absent	0.12	0.86
15-Oct-19	8:28am	bs	bs	99 Okotoks Drive		1627387	Absent	Absent	0.10	0.90
21-Oct-19	7:10am	bs	bs	200-1118 North Railway Street		1627378	Absent	Absent	0.27	0.83
21-Oct-19	7:34am	bs	bs	261 Don Seaman Way		1627379	Absent	Absent	0.10	0.76
21-Oct-19	7:55am	bs	bs	51 Drake Landing Loop		1627380	Absent	Absent	0.13	0.81
21-Oct-19	8:25am	bs	bs	99 Okotoks Drive		1627381	Absent	Absent	0.08	1.02
21-Oct-19	8:30am	ma	ma		100 Southbank Road	1627382	Absent	Absent	0.08	1.13
21-Oct-19	8:45am	ma	ma		112 Southbank Blvd	1627383	Absent	Absent	0.07	0.72
21-Oct-19	9:00am	ma	ma		280 Southridge Drive	1627384	Absent	Absent	0.08	1.12
21-Oct-19	9:15am	ma	ma		22 Southridge Drive	1627385	Absent	Absent	0.06	1.21
28-Oct-19	8:30am	jb	jb		100 Southbank Road	1627370	Absent	Absent	0.08	1.14
28-Oct-19	9:05am	jb	jb		280 Southridge Drive	1627371	Absent	Absent	0.06	0.94
28-Oct-19	9:25am	jb	jb		94 Cimarron Grove Way	1627375	Absent	Absent	0.06	0.99
28-Oct-19	9:45am	jb	jb		22 Southridge Drive	1627372	Absent	Absent	0.05	1.33
28-Oct-19	7:20am	bs	bs	200-1118 North Railway Street		1627377	Absent	Absent	0.14	0.85
28-Oct-19	7:41am	bs	bs	261 Don Seaman Way		1627373	Absent	Absent	0.06	0.89
28-Oct-19	8:04am	bs	bs	51 Drake Landing Loop		1627374	Absent	Absent	0.05	1.01
28-Oct-19	8:35am	bs	bs	99 Okotoks Drive		1627376	Absent	Absent	0.09	1.00
								MINIMUM	0.05	0.55
								MAXIMUM	0.55	1.33
								AVERAGE	0.11	0.95
						TOTAL # OF SAMPLES	32			
Approval	Frequency			Weekly	Weekly	30 Samples per Month			Weekly	Daily
Requirements	Limit			Random	Random	Random			≤ 5 NTU	≥0.1 mg/L

NOVEMBER 2019

DAY	TIME	Sampled By	Tested By	North Location	South Location	Bacti Sample Collected	*E. coli* Present or Absent/100 mL	Total Coliform Present or Absent/100 mL	TURBIDITY (NTU)	FREE CHLORINE RESIDUAL (mg/L)
4-Nov-19	8:00am	ts	ts		22 Southridge Drive	1627359	Absent	Absent	0.07	1.22
4-Nov-19	8:10am	ts	ts		280 Southridge Drive	1627369	Absent	Absent	0.05	1.01
4-Nov-19	8:20am	ts	ts		109-201 Southridge Drive	1627368	Absent	Absent	0.05	1.20
4-Nov-19	8:40am	ts	ts	200-1118 North Railway Street	30 Cimarron Crescent	1627365	Absent	Absent	0.06	1.18
4-Nov-19	7:20am	bs	bs	261 Don Seaman Way		1627366	Absent	Absent	0.18	0.78
4-Nov-19	7:35am	bs	bs	51 Drake Landing Loop		1627364	Absent	Absent	0.06	1.01
4-Nov-19	8:05am	bs	bs	99 Okotoks Drive		1627367	Absent	Absent	0.05	0.79
4-Nov-19	8:35am	bs	bs			1627360	Absent	Absent	0.07	0.96
12-Nov-19	7:50am	ma	ma		100 Southbank Road	1627355	Absent	Absent	0.05	1.16
12-Nov-19	7:25am	ma	ma		280 Southridge Drive	1627354	Absent	Absent	0.05	0.95
12-Nov-19	7:35am	ma	ma		22 Southridge Drive	1627357	Absent	Absent	0.06	1.20
12-Nov-19	8:55am	ma	ma		400 Big Rock Lane	1627356	Absent	Absent	0.04	1.21
12-Nov-19	7:50am	jb	jb	200-1118 North Railway Street		1627361	Absent	Absent	0.08	0.80
12-Nov-19	8:25am	jb	jb	261 Don Seaman Way		1627362	Absent	Absent	0.06	1.03
12-Nov-19	8:50am	jb	jb	51 Drake Landing Loop		1627363	Absent	Absent	0.07	1.03
12-Nov-19	9:25am	jb	jb	50 Elizabeth Street		1627358	Absent	Absent	0.06	1.09
18-Nov-19	8:36am	pk	pk		204 Community Way	1602410	Absent	Absent	0.06	1.12
18-Nov-19	8:48am	pk	pk		22 Southridge Dr	1627352	Absent	Absent	0.05	1.17
18-Nov-19	9:22am	pk	pk		429-200 Southridge Dr	1627353	Absent	Absent	0.05	1.19
18-Nov-19	9:30am	pk	pk		280 Southridge Dr	1627351	Absent	Absent	0.06	0.91
18-Nov-19	8:30am	ts	ts	261 Don Seaman Way		1602407	Absent	Absent	0.39	1.05
18-Nov-19	8:45am	ts	ts	51 Drake Landing Loop		1602409	Absent	Absent	0.07	0.92
18-Nov-19	9:00am	ts	ts	99 Okotoks Drive		1602405	Absent	Absent	0.08	1.05
18-Nov-19	9:10am	ts	ts	200 Sandstone Drive		1602408	Absent	Absent	0.06	1.15
25-Nov-19	7:10am	bs	bs	200-1118 North Railway Street		1602404	Absent	Absent	0.14	0.78
25-Nov-19	7:35am	bs	bs	261 Don Seaman Way		1602498	Absent	Absent	0.06	0.88
25-Nov-19	7:55am	bs	bs	51 Drake Landing Loop		1602499	Absent	Absent	0.07	0.92
25-Nov-19	8:10am	bs	bs	4 Ranchers View		1602402	Absent	Absent	0.07	0.74
25-Nov-19	8:15am	ts	ts		22 Southridge Dr	1602406	Absent	Absent	0.06	1.07
25-Nov-19	8:35am	ts	ts		280 Southridge Dr	1602401	Absent	Absent	0.05	0.97
25-Nov-19	8:45am	ts	ts		109-201 Southridge Drive	1602403	Absent	Absent	0.05	1.06
25-Nov-19	8:55am	ts	ts		30 Cimarron Crescent	1602500	Absent	Absent	0.05	1.12
								MINIMUM	0.04	0.74
								MAXIMUM	0.39	1.22
								AVERAGE	0.08	1.02
						TOTAL # OF SAMPLES	32			
Approval	Frequency			Weekly	Weekly	30 Samples per Month			Weekly	Daily
Requirements	Limit			Random	Random	Random			≤ 5 NTU	≥0.1 mg/L

DECEMBER 2019

DAY	TIME	Sampled By	Tested By	North Location	South Location	Bacti Sample Collected	*E. coli* Present or Absent/100 mL	Total Coliform Present or Absent/100 mL	TURBIDITY (NTU)	FREE CHLORINE RESIDUAL (mg/L)
2-Dec-19	8:30am	pk	pk	200-1118 North Railway Street		1602492	Absent	Absent	0.20	0.69
2-Dec-19	8:51am	pk	pk	261 Don Seaman Way		1602496	Absent	Absent	0.08	0.86
2-Dec-19	9:08am	pk	pk	51 Drake Landing Loop		1602493	Absent	Absent	0.10	0.82
2-Dec-19	9:45am	pk	pk	40 Crystal Shores Hts		1602490	Absent	Absent	0.07	0.80
2-Dec-19	8:25am	kc	kc		280 Southridge Drive	1602497	Absent	Absent	0.15	1.02
2-Dec-19	9:05am	kc	kc		112 Southbank Blvd	1602491	Absent	Absent	0.07	0.95
2-Dec-19	9:25am	kc	kc		400 Big Rock Lane	1602495	Absent	Absent	0.23	0.96
2-Dec-19	9:35am	kc	kc		22 Southridge Drive	1602494	Absent	Absent	0.14	1.09
9-Dec-19	8:00am	ma	ma		100 Southbank Road	1602485	Absent	Absent	0.06	1.02
9-Dec-19	8:20am	ma	ma		212-112 Southbank Blvd	1602483	Absent	Absent	0.06	1.00
9-Dec-19	8:40am	ma	ma		280 Southbank Drive	1602482	Absent	Absent	0.06	0.84
9-Dec-19	8:50am	ma	ma		22 Southridge Drive	1602484	Absent	Absent	0.06	0.98
9-Dec-19	7:20am	pk	pk	200-118 North Railway Street		1602489	Absent	Absent	0.09	0.85
9-Dec-19	7:58am	pk	pk	261 Don Seaman Way		1602487	Absent	Absent	0.05	0.87
9-Dec-19	8:18am	pk	pk	51 Drake Landing Loo[p		1602486	Absent	Absent	0.09	0.79
9-Dec-19	9:00am	pk	pk	40 Crystal Shores Drive		1602488	Absent	Absent	0.07	0.97
16-Dec-19	7:30am	bs	bs	200-118 North Railway Street		1602475	Absent	Absent	0.21	0.79
16-Dec-19	7:48am	bs	bs	261 Don Seaman Way		1502478	Absent	Absent	0.08	0.86
16-Dec-19	8:07am	bs	bs	51 Drake Landing Loo[p		1602474	Absent	Absent	0.10	0.90
16-Dec-19	8:48am	bs	bs	2-107 Stockton Point		1602479	Absent	Absent	0.20	1.09
16-Dec-19	8:33am	kc	kc		280 Southridge Drive	1602480	Absent	Absent	0.06	0.96
16-Dec-19	8:50am	kc	kc		22 Southridge Drive	1602481	Absent	Absent	0.05	1.06
16-Dec-19	9:00am	kc	kc		400 Big Rock Lane	1602477	Absent	Absent	0.09	1.12
16-Dec-19	9:22am	kc	kc		100 Southbank Road	1602473	Absent	Absent	0.07	1.05
23-Dec-19	8:22am	kc	kc	200-1118 North Railway Street		1602470	Absent	Absent	0.12	0.96
23-Dec-19	8:40am	kc	kc	261 Don Seaman Way		1602466	Absent	Absent	0.09	1.09
23-Dec-19	9:10am	kc	kc	51 Drake Landing Loop		1602472	Absent	Absent	0.06	0.99
23-Dec-19	9:39am	kc	kc	99 Okotoks Drive		1602471	Absent	Absent	0.06	0.97
23-Dec-19	8:45am	ts	ts		22 Southridge Drive	1602467	Absent	Absent	0.06	1.11
23-Dec-19	9:00am	ts	ts		280 Southridge Drive	1602468	Absent	Absent	0.06	0.89
23-Dec-19	9:10am	ts	ts		109-201 Southridge Drive	1602469	Absent	Absent	0.08	1.24
23-Dec-19	9:25am	ts	ts		30 Cimarron Crescent	1602465	Absent	Absent	0.07	1.45
30-Dec-19	7:15am	bs	bs	200-1118 North Railway Street		1602459	Absent	Absent	0.12	0.92
30-Dec-19	7:34am	bs	bs	261 Don Seaman Way		1602458	Absent	Absent	0.16	0.76
30-Dec-19	7:55am	bs	bs	51 Drake Landing Loop		1602457	Absent	Absent	0.12	1.01
30-Dec-19	8:25am	bs	bs	99 Okotoks Drive		1602464	Absent	Absent	0.08	0.86
30-Dec-19	8:00am	ts	ts		22 Southridge Drive	1602463	Absent	Absent	0.08	1.12
30-Dec-19	8:15am	ts	ts		280 Southridge Drive	1602460	Absent	Absent	0.07	1.09
30-Dec-19	8:25am	ts	ts		109-201 Southridge Drive	1602461	Absent	Absent	0.06	1.29
30-Dec-19	8:35am	ts	ts		30 Cimarron Crescent	1602462	Absent	Absent	0.05	1.34
								MINIMUM	0.05	0.69
								MAXIMUM	0.23	1.45
								AVERAGE	0.09	0.99
						TOTAL # OF SAMPLES	40			
	Frequency			Weekly	Weekly	30 Samples per Month			Weekly	Daily
	Limit			Random	Random	Random			≤ 5 NTU	≥0.1 mg/L

10. Annual Results – Total Trihalomethanes (THM's) And (HAA's)

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PROJECT SUMMARY REPORT

Report ID: 201901280045

Report for:	Davey Robertson	Project:	Okotoks
Address:	200, 1118 North Railway Street Okotoks , AB T1S 1K1	Project Type:	External Plant Monitoring
		Submission:	20190109-014

Sample ID:	RS-19-00374	Collected:	January 8, 2019 8:40 am
Location Code:	COM_OKOTOKS	Received:	January 9, 2019
Description:	Entering WDS	Approved:	January 28, 2019
Address:	101 WOOD HAVEN DR	Approved By:	Marta Marcos-Mendoza
Sample Point:	LAB SINK	COA Version:	1

Component	Result	Unit	RDL
Bromochloroacetic acid	<1.0	ug/L	1.0
Dibromoacetic acid	<1.0	ug/L	1.0
Dichloroacetic acid	2.2	ug/L	2.0
Haloacetic Acids, total (HAA5)	5.3	ug/L	5.0
Haloacetic Acids, total (HAA6)	5.9	ug/L	5.0
Monobromoacetic acid	<1.0	ug/L	1.0
Monochloroacetic acid	<5.0	ug/L	5.0
Trichloroacetic acid	<3.0	ug/L	3.0
Bromodichloromethane	<0.5	µg/L	0.5
Bromoform	<1.0	µg/L	1.0
Chloroform	3.3	µg/L	0.5
Dibromochloromethane	<0.5	µg/L	0.5
Trihalomethanes	3.3	µg/L	1.0

Sample ID:	RS-19-00375	Collected:	January 8, 2019 7:50 am
Location Code:	COM_OKOTOKS	Received:	January 9, 2019
Description:	Random WDS	Approved:	January 28, 2019
Address:	69 CINNARRON MEADOWS CRES	Approved By:	Marta Marcos-Mendoza
Sample Point:	BATHROOM SINK	COA Version:	1

Component	Result	Unit	RDL
Bromochloroacetic acid	<1.0	ug/L	1.0
Dibromoacetic acid	<1.0	ug/L	1.0
Dichloroacetic acid	2.2	ug/L	2.0
Haloacetic Acids, total (HAA5)	5.2	ug/L	5.0
Haloacetic Acids, total (HAA6)	5.9	ug/L	5.0
Monobromoacetic acid	<1.0	ug/L	1.0
Monochloroacetic acid	<5.0	ug/L	5.0
Trichloroacetic acid	<3.0	ug/L	3.0
Bromodichloromethane	<0.5	µg/L	0.5
Bromoform	<1.0	µg/L	1.0
Chloroform	3.4	µg/L	0.5
Dibromochloromethane	<0.5	µg/L	0.5

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Report Date: 1/28/2019, 2:48 pm

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Trihalomethanes		3.4	µg/L	1.0

Sample ID:	RS-19-00376	Collected:	January 8, 2019 8:05 am
Location Code:	COM_OKOTOKS	Received:	January 9, 2019
Description:	Random WDS	Approved:	January 28, 2019
Address:	40 CRYSTAL SHORE HTS	Approved By:	Maria Marcos-Mendoza
Sample Point:	BATHROOM SINK	COA Version:	1

Component	Result	Unit	RDL
Bromochloroacetic acid	<1.0	ug/L	1.0
Dibromoacetic acid	<1.0	ug/L	1.0
Dichloroacetic acid	3.2	ug/L	2.0
Haloacetic Acids, total (HAA5)	6.9	ug/L	5.0
Haloacetic Acids, total (HAA6)	7.7	ug/L	5.0
Monobromoacetic acid	<1.0	ug/L	1.0
Monochloroacetic acid	<5.0	ug/L	5.0
Trichloroacetic acid	3.3	ug/L	3.0
Bromodichloromethane	<0.5	µg/L	0.5
Bromoform	<1.0	µg/L	1.0
Chloroform	5.5	µg/L	0.5
Dibromochloromethane	<0.5	µg/L	0.5
Trihalomethanes	5.5	µg/L	1.0

Sample ID:	RS-19-00377	Collected:	January 8, 2019 8:20 am
Location Code:	COM_OKOTOKS	Received:	January 9, 2019
Description:	Extreme End WDS	Approved:	January 28, 2019
Address:	51 DRAKE LANDING	Approved By:	Maria Marcos-Mendoza
Sample Point:	BATHROOM SINK	COA Version:	1

Component	Result	Unit	RDL
Bromochloroacetic acid	<1.0	ug/L	1.0
Dibromoacetic acid	<1.0	ug/L	1.0
Dichloroacetic acid	2.4	ug/L	2.0
Haloacetic Acids, total (HAA5)	5.3	ug/L	5.0
Haloacetic Acids, total (HAA6)	5.9	ug/L	5.0
Monobromoacetic acid	<1.0	ug/L	1.0
Monochloroacetic acid	<5.0	ug/L	5.0
Trichloroacetic acid	<3.0	ug/L	3.0
Bromodichloromethane	<0.5	µg/L	0.5
Bromoform	<1.0	µg/L	1.0
Chloroform	3.7	µg/L	0.5
Dibromochloromethane	<0.5	µg/L	0.5
Trihalomethanes	3.7	µg/L	1.0

Method of Analysis

Analysis Name	Method Description	
Haloacetic Acids	USEPA Method 552.3	HAA United States Environmental Protection Agency. Determination of haloacetic acids and dalapon in drinking water by liquid-liquid microextraction, derivatization, and gas chromatography with electron capture detection. Method 552.3
Trihalomethanes and Volatile Organics GCFID	EPA Method 552.3	6200B Standard Methods for The Examination of Water and Wastewater, 6200B. Approved by Standard Methods Committee

Notes:

1. Quality Assurance Laboratories – Rossdale and E. L. Smith is accredited by the Canadian Association for Laboratory Accreditation (CALA) to ISO/IEC 17025:2005 for specific analyses identified on the laboratory's scope of accreditation. Analyses not accredited by CALA are clearly identified with "Non-accredited" in the Method of Analysis section of this report and the components for non-accredited methods are marked with "*".
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7. Results reported in units of mg/kg are based on dry weight unless otherwise stated.
8. EPCOR Quality Assurance Laboratories use test methods based on or modified from the current versions of the reference methods.

Report authorized by: Marla Marcos-Mendoza
Manager, Lab Customer Service
EPCOR Water (Canada)

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Report Date: 1/28/2019, 2:49 pm

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PROJECT SUMMARY REPORT

Report ID: 201904260078

Report for:	Davey Robertson	Project:	Okotoks
Address:	200, 1118 North Railway Street Okotoks , AB T1S 1K1	Project Type:	External Plant Monitoring
		Submission:	20190412-019

Sample ID:	RS-19-04195	Collected:	April 9, 2019 7:50 am
Location Code:	COM_OKOTOKS	Received:	April 12, 2019
Description:	ENTERING WDS	Approved:	April 26, 2019
Address:	101 WOODHAVEN DRIVE	Approved By:	Maria Marcos-Mendoza
Sample Point:	Lab Tap	COA Version:	1

Component	Result	Unit	RDL
Bromochloroacetic acid	<1.0	ug/L	1.0
Dibromoacetic acid	<1.0	ug/L	1.0
Dichloroacetic acid	4.9	ug/L	2.0
Haloacetic Acids, total (HAA5)	10.7	ug/L	5.0
Haloacetic Acids, total (HAA6)	11.5	ug/L	5.0
Monobromoacetic acid	<1.0	ug/L	1.0
Monochloroacetic acid	<5.0	ug/L	5.0
Trichloroacetic acid	5.5	ug/L	3.0
Bromodichloromethane	<0.5	µg/L	0.5
Bromoform	<1.0	µg/L	1.0
Chloroform	6.3	µg/L	0.5
Dibromochloromethane	<0.5	µg/L	0.5
Trihalomethanes	6.3	µg/L	1.0

Received Temp: 16.3

Sample ID:	RS-19-04196	Collected:	April 9, 2019 7:30 am
Location Code:	COM_OKOTOKS	Received:	April 12, 2019
Description:	RANDOM WDS	Approved:	April 26, 2019
Address:	111 WALDRON AVE	Approved By:	Maria Marcos-Mendoza
Sample Point:	Lab Sink	COA Version:	1

Component	Result	Unit	RDL
Bromochloroacetic acid	1.0	ug/L	1.0
Dibromoacetic acid	<1.0	ug/L	1.0
Dichloroacetic acid	7.5	ug/L	2.0
Haloacetic Acids, total (HAA5)	16.6	ug/L	5.0
Haloacetic Acids, total (HAA6)	17.6	ug/L	5.0
Monobromoacetic acid	<1.0	ug/L	1.0
Monochloroacetic acid	<5.0	ug/L	5.0
Trichloroacetic acid	8.8	ug/L	3.0
Bromodichloromethane	<0.5	µg/L	0.5
Bromoform	<1.0	µg/L	1.0

Chloroform	10.8	µg/L	0.5
Dibromochloromethane	<0.5	µg/L	0.5
Trihalomethanes	10.8	µg/L	1.0

Received Temp: 16.3

Sample	Comment
RS-19-04196	Random WDS North

Sample ID: RS-19-04197
Location Code: COM_OKOTOKS
Description: RANDOM WDS
Address: 69 CINNARRON MEADOWS CRES
Sample Point: Bathroom Sink

Collected: April 9, 2019 8:15 am
Received: April 12, 2019
Approved: April 26, 2019
Approved By: Marla Marcos-Mendoza
COA Version: 1

Component	Result	Unit	RDL
Bromochloroacetic acid	1.2	ug/L	1.0
Dibromoacetic acid	<1.0	ug/L	1.0
Dichloroacetic acid	9.8	ug/L	2.0
Haloacetic Acids, total (HAA5)	20.0	ug/L	5.0
Haloacetic Acids, total (HAA6)	21.1	ug/L	5.0
Monobromoacetic acid	<1.0	ug/L	1.0
Monochloroacetic acid	<5.0	ug/L	5.0
Trichloroacetic acid	9.9	ug/L	3.0
Bromodichloromethane	<0.5	µg/L	0.5
Bromoform	<1.0	µg/L	1.0
Chloroform	16.1	µg/L	0.5
Dibromochloromethane	<0.5	µg/L	0.5
Trihalomethanes	16.1	µg/L	1.0

Received Temp: 16.3

Sample	Comment
RS-19-04197	Random WDS South

Sample ID: RS-19-04198
Location Code: COM_OKOTOKS
Description: EXTREME END WDS
Address: 280 SOUTHRIDGE DRIVE
Sample Point: Lab Sink

Collected: April 9, 2019 7:40 am
Received: April 12, 2019
Approved: April 26, 2019
Approved By: Marla Marcos-Mendoza
COA Version: 1

Component	Result	Unit	RDL
Bromochloroacetic acid	<1.0	ug/L	1.0
Dibromoacetic acid	<1.0	ug/L	1.0
Dichloroacetic acid	5.0	ug/L	2.0
Haloacetic Acids, total (HAA5)	11.2	ug/L	5.0
Haloacetic Acids, total (HAA6)	12.0	ug/L	5.0
Monobromoacetic acid	<1.0	ug/L	1.0
Monochloroacetic acid	<5.0	ug/L	5.0
Trichloroacetic acid	5.8	ug/L	3.0
Bromodichloromethane	<0.5	µg/L	0.5
Bromoform	<1.0	µg/L	1.0
Chloroform	6.4	µg/L	0.5
Dibromochloromethane	<0.5	µg/L	0.5
Trihalomethanes	6.4	µg/L	1.0

Received Temp: 16.3

Method of Analysis

Analysis Name	Method Description	
Haloacetic Acids	USEPA Method 552.3	HAA United States Environmental Protection Agency. Determination of haloacetic acids and dalapon in drinking water by liquid-liquid microextraction, derivatization, and gas chromatography with electron capture detection. Method 552.3
Trihalomethanes and Volatile Organics GCFID	EPA Method 552.3	6200B Standard Methods for The Examination of Water and Wastewater, 6200B. Approved by Standard Methods Committee

Notes:

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7. Results reported in units of mg/kg are based on dry weight unless otherwise stated.
8. EPCOR Quality Assurance Laboratories use test methods based on or modified from the current versions of the reference methods .

Report authorized by: Maria Marcos-Mendoza
Manager, Lab Customer Service
EPCOR Water (Canada)

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Report Date: 4/26/2019, 2:49 pm

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PROJECT SUMMARY REPORT

Report ID: 201907240026

Report for:	Davey Robertson	Project:	Okotoks
Address:	200, 1118 North Railway Street Okotoks , AB T1S 1K1	Project Type:	External Plant Monitoring
		Submission:	20190711-015

Sample ID:	RS-19-08013	Collected:	July 11, 2019 8:30 am
Location Code:	COM_OKOTOKS	Received:	July 11, 2019
Description:	ENTERING WDS	Approved:	July 19, 2019
Address:	101 WOODHAVEN DRIVE	Approved By:	Marta Marcos-Mendoza
Sample Point:	Lab Sink	COA Version:	1

Component	Result	Unit	RDL
Bromochloroacetic acid	<1.0	ug/L	1.0
Dibromoacetic acid	<1.0	ug/L	1.0
Dichloroacetic acid	11.5	ug/L	2.0
Haloacetic Acids, total (HAA5)	25.5	ug/L	5.0
Haloacetic Acids, total (HAA6)	26.1	ug/L	5.0
Monobromoacetic acid	<1.0	ug/L	1.0
Monochloroacetic acid	<5.0	ug/L	5.0
Trichloroacetic acid	12.5	ug/L	3.0
Bromodichloromethane	<0.5	?g/L	0.5
Bromoform	<1.0	?g/L	1.0
Chloroform	21.7	?g/L	0.5
Dibromochloromethane	<0.5	?g/L	0.5
Trihalomethanes	21.7	?g/L	1.0
Received Temperature	15.2	°C	

Sample ID:	RS-19-08014	Collected:	July 11, 2019 8:30 am
Location Code:	COM_OKOTOKS	Received:	July 11, 2019
Description:	RANDOM WDS	Approved:	July 19, 2019
Address:	22 SOUTHRIDGE DRIVE	Approved By:	Marta Marcos-Mendoza
Sample Point:	Laundry	COA Version:	1

Component	Result	Unit	RDL
Bromochloroacetic acid	<1.0	ug/L	1.0
Dibromoacetic acid	<1.0	ug/L	1.0
Dichloroacetic acid	11.7	ug/L	2.0
Haloacetic Acids, total (HAA5)	26.9	ug/L	5.0
Haloacetic Acids, total (HAA6)	27.6	ug/L	5.0
Monobromoacetic acid	<1.0	ug/L	1.0
Monochloroacetic acid	<5.0	ug/L	5.0
Trichloroacetic acid	13.5	ug/L	3.0
Bromodichloromethane	<0.5	?g/L	0.5
Bromoform	<1.0	?g/L	1.0

Chloroform	23.2	?g/L	0.5
Dibromochloromethane	<0.5	?g/L	0.5
Trihalomethanes	23.2	?g/L	1.0
Received Temperature	15.2	°C	

Sample ID: RS-19-08015
Location Code: COM_OKOTOKS
Description: RANDOM WDS
Address: 200-1118 NORTH RAILWAY STREET
Sample Point: Bathroom Sink

Collected: July 11, 2019 8:00 am
Received: July 11, 2019
Approved: July 19, 2019
Approved By: Marta Marcos-Mendoza
COA Version: 1

Component	Result	Unit	RDL
Bromochloroacetic acid	<1.0	ug/L	1.0
Dibromoacetic acid	<1.0	ug/L	1.0
Dichloroacetic acid	13.0	ug/L	2.0
Haloacetic Acids, total (HAA5)	31.5	ug/L	5.0
Haloacetic Acids, total (HAA6)	32.2	ug/L	5.0
Monobromoacetic acid	<1.0	ug/L	1.0
Monochloroacetic acid	<5.0	ug/L	5.0
Trichloroacetic acid	15.6	ug/L	3.0
Bromodichloromethane	<0.5	?g/L	0.5
Bromoform	<1.0	?g/L	1.0
Chloroform	29.2	?g/L	0.5
Dibromochloromethane	<0.5	?g/L	0.5
Trihalomethanes	29.2	?g/L	1.0
Received Temperature	15.2	°C	

Sample ID: RS-19-08016
Location Code: COM_OKOTOKS
Description: EXTREME END WDS
Address: 280 SOUTHRIDGE DRIVE
Sample Point: Bathroom Tap

Collected: July 11, 2019 8:30 am
Received: July 11, 2019
Approved: July 19, 2019
Approved By: Marta Marcos-Mendoza
COA Version: 1

Component	Result	Unit	RDL
Bromochloroacetic acid	<1.0	ug/L	1.0
Dibromoacetic acid	<1.0	ug/L	1.0
Dichloroacetic acid	13.2	ug/L	2.0
Haloacetic Acids, total (HAA5)	29.7	ug/L	5.0
Haloacetic Acids, total (HAA6)	30.4	ug/L	5.0
Monobromoacetic acid	<1.0	ug/L	1.0
Monochloroacetic acid	<5.0	ug/L	5.0
Trichloroacetic acid	15.0	ug/L	3.0
Bromodichloromethane	<0.5	?g/L	0.5
Bromoform	<1.0	?g/L	1.0
Chloroform	30.5	?g/L	0.5
Dibromochloromethane	<0.5	?g/L	0.5
Trihalomethanes	30.5	?g/L	1.0
Received Temperature	15.2	°C	

Method of Analysis

Analysis Name	Method Description	
Trihalomethanes and Volatile Organics GCFID	EPA Method 552.3	6200B Standard Methods for The Examination of Water and Wastewater, 6200B. Approved by Standard Methods Committee
Haloacetic Acids	USEPA Method 552.3	HAA United States Environmental Protection Agency. Determination of haloacetic acids and dalapon in drinking water by liquid-liquid microextraction, derivatization, and gas chromatography with electron capture detection. Method 552.3

Notes:

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7. Results reported in units of mg/kg are based on dry weight unless otherwise stated.
8. EPCOR Quality Assurance Laboratories use test methods based on or modified from the current versions of the reference methods .

Report authorized by: Marla Marcos-Mendoza
Manager, Lab Customer Service
EPCOR Water (Canada)

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PROJECT SUMMARY REPORT

Report ID: 201910250042

Report for: Davey Robertson
Address: 200, 1118 North Railway Street
Okotoks , AB
T1S 1K1

Project: Okotoks
Project Type: External Plant Monitoring
Submission: 20191008-021

Sample ID: RS-19-11778
Location Code: COM_OKOTOKS
Description: ENTERING WDS
Address: 101 WOODHAVEN DRIVE
Sample Point: Not Given

Collected: October 7, 2019 8:00 am
Received: October 8, 2019
Approved: October 23, 2019
Approved By: Maria Marcos-Mendoza
COA Version: 1

Component	Result	Unit	RDL
Bromochloroacetic acid	<1.0	ug/L	1.0
Dibromoacetic acid	<1.0	ug/L	1.0
Dichloroacetic acid	4.1	ug/L	2.0
Haloacetic Acids, total (HAA5)	9.1	ug/L	5.0
Haloacetic Acids, total (HAA6)	9.9	ug/L	5.0
Monobromoacetic acid	<1.0	ug/L	1.0
Monochloroacetic acid	<5.0	ug/L	5.0
Trichloroacetic acid	3.8	ug/L	3.0
Bromodichloromethane	<0.5	µg/L	0.5
Bromoform	<1.0	µg/L	1.0
Chloroform	19.1	µg/L	0.5
Dibromochloromethane	<0.5	µg/L	0.5
Trihalomethanes	19.1	µg/L	1.0
Received Temperature	13.0	°C	

Sample	Comment
RS-19-11778	As per SOP the receiving temperature must be below 10°C may affect data quality.

Sample ID: RS-19-11779
Location Code: COM_OKOTOKS
Description: RANDOM WDS
Address: 280 SOUTHRIDGE DRIVE
Sample Point: Not Given

Collected: October 7, 2019 8:00 am
Received: October 8, 2019
Approved: October 23, 2019
Approved By: Maria Marcos-Mendoza
COA Version: 1

Component	Result	Unit	RDL
Bromochloroacetic acid	1.1	ug/L	1.0
Dibromoacetic acid	<1.0	ug/L	1.0
Dichloroacetic acid	8.1	ug/L	2.0
Haloacetic Acids, total (HAA5)	16.0	ug/L	5.0
Haloacetic Acids, total (HAA6)	17.1	ug/L	5.0
Monobromoacetic acid	<1.0	ug/L	1.0
Monochloroacetic acid	<5.0	ug/L	5.0
Trichloroacetic acid	6.7	ug/L	3.0

Bromodichloromethane	<0.5	µg/L	0.5
Bromoform	<1.0	µg/L	1.0
Chloroform	7.4	µg/L	0.5
Dibromochloromethane	<0.5	µg/L	0.5
Trihalomethanes	7.4	µg/L	1.0
Received Temperature	13.0	°C	

Sample	Comment
RS-19-11779	As per SOP the receiving temperature must be below 10°C may affect data quality.

Sample ID: RS-19-11780
Location Code: COM_OKOTOKS
Description: RANDOM WDS
Address: 30 CIMARRON CRESENT
Sample Point: Not Given

Collected: October 7, 2019 8:25 am
Received: October 8, 2019
Approved: October 23, 2019
Approved By: Marla Marcos-Mendoza
COA Version: 1

Component	Result	Unit	RDL
Bromochloroacetic acid	<1.0	ug/L	1.0
Dibromoacetic acid	<1.0	ug/L	1.0
Dichloroacetic acid	4.6	ug/L	2.0
Haloacetic Acids, total (HAA5)	9.8	ug/L	5.0
Haloacetic Acids, total (HAA6)	10.7	ug/L	5.0
Monobromoacetic acid	<1.0	ug/L	1.0
Monochloroacetic acid	<5.0	ug/L	5.0
Trichloroacetic acid	4.5	ug/L	3.0
Bromodichloromethane	<0.5	µg/L	0.5
Bromoform	<1.0	µg/L	1.0
Chloroform	8.3	µg/L	0.5
Dibromochloromethane	<0.5	µg/L	0.5
Trihalomethanes	8.3	µg/L	1.0
Received Temperature	13.0	°C	

Sample	Comment
RS-19-11780	As per SOP the receiving temperature must be below 10°C may affect data quality.

Sample ID: RS-19-11781
Location Code: COM_OKOTOKS
Description: EXTREME END WDS
Address: 51 DRAKE LANDING LOOP
Sample Point: Not Given

Collected: October 7, 2019 8:10 am
Received: October 8, 2019
Approved: October 23, 2019
Approved By: Marla Marcos-Mendoza
COA Version: 1

Component	Result	Unit	RDL
Bromochloroacetic acid	1.0	ug/L	1.0
Dibromoacetic acid	<1.0	ug/L	1.0
Dichloroacetic acid	7.5	ug/L	2.0
Haloacetic Acids, total (HAA5)	14.7	ug/L	5.0
Haloacetic Acids, total (HAA6)	15.7	ug/L	5.0
Monobromoacetic acid	<1.0	ug/L	1.0
Monochloroacetic acid	<5.0	ug/L	5.0
Trichloroacetic acid	5.9	ug/L	3.0
Bromodichloromethane	<0.5	µg/L	0.5
Bromoform	<1.0	µg/L	1.0
Chloroform	13.9	µg/L	0.5
Dibromochloromethane	<0.5	µg/L	0.5
Trihalomethanes	13.9	µg/L	1.0

Received Temperature	13.0	°C

Sample	Comment
RS-19-11781	As per SOP the receiving temperature must be below 10°C may affect data quality.

Method of Analysis

Analysis Name	Method Description	
Trihalomethanes and Volatile Organics GCFID	EPA Method 552.3	6200B Standard Methods for The Examination of Water and Wastewater, 6200B. Approved by Standard Methods Committee
Haloacetic Acids	USEPA Method 552.3	HAA United States Environmental Protection Agency. Determination of haloacetic acids and dalapon in drinking water by liquid-liquid microextraction, derivatization, and gas chromatography with electron capture detection. Method 552.3

Notes:

1. Quality Assurance Laboratories – Rossdale and E. L. Smith is accredited by the Canadian Association for Laboratory Accreditation (CALA) to ISO/IEC 17025:2005 for specific analyses identified on the laboratory's scope of accreditation. Analyses not accredited by CALA are clearly identified with "Non-accredited" in the Method of Analysis section of this report and the components for non-accredited methods are marked with "*".
2. This report is presented in an abbreviated format. All information related to ISO/IEC 17025:2005 reporting is available upon request.
3. All analyses are performed by an EPCOR Quality Assurance Laboratory unless identified with "(External)" beside the analysis name. Information relating to the subcontracted laboratory is available upon request.
4. Results relate only to the samples analysed.
5. Unless in its entirety, this report shall not be reproduced without written consent from the laboratory.
6. The abbreviation "RDL" refers to the nominal "Reportable Detection Limit". The RDL is determined using the nominal sample size. The dilution factor must be taken into consideration when the sample is diluted.
7. Results reported in units of mg/kg are based on dry weight unless otherwise stated.
8. EPCOR Quality Assurance Laboratories use test methods based on or modified from the current versions of the reference methods .

Report authorized by: Maria Marcos-Mendoza
Manager, Lab Customer Service
EPCOR Water (Canada)

11. Annual Summary – Chemicals – Sodium Hypochlorite

Approval # 1029-03-00; Annual Summary of Chemicals Used - Town of Okotoks Waterworks System
Chemical Name - Sodium Hypochlorite (16%)

Parameter		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Sodium Hypochlorite Used Liters	MIN	64	63	79	72	72	90	94	90	75	69	72	82	**63**
	MAX	133	94	128	113	145	192	159	152	122	133	94	118	**94**
	AVG	88	81	88	84	93	124	123	118	98	97	81	95	**97**
	TOTAL	2718	2255	2718	2520	2878	3715	3822	3644	2940	2999	2427	2949	**35585**
Sodium Hypochlorite Used Kilograms	MIN	10.46	13.08	13.08	13.08	10.46	18.31	18.31	18.31	15.69	15.69	9.59	15.69	**9.59**
	MAX	26.15	23.54	26.15	20.92	31.38	39.23	31.38	31.38	23.54	26.15	20.92	26.15	**39.23**
	AVG	16.51	16.72	18.05	17.08	18.98	25.19	24.69	24.04	20.14	19.74	16.01	19.49	**19.72**
	TOTAL	511.68	468.09	559.62	512.55	588.38	755.75	765.34	745.29	604.07	611.92	480.30	604.07	**7207.05**
Chlorine Dosage mg/L	MIN	12.29	12.10	15.17	13.82	13.82	17.28	18.05	17.28	14.40	13.25	13.82	15.74	**12.10**
	MAX	25.54	18.05	24.58	21.70	27.84	36.86	30.53	29.18	23.42	25.54	18.05	22.66	**36.86**
	AVG	16.83	15.46	16.83	16.13	17.83	23.78	23.67	22.57	18.82	18.57	15.53	18.26	**18.69**

12. Annual Summary – Chemicals – Coagulant

Approval # 1029-03-00; Annual Summary of Chemicals Used - Coagulant - Town of Okotoks Waterworks System
Chemical Name - ClearPAC 180 (Poly Aluminum Chloride)

Chemical		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
ClearPAC 180 Used **Litres**	MIN	48.45	50.79	32.73	22.74	61.41	82.02	94.14	89.25	76.29	81.73	65.38	37.19	**22.74**
	MAX	69.49	73.31	84.15	64.60	125.38	193.38	158.53	151.73	131.11	120.28	196.15	124.74	**196.15**
	AVG	59.66	61.86	60.88	42.27	80.75	126.42	120.46	120.62	108.38	100.51	102.04	99.90	**90.31**
	TOTAL	1849.44	1732.09	1887.21	1267.99	2503.25	3792.49	3734.36	3739.15	3251.25	3115.72	3061.16	3096.76	**33030.86**
ClearPAC 180 Used **Kilograms**	MIN	66.38	69.58	44.83	31.15	84.14	112.37	128.97	122.27	104.51	111.97	89.58	50.95	**31.15**
	MAX	95.20	100.44	115.29	88.50	171.76	264.92	217.18	207.86	179.62	164.78	268.73	170.89	**268.73**
	AVG	81.73	84.75	83.40	57.90	110.63	173.19	165.03	165.25	148.47	137.69	139.79	136.86	**123.73**
	TOTAL	2533.73	2372.96	2585.48	1737.14	3429.45	5195.71	5116.07	5122.64	4454.21	4268.54	4193.79	4242.56	**45252.28**
ClearPAC 180 Dosage **mg/L**	MIN	8.58	8.99	6.06	4.67	11.10	14.15	16.58	16.39	13.43	15.59	11.58	7.54	**4.67**
	MAX	13.26	12.46	12.83	12.97	18.79	26.14	26.37	22.75	25.69	27.76	41.68	24.85	**41.68**
	AVG	10.64	10.78	10.30	8.25	14.54	19.41	19.71	19.33	20.12	20.61	21.19	20.18	**16.26**
Aluminum (Al^{3+}) Dosage **mg/L**	MIN	0.77	0.81	0.55	0.42	1.00	1.27	1.49	1.47	1.21	1.40	1.04	0.68	**0.42**
	MAX	1.19	1.12	1.15	1.17	1.69	2.35	2.37	2.05	2.31	2.50	3.75	2.24	**3.75**
	AVG	0.96	0.97	0.93	0.74	1.31	1.75	1.77	1.74	1.81	1.85	1.91	1.82	**1.46**

13. Annual Summary – Chemicals – Polymer

Approval # 1029-03-00; Annual Summary of Chemicals Used - Polymer - Town of Okotoks Waterworks System
Chemical Name - Hydrex 3613 (Dry Polymer)

Parameter		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Polymer Used **Litres**	MIN	3.03	3.25	3.33	2.88	2.93	4.91	5.04	4.57	3.36	2.90	3.47	3.80	**2.88**
	MAX	4.00	3.82	4.73	3.71	11.05	10.73	7.77	7.07	5.55	4.93	4.64	4.57	**11.05**
	AVG	3.46	3.54	3.64	3.18	5.93	6.81	6.22	5.61	4.47	4.05	3.98	4.07	**4.58**
	TOTAL	117.83	109.73	112.89	95.37	183.72	204.38	211.87	191.23	147.46	137.41	131.47	138.71	**1782.06**
Polymer Used **Kilograms**	MIN	0.61	0.65	0.67	0.58	0.59	0.98	1.01	0.91	0.67	0.58	0.69	0.76	**0.58**
	MAX	0.80	0.76	0.95	0.74	2.21	2.15	1.55	1.41	1.11	0.99	0.93	0.91	**2.21**
	AVG	0.69	0.71	0.73	0.64	1.19	1.36	1.24	1.12	0.89	0.81	0.80	0.81	**0.92**
	TOTAL	23.57	21.95	22.58	19.07	36.74	40.88	42.37	38.25	29.49	27.48	26.29	27.74	**356.41**
Polymer Dosage **mg/L**	MIN	0.09	0.09	0.09	0.09	0.09	0.12	0.14	0.12	0.12	0.12	0.12	0.12	**0.09**
	MAX	0.09	0.09	0.09	0.09	0.30	0.21	0.15	0.14	0.12	0.12	0.12	0.12	**0.30**
	AVG	0.09	0.09	0.09	0.09	0.16	0.15	0.15	0.13	0.12	0.12	0.12	0.12	**0.12**

14. Treated Water - Physical, Inorganic and Organic Chemical & Pesticide Parameters

SEMI-ANNUAL SAMPLE # 1 – January 8, 2019

Quality Assurance Laboratories – Rossdale and E. L. Smith
9469 Rossdale Road NW
Edmonton, Alberta T5K 0A5
Phone: 780-412-7614
Fax: 780-412-7717

PROVIDING MORE EPCOR

PROJECT SUMMARY REPORT

Report ID: 201902080027

Report for:	Davey Robertson	Project:	Okotoks
Address:	200, 1118 North Railway Street Okotoks , AB T1S 1K1	Project Type:	External Plant Monitoring
		Submission:	20190109-009

Sample ID:	RS-19-00370	Collected:	January 8, 2019 8:20 am
Location Code:	COM_OKOTOKS	Received:	January 9, 2019
Description:	Okotoks	Approved:	February 7, 2019
Address:	200-1118 North Railway Street	Approved By:	Maria Marcos-Mendoza
Sample Point:	Bathroom Tap	COA Version:	1

Component	Result	Unit	RDL
Alkalinity phenolphthalein	<1	mg CaCO3/L	1
Alkalinity Total	207	mg CaCO3/L	1
Bicarbonate	207	mg CaCO3/L	3
Carbonate	<3	mg CaCO3/L	3
Chlorine Free	0.85	mg/L	0.03
Chlorine, total	0.98	mg/L	0.03
Colour	<0.5	TCU	0.5
Fluoride	0.19	mg/L	0.05
Bromochloroacetic acid	<1.0	ug/L	1.0
Dibromoacetic acid	<1.0	ug/L	1.0
Dichloroacetic acid	2.6	ug/L	2.0
Haloacetic Acids, total (HAA5)	5.7	ug/L	5.0
Haloacetic Acids, total (HAA6)	6.4	ug/L	5.0
Monobromoacetic acid	<1.0	ug/L	1.0
Monochloroacetic acid	<5.0	ug/L	5.0
Trichloroacetic acid	<3.0	ug/L	3.0
Bromate Dissolved	<0.005	mg/L	0.005
Bromide Dissolved	<0.005	mg/L	0.005
Chlorate Dissolved	0.074	mg/L	0.005
Chloride Dissolved	10.2	mg/L	0.05
Chlorite Dissolved	<0.005	mg/L	0.005
Nitrate (as N) Dissolved	0.146	mg/L	0.005
Nitrite (as N) Dissolved	<0.005	mg/L	0.005
Sulphate Dissolved	67.5	mg/L	0.05
Aluminum	0.039	mg/L	0.005
Antimony	<0.0002	mg/L	0.0002
Arsenic	<0.0002	mg/L	0.0002
Barium	0.100	mg/L	0.002
Beryllium	<0.0002	mg/L	0.0002
Boron	0.014	mg/L	0.005
Cadmium	<0.0002	mg/L	0.0002
Chromium	<0.0002	mg/L	0.0002

Report Date: 08/02/2019, 12:37 pm

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Cobalt	<0.0002	mg/L	0.0002
Copper	0.020	mg/L	0.005
Iron	<0.005	mg/L	0.005
Lead	0.0006	mg/L	0.0002
Lithium	0.0069	mg/L	0.0002
Manganese	<0.002	mg/L	0.002
Mercury	<0.0002	mg/L	0.0002
Molybdenum	0.0008	mg/L	0.0002
Nickel	<0.0005	mg/L	0.0005
Selenium	0.0010	mg/L	0.0002
Silver	<0.0002	mg/L	0.0002
Strontium	0.337	mg/L	0.002
Thallium	<0.0005	mg/L	0.0005
Tin	<0.0005	mg/L	0.0005
Titanium	<0.0005	mg/L	0.0005
Uranium	0.0007	mg/L	0.0005
Vanadium	<0.0005	mg/L	0.0005
Zinc	<0.005	mg/L	0.005
Zirconium	<0.0005	mg/L	0.0005
Calcium	75.9	mg/L	0.1
Magnesium	20.0	mg/L	0.1
Phosphorus	0.04	mg/L	0.02
Potassium	1.7	mg/L	0.1
Silicon	2.22	mg/L	0.02
Sodium	13.3	mg/L	0.1
Ammonia - Nitrogen	0.025	mg N/L	0.007
NTA	<0.3	mg/L	0.3
pH	7.68		
Total Dissolved Solids	320	mg/L	5
Benzene	<0.5	µg/L	0.5
Bromodichloromethane	<0.5	µg/L	0.5
Bromoform	<1.0	µg/L	1.0
Carbon Tetrachloride	<1.0	µg/L	1.0
Chlorobenzene	<0.5	µg/L	0.5
Chloroform	4.8	µg/L	0.5
Dibromochloromethane	<0.5	µg/L	0.5
Dichlorobenzene (1,2)	<0.5	µg/L	0.5
Dichlorobenzene (1,3)	<0.5	µg/L	0.5
Dichlorobenzene (1,4)	<0.5	µg/L	0.5
Dichloroethylene (1,1)	<3.0	µg/L	3.0
Dichloroethylene, cis (1,2)	<0.5	µg/L	0.5
Dichloroethylene, trans (1,2)	<0.5	µg/L	0.5
Dichloropropane (1,2)	<0.5	µg/L	0.5
Ethylbenzene	<0.5	µg/L	0.5
MIBK	<1.0	µg/L	1.0
Methyl t-Butyl Ether (MTBE)	<0.5	µg/L	0.5
Methylene Chloride	<0.5	µg/L	0.5
Styrene	<0.5	µg/L	0.5
Tetrachloroethane (1,1,2,2)	<1.0	µg/L	1.0
Tetrachloroethylene	<0.5	µg/L	0.5
Toluene	<0.5	µg/L	0.5
Total Volatile Organics (NonTHM)	<1.0	µg/L	1.0

Total Volatile Organics (Unknown)	<1.0	µg/L	1.0
Trichlorobenzene (1,2,4)	<0.5	µg/L	0.5
Trichloroethane (1,1,1)	<0.5	µg/L	0.5
Trichloroethylene	<0.5	µg/L	0.5
Trihalomethanes	4.8	µg/L	1.0
Xylene (1,2)	<0.5	µg/L	0.5
Xylene (1,4)	<0.5	µg/L	0.5
Total Organic Carbon	<0.6	mg/L	0.6
Hardness, Total	259	mg CaCO3/L	2
Turbidity	0.05	NTU	0.02
UV 254 % Transmittance	97.6	%T/cm	0.003
2,4-D (External)	<0.007	ug/L	0.007
Atrazine (External)	<0.002	ug/L	0.002
Benzene (External)	<0.05	ug/L	0.05
Benzo(a)pyrene (External)	<0.005	ug/L	0.005
Bromoxynil (External)	<0.026	ug/L	0.026
Carbon Tetrachloride (External)	<0.07	ug/L	0.07
Chlorobenzene (External)	<0.03	ug/L	0.03
Chlorpyrifos (External)	<0.002	ug/L	0.002
Cyanazine (External)	<0.012	ug/L	0.012
Desethyl Atrazine (External)	<0.019	ug/L	0.019
Desisopropyl Atrazine (External)	<0.018	ug/L	0.018
Diazinon (External)	<0.004	ug/L	0.004
Dicamba (External)	<0.002	ug/L	0.002
Dichlorobenzene (1,2) (External)	<0.03	ug/L	0.03
Dichlorobenzene (1,4) (External)	<0.05	ug/L	0.05
Dichloroethane (1,2) (External)	<0.05	ug/L	0.05
Dichlorophenol (2,4) (External)	<0.1	ug/L	0.1
Diclofop-methyl (External)	<0.012	ug/L	0.012
Dimethoate (External)	<0.005	ug/L	0.005
Diuron (External)	<0.2	ug/L	0.2
Ethylbenzene (External)	<0.02	ug/L	0.02
Glyphosate (External)	<0.1	ug/L	0.1
MCPA (External)	<0.01	ug/L	0.01
Malathion (External)	<0.03	ug/L	0.03
Methylene Chloride (External)	<0.1	ug/L	0.1
Metolachlor (External)	<0.007	ug/L	0.007
Metribuzin (External)	<0.002	ug/L	0.002
Pentachlorophenol (External)	<0.6	ug/L	0.6
Picloram (External)	<0.012	ug/L	0.012
Simazine (External)	<0.004	ug/L	0.004
Terbufos (External)	<0.012	ug/L	0.012
Tetrachloroethylene (External)	<0.06	ug/L	0.06
Tetrachlorophenol (2,3,4,6) (External)	<0.4	ug/L	0.4
Toluene (External)	<0.03	ug/L	0.03
Triallate (External)	<0.002	ug/L	0.002
Trichloroethylene (External)	<0.03	ug/L	0.03
Trichlorophenol (2,4,6) (External)	<0.7	ug/L	0.7
Trifluralin (External)	<0.002	ug/L	0.002
Vinyl Chloride (External)	<0.06	ug/L	0.06
Xylene (m,p) (External)	<0.07	ug/L	0.07
Xylene (o) (External)	<0.06	ug/L	0.06

Xylenes (External)	<0.06	ug/L	0.06
p, p' - Methoxychlor (External)	<0.013	ug/L	0.013
Cyanide, dissolved (External)	<0.002	mg/L	0.002
Mercury (External)	0.002	ug/L	0.001
NDMA (External)	0.92	ng/L	0.50
Perfluoro-n-Octanoic Acid (PFOA) (External)	<0.020	ug/L	0.02
Perfluorobutane Sulfonate (PFBS) (External)	<0.020	ug/L	0.02
Perfluorobutanoic acid (External)	<0.020	ug/L	0.02
Perfluorodecane Sulfonate (External)	<0.020	ug/L	0.02
Perfluorodecanoic Acid (PFDA) (External)	<0.020	ug/L	0.02
Perfluorododecanoic Acid (PFDoA) (External)	<0.020	ug/L	0.02
Perfluoroheptane sulfonate (External)	<0.020	ug/L	0.02
Perfluoroheptanoic Acid (PFHpA) (External)	<0.020	ug/L	0.02
Perfluorohexane Sulfonate (PFHxS) (External)	<0.020	ug/L	0.02
Perfluorohexanoic Acid (PFHxA) (External)	<0.020	ug/L	0.02
Perfluorononanoic Acid (PFNA) (External)	<0.020	ug/L	0.02
Perfluorooctane Sulfonamide (External)	<0.020	ug/L	0.02
Perfluorooctane Sulfonate (PFOS) (External)	<0.020	ug/L	0.02
Perfluoropentanoic Acid (PFPeA) (External)	<0.020	ug/L	0.02
Perfluorotetradecanoic Acid (External)	<0.020	ug/L	0.02
Perfluorotridecanoic Acid (External)	<0.020	ug/L	0.02
Perfluoroundecanoic Acid (PFUnA) (External)	<0.020	ug/L	0.02
Sulphide, dissolved (External)	<0.002	mg/L	0.002

Received Temp: 6.8

Method of Analysis

Analysis Name	Method Description	
Metals ICPMS	3125B	Trace Metals by ICPMS Standard Methods for Examination of Water and Wastewater. 3125B
UV_Trans_254	5910B	Standard Method 5910B Standard Methods for Examination of Water and Wastewater. 2510B
pH	4500-H	pH for Water Standard Methods for Examination of Water and Wastewater, 4500-H
Bicarbonate Alkalinity	2320A-B	Calculation of Hydroxide, Carbonate and Bicarbonate Standard Methods for Examination of Water and Wastewater. 22nd Edition. 2012. 2320A-B
Total Hardness	2340C	Total Hardness (Manual Titration and Autotitration) Standard Methods for Examination of Water and Wastewater. 2340C
Colour	2120C	Colour Standard Methods for Examination of Water and Wastewater,2120C.
Ammonia - Nitrogen by AA3	4500-NH3 H	Nitrogen (Ammonia) - Flow Injection Analysis Standard Methods for the Examination of Water and Wastewater
Nitrilotriacetic Acid	USEPA Method 430.1 and 430.2	Nitrilotriacetic Acid USEPA Method # 430.1 NTA (Colormetric, Manual, Zinc-Zincon) by Spectrophotometer. USEPA Method # 430.2 NTA (Colormetric, Automated, Zinc-Zincon)
Fluoride	4500 F- C	Fluoride by ISE Standard Methods for the Examination of Water and Wastewater , APHA, AWWA and WEF, Washington, D.C. Method #4500 F- C - Fluoride by Ion-Selective Electrode Method
Trihalomethanes and Volatile Organics GCFID	EPA Method 552.3	6200B Standard Methods for The Examination of Water and Wastewater , 6200B. Approved by Standard Methods Committee
Haloacetic Acids	USEPA Method 552.3	HAA United States Environmental Protection Agency . Determination of haloacetic acids and dalapon in drinking water by liquid-liquid microextraction, derivatization, and gas chromatography with electron capture detection. Method 552.3
IC Dissolved	4110B	Anion Determination by ICS5000 Standard Methods for Examination of Water and Wastewater. 4110B
Alkalinity_Phenolphthalein	2320A-B	Phenolphtalein Alkalinity (T-50 Auto-Titrator) Standard Methods for Examination of Water and Wastewater 2320A-B
Carbonate Alkalinity	CARBONATE	2320A-B Standard Methods for Examination of Water and Wastewater. 2320A-B
Turbidity	2130B	TURBIDITY Standard Methods for Examination of Water and Wastewater 2130B
Chlorine, total	4500-Cl D	Determination of Total Residual Chlorine in Water Standard Methods for Examination of Water and Wastewater. 4500-Cl D
Carbonate Alkalinity	2320A-B	Calculation of Hydroxide, Carbonate and Bicarbonate Standard Methods for Examination of Water and Wastewater. 22nd Edition. 2012. 2320A-B
Alkalinity Total	2320A-B	Total Alkalinity (T-50 Auto-Titrator) Standard Methods for Examination of Water and Wastewater. 22nd Edition. 2012. 2320A-B
Total Dissolved Solids	2540C	TDS Standard Methods for Examination of Water and Wastewater. 2540C
Perfluorinated Carbon Compounds (PFCs)		EPA 537 m
Chlorine Free	4500-Cl D	Determination of Free Chlorine in Water Standard Methods for Examination of Water and Wastewater. 4500-Cl D
Metals Major ICP	3120B	Metals Determination by ICPOES Standard Methods for Examination of Water and Wastewater. 3120B
Total Organic Carbon	5310 C	Total Organic Carbon - Persulfate-Ultraviolet or Heated Persulfate Oxidation Method Standard Methods for the Examination of Water and Wastewater

Notes:

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7. Results reported in units of mg/kg are based on dry weight unless otherwise stated.
8. EPCOR Quality Assurance Laboratories use test methods based on or modified from the current versions of the reference methods .

Report authorized by: Marta Marcos-Mendoza
Manager, Lab Customer Service
EPCOR Water (Canada)

The results relate only to the samples tested. This report should not be reproduced except in full, without written approval of the laboratory.

Report Date: 08/02/2019, 12:38 pm

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SEMI-ANNUAL SAMPLE # 2 – June12, 2019

Quality Assurance Laboratories – Rossdale and E. L. Smith
9469 Rossdale Road NW
Edmonton, Alberta T5K 0A5
Phone: 780-412-7614
Fax: 780-412-7717

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PROJECT SUMMARY REPORT

Report ID: 201907230073

Report for: Davey Robertson
Address: 200, 1118 North Railway Street
Okotoks , AB
T1S 1K1

Project: Okotoks
Project Type: External Plant Monitoring
Submission: 20190610-011

Sample ID: RS-19-06669
Location Code: COM_OKOTOKS
Description: Okotoks
Address: 200-1118 North Railway Street
Sample Point: Bathroom Tap
Client ID: AB05BL1202

Collected: June 12, 2019 8:00 am
Received: June 13, 2019
Approved: July 23, 2019
Approved By: Maria Marcos-Mendoza
COA Version: 1

Component	Result	Unit	RDL
Alkalinity phenolphthalein	<1	mg CaCO3/L	1
Alkalinity Total	178	mg CaCO3/L	1
Ammonia as N	<0.05	mg/L	0.05
Ammonia as NH3	<0.05	mg/L	0.05
Bicarbonate	178	mg CaCO3/L	3
Carbonate	<3	mg CaCO3/L	3
Chlorine Free	0.96	mg/L	0.03
Chlorine, total	0.97	mg/L	0.03
Colour	1.3	TCU	0.5
Fluoride	0.19	mg/L	0.05
Bromochloroacetic acid	<1.0	ug/L	1.0
Dibromoacetic acid	<1.0	ug/L	1.0
Dichloroacetic acid	8.1	ug/L	2.0
Haloacetic Acids, total (HAA5)	18.9	ug/L	5.0
Haloacetic Acids, total (HAA6)	19.6	ug/L	5.0
Monobromoacetic acid	<1.0	ug/L	1.0
Monochloroacetic acid	<5.0	ug/L	5.0
Trichloroacetic acid	9.6	ug/L	3.0
Bromate Dissolved	<0.005	mg/L	0.005
Bromide Dissolved	<0.01	mg/L	0.01
Chlorate Dissolved	0.08	mg/L	0.01
Chloride Dissolved	11.3	mg/L	0.1
Chlorite Dissolved	<0.005	mg/L	0.005
Nitrate (as N) Dissolved	0.08	mg/L	0.01
Nitrite (as N) Dissolved	<0.01	mg/L	0.01
Sulphate Dissolved	45.0	mg/L	0.1
Aluminum	0.053	mg/L	0.005
Antimony	<0.0002	mg/L	0.0002
Arsenic	<0.0002	mg/L	0.0002
Barium	0.083	mg/L	0.002
Beryllium	<0.0002	mg/L	0.0002
Boron	0.015	mg/L	0.005

Report Date: 7/23/2019, 3:37 pm

Page 1 of 6

Cadmium	<0.0002	mg/L	0.0002
Chromium	<0.0002	mg/L	0.0002
Cobalt	<0.0002	mg/L	0.0002
Copper	<0.005	mg/L	0.005
Iron	<0.005	mg/L	0.005
Lanthanum	<0.001	mg/L	0.001
Lead	<0.0002	mg/L	0.0002
Lithium	0.0062	mg/L	0.0002
Manganese	<0.002	mg/L	0.002
Mercury	<0.0002	mg/L	0.0002
Molybdenum	0.0008	mg/L	0.0002
Nickel	<0.0005	mg/L	0.0005
Selenium	0.0006	mg/L	0.0002
Silver	<0.0002	mg/L	0.0002
Strontium	0.286	mg/L	0.002
Thallium	<0.0005	mg/L	0.0005
Tin	<0.0005	mg/L	0.0005
Titanium	<0.0005	mg/L	0.0005
Uranium	<0.0005	mg/L	0.0005
Vanadium	<0.0005	mg/L	0.0005
Zinc	<0.005	mg/L	0.005
Zirconium	<0.00102	mg/L	0.001
Calcium	61.0	mg/L	0.1
Magnesium	15.7	mg/L	0.1
Phosphorus	0.04	mg/L	0.02
Potassium	1.5	mg/L	0.1
Silicon	2.27	mg/L	0.05
Sodium	11.3	mg/L	0.1
Nitrilotriacetic acid	0.2	mg/L	0.2
pH	7.64		
Total Dissolved Solids	269	mg/L	5
Benzene	<0.5	µg/L	0.5
Bromodichloromethane	<0.5	µg/L	0.5
Bromoform	<1.0	µg/L	1.0
Carbon Tetrachloride	<1.0	µg/L	1.0
Chlorobenzene	<0.5	µg/L	0.5
Chloroform	15.7	µg/L	0.5
Dibromochloromethane	<0.5	µg/L	0.5
Dichlorobenzene (1,2)	<0.5	µg/L	0.5
Dichlorobenzene (1,3)	<0.5	µg/L	0.5
Dichlorobenzene (1,4)	<0.5	µg/L	0.5
Dichloroethylene (1,1)	<3.0	µg/L	3.0
Dichloroethylene, cis (1,2)	<0.5	µg/L	0.5
Dichloroethylene, trans (1,2)	<0.5	µg/L	0.5
Dichloropropane (1,2)	<0.5	µg/L	0.5
Ethylbenzene	<0.5	µg/L	0.5
MIBK	<1.0	µg/L	1.0
Methyl t-Butyl Ether (MTBE)	<0.5	µg/L	0.5
Methylene Chloride	<0.5	µg/L	0.5
Styrene	<0.5	µg/L	0.5
Tetrachloroethane (1,1,2,2)	<1.0	µg/L	1.0
Tetrachloroethylene	<0.5	µg/L	0.5

Toluene	<0.5	µg/L	0.5
Total Volatile Organics (NonTHM)	<1.0	µg/L	1.0
Total Volatile Organics (Unknown)	<1.0	µg/L	1.0
Trichlorobenzene (1,2,4)	<0.5	µg/L	0.5
Trichloroethane (1,1,1)	<0.5	µg/L	0.5
Trichloroethylene	<0.5	µg/L	0.5
Trihalomethanes	15.7	µg/L	1.0
Xylene (1,2)	<0.5	µg/L	0.5
Xylene (1,4)	<0.5	µg/L	0.5
Total Organic Carbon	1.5	mg/L	0.6
Hardness, Total	213	mg CaCO3/L	2
Turbidity	0.05	NTU	0.02
UV 254 % Transmittance	94.5	%T/cm	0.003
2,4-D (External)	<0.007	ug/L	0.005
Atrazine (External)	<0.002	ug/L	0.005
Benzene (External)	<0.05	ug/L	0.05
Benzo(a)pyrene (External)	<0.005	ug/L	0.005
Bromoxynil (External)	<0.026	ug/L	0.005
Carbon Tetrachloride (External)	<0.07	ug/L	0.03
Chlorobenzene (External)	<0.03	ug/L	0.03
Chlorpyrifos (External)	<0.002	ug/L	0.005
Cyanazine (External)	<0.012	ug/L	0.06
Desethyl Atrazine (External)	<0.019	ug/L	0.05
Desisopropyl Atrazine (External)	<0.018	ug/L	0.08
Diazinon (External)	<0.004	ug/L	0.005
Dicamba (External)	<0.002	ug/L	0.005
Dichlorobenzene (1,2) (External)	<0.03	ug/L	0.03
Dichlorobenzene (1,4) (External)	<0.05	ug/L	0.05
Dichloroethane (1,2) (External)	<0.05	ug/L	0.05
Dichlorophenol (2,4) (External)	<0.1	ug/L	0.1
Diclofop-methyl (External)	<0.012	ug/L	0.02
Dimethoate (External)	<0.005	ug/L	0.005
Diuron (External)	<0.2	ug/L	0.2
Ethylbenzene (External)	<0.02	ug/L	0.02
Glyphosate (External)	<0.2	ug/L	0.1
MCPA (External)	<0.01	ug/L	0.005
Malathion (External)	<0.03	ug/L	0.05
Methylene Chloride (External)	<0.1	ug/L	0.4
Metolachlor (External)	<0.007	ug/L	0.012
Metribuzin (External)	<0.002	ug/L	0.01
Pentachlorophenol (External)	<0.6	ug/L	0.6
Picloram (External)	<0.012	ug/L	0.022
Simazine (External)	<0.004	ug/L	0.01
Terbufos (External)	<0.012	ug/L	0.03
Tetrachloroethylene (External)	<0.06	ug/L	0.06
Tetrachlorophenol (2,3,4,6) (External)	<0.4	ug/L	0.4
Toluene (External)	<0.03	ug/L	0.03
Triallate (External)	<0.002	ug/L	0.005
Trichloroethylene (External)	<0.03	ug/L	0.2
Trichlorophenol (2,4,6) (External)	<0.7	ug/L	0.7
Trifluralin (External)	<0.002	ug/L	0.005
Vinyl Chloride (External)	<0.06	ug/L	0.06

Xylene (m,p) (External)	<0.07	ug/L	0.2
Xylene (o) (External)	<0.06	ug/L	0.02
Xylenes (External)	<0.06	ug/L	0.1
p, p' - Methoxychlor (External)	<0.013	ug/L	0.03
Cyanide Dissolved (External)	<0.002	mg/L	0.002
Mercury (External)	0.000001	mg/L	0.000001
NDMA (External)	1.27	ng/L	0.66
Perfluoro-n-Octanoic Acid (PFOA) (External)	<0.02	ug/L	0.020
Perfluorobutane Sulfonate (PFBS) (External)	<0.02	ug/L	0.020
Perfluorobutanoic acid (External)	<0.02	ug/L	0.020
Perfluorodecane Sulfonate (External)	<0.02	ug/L	0.020
Perfluorodecanoic Acid (PFDA) (External)	<0.02	ug/L	0.020
Perfluorododecanoic Acid (PFDoA) (External)	<0.02	ug/L	0.020
Perfluoroheptane sulfonate (External)	<0.02	ug/L	0.020
Perfluoroheptanoic Acid (PFHpA) (External)	<0.02	ug/L	0.020
Perfluorohexane Sulfonate (PFHxS) (External)	<0.02	ug/L	0.020
Perfluorohexanoic Acid (PFHxA) (External)	<0.02	ug/L	0.020
Perfluorononanoic Acid (PFNA) (External)	<0.02	ug/L	0.020
Perfluorooctane Sulfonamide (External)	<0.02	ug/L	0.020
Perfluorooctane Sulfonate (PFOS) (External)	<0.02	ug/L	0.020
Perfluoropentanoic Acid (PFPeA) (External)	<0.02	ug/L	0.020
Perfluorotetradecanoic Acid (External)	<0.02	ug/L	0.020
Perfluorotridecanoic Acid (External)	<0.02	ug/L	0.020
Perfluoroundecanoic Acid (PFUnA) (External)	<0.02	ug/L	0.020
Sulphide (External)	<0.002	mg/L	0.002
Received Temperature	15.6	°C	

Method of Analysis

Analysis Name	Method Description	
Perfluorinated Carbon Compounds (PFCs)		EPA 537 m
Bicarbonate Alkalinity	2320A-B	Calculation of Hydroxide, Carbonate and Bicarbonate Standard Methods for Examination of Water and Wastewater. 22nd Edition. 2012. 2320A-B
Alkalinity Total	2320A-B	Total Alkalinity (T-50 Auto-Titrator) Standard Methods for Examination of Water and Wastewater. 22nd Edition. 2012. 2320A-B
Total Hardness	2340C	Total Hardness (Manual Titration and Autotitration) Standard Methods for Examination of Water and Wastewater. 2340C
Total Organic Carbon	5310 C	Total Organic Carbon - Persulfate-Ultraviolet or Heated Persulfate Oxidation Method Standard Methods for the Examination of Water and Wastewater
Trihalomethanes and Volatile Organics GCFID	EPA Method 552.3	6200B Standard Methods for The Examination of Water and Wastewater, 6200B. Approved by Standard Methods Committee
Total Dissolved Solids	2540C	TDS Standard Methods for Examination of Water and Wastewater. 2540C
Chlorine Free	4500-Cl D	Determination of Free Chlorine in Water Standard Methods for Examination of Water and Wastewater. 4500-Cl D
Carbonate Alkalinity	2320A-B	Calculation of Hydroxide, Carbonate and Bicarbonate Standard Methods for Examination of Water and Wastewater. 22nd Edition. 2012. 2320A-B
IC Dissolved	4110B	Anion Determination by ICS5000 Standard Methods for Examination of Water and Wastewater. 4110B
Haloacetic Acids	USEPA Method 552.3	HAA United States Environmental Protection Agency. Determination of haloacetic acids and dalapon in drinking water by liquid-liquid microextraction, derivatization, and gas chromatography with electron capture detection. Method 552.3
Ammonia as NH3	4500 NH3 D	Ammonia Standard Methods for Examination of Water and Wastewater. 4500 NH3 D
Turbidity	2130B	TURBIDITY Standard Methods for Examination of Water and Wastewater 2130B
Metals Major ICP	3120B	Metals Determination by ICPOES Standard Methods for Examination of Water and Wastewater. 3120B
Chlorine, total	4500-Cl D	Determination of Total Residual Chlorine in Water Standard Methods for Examination of Water and Wastewater. 4500-Cl D
Ammonia as N	4500 NH3 D	Ammonia Standard Methods for Examination of Water and Wastewater. 4500 NH3 D
Fluoride	4500 F- C	Fluoride by ISE Standard Methods for the Examination of Water and Wastewater, APHA, AWWA and WEF, Washington, D.C. Method #4500 F- C - Fluoride by Ion-Selective Electrode Method
Carbonate Alkalinity	CARBONATE	2320A-B Standard Methods for Examination of Water and Wastewater. 2320A-B
Metals ICPMS	3125B	Trace Metals by ICPMS Standard Methods for Examination of Water and Wastewater. 3125B
Nitrilotriacetic Acid	USEPA Method 430.1 and 430.2	Nitrilotriacetic Acid USEPA Method # 430.1 NTA (Colormetric, Manual, Zinc-Zincon) by Spectrophotometer. USEPA Method # 430.2 NTA (Colormetric, Automated, Zinc-Zincon)
Colour	2120C	Colour Standard Methods for Examination of Water and Wastewater,2120C.
UV_Trans_254	5910B	Standard Method 5910B Standard Methods for Examination of Water and Wastewater. 2510B
Alkalinity_Phenolphthalein	2320A-B	Phenolphtalein Alkalinity (T-50 Auto-Titrator) Standard Methods for Examination of Water and Wastewater 2320A-B
pH	4500-H	pH for Water Standard Methods for Examination of Water and Wastewater, 4500-H

Notes:

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7. Results reported in units of mg/kg are based on dry weight unless otherwise stated.
8. EPCOR Quality Assurance Laboratories use test methods based on or modified from the current versions of the reference methods .

Report authorized by: Maria Marcos-Mendoza
Manager, Lab Customer Service
EPCOR Water (Canada)

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Report Date: 7/23/2019, 3:39 pm

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15. Treated Water – Cyanobacterial Toxins (as Microcystin-LR)

Distribution Grab Sample # 1 – Sampling Period: August 1st – 16th

Quality Assurance Laboratories – Rossdale and E. L. Smith
9469 Rossdale Road NW
Edmonton, Alberta T5K 0A5
Phone: 780-412-7614
Fax: 780-412-7717

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PROJECT SUMMARY REPORT

Report ID: 202001070028

Report for:	Davey Robertson	Project:	Okotoks
Address:	200, 1118 NORTH RAILWAY STREET Okotoks , AB T1S 1K1	Project Type:	External Plant Monitoring
		Submission:	20190808-021

Sample ID:	RS-19-09112	Collected:	August 7, 2019 7:00 am
Location Code:	COM_OKOTOKS	Received:	August 8, 2019
Description:	RANDOM WDS	Approved:	January 7, 2020
Address:	40 Crystal Shores Heights	Approved By:	Marta Marcos-Mendoza
Sample Point:	RANDOM	COA Version:	2

Component	Result	Unit	RDL
Microcystin	<0.10	µg/L	0.10
Received Temperature	14.6	°C	

Sample	Comment
RS-19-09112	Collection date corrected as per COC from August 08 to August 07.

Method of Analysis

Analysis Name	Method Description	
Microcystin	US EPA Method 546	Microcystin "US EPA Method 546: Determination of Total Microcystins and Nodularins in Drinking Water and Ambient Water by Adda Enzyme-Linked Immunosorbent Assay. 2016. EPA 815-B-16-011

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7. Results reported in units of mg/kg are based on dry weight unless otherwise stated.
8. EPCOR Quality Assurance Laboratories use test methods based on or modified from the current versions of the reference methods .

Report authorized by: Marta Marcos-Mendoza
Manager, Lab Customer Service
EPCOR Water (Canada)

Report Date: 1/7/2020, 11:10 am

Page 1 of 1

Distribution Grab Sample # 2 – Sampling Period: September 1st – 16th

Quality Assurance Laboratories – Rossdale and E. L. Smith
9469 Rossdale Road NW
Edmonton, Alberta T5K 0A5
Phone: 780-412-7614
Fax: 780-412-7717

PROVIDING MORE EPCOR

PROJECT SUMMARY REPORT

Report ID: 201909230017

Report for:	Davey Robertson	Project:	Okotoks
Address:	200, 1118 North Railway Street Okotoks , AB T1S 1K1	Project Type:	External Plant Monitoring
		Submission:	20190905-021

Sample ID:	RS-19-10417	Collected:	September 4, 2019 7:30 am
Location Code:	COM_OKOTOKS	Received:	September 5, 2019
Description:	RANDOM WDS	Approved:	September 23, 2019
Address:	280 SOUTHRIDGE DRIVE	Approved By:	Karen Gauthier
Sample Point:	Not Given	COA Version:	1

Component	Result	Unit	RDL
Microcystin	<0.10	µg/L	0.10
Received Temperature	19.0	°C	

Method of Analysis

Analysis Name	Method Description	
Microcystin	US EPA Method 546	Microcystin "US EPA Method 546: Determination of Total Microcystins and Nodularins in Drinking Water and Ambient Water by Adda Enzyme-Linked Immunosorbent Assay. 2016. EPA 815-B-16-011

Notes:

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8. EPCOR Quality Assurance Laboratories use test methods based on or modified from the current versions of the reference methods .

Report authorized by: Karen Gauthier
Technologist, Cust Serv, Water Lab
EPCOR Water (Canada)

Report Date: 9/23/2019, 10:02 am

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16. Annual Summary – Incidents reported to AEP

No contraventions to report for 2019

17. Annual Operational Summary

January

Jan 3 Submitted AEP on line data
Jan 4 Trinity Mechanical installed new motor for furnace in in pump well area and replaced belt, new filters HVAC
Jan 6 Lowered well 6 to 5l/s to from 8l/s pulling air going down on low level
Jan 7 Contractors flushing 6" line at north reservoir for upgrades, Simson Maxwell repair transfer switch SBLS
Jan 8 CHUBB inspected WTP Fire Panel
Jan 11 Neil changed lamps UV 2, changed transformer UV 2
Jan 14 Pulled apart and cleaned check valves pump 1 chlorine room
Jan 17 Having SBLS communication alarms, Steven H to assess
Jan 21 High Country on site to vac out the chlorine containment system and clean
Jan 22 Flushed and cleaned site tubs on the polymer lines
Jan 23 Installed strainer on chlorine feed line and flushing ports between all three day tanks
Jan 25 Neil repaired leak on well 7 piping
Jan 29 Repaired leak on 1" ball valve on chlorine day tank
Jan 30 Well 2 pulling air going down on low level changed the staging
Jan 31 Aaron Drilling pulled and replaced pump and motor on well 7 found burned cables at connectors

February

Feb 1 Turned down well 2 to 9l/s was shutting down on low level
Feb 2 Zone 2 pH meter stopped working a new HQ440d has been ordered
Feb 3 Cell 4 SC200 controller not working properly Steven H to trouble shoot
Feb 4 New control panel and combustion blower needed for one unit heater in acti flo area Stonewall
Feb 5 Steven H doing PM's at Big Rock
Feb 8 Stonewall repaired UH#4
Feb 11 Cleaned filters and flushed strainers on de chlorination system, changed hose on dechlor pump
Feb 20 submitted data for the month of January 2019. Reference # 2155253
Feb 21 Simson Maxwell replacing transfer switch for generator at SBLS
Feb 22 Steven H changed filter 1 slot 3 AI card to try and solve cell 4 turbidity issues
Feb 24 Cleaned raw water turbidity analyzer and flushed lines, cleaned CL17 for de chlorination system
Feb 27 Simson Maxwell starting there yearly generator service including load testing at all sites, cleaned Stage 1 CL17
Feb 28 High Country on site cleaning out FTW/BW holding tank and polymer day tanks

March

Mar 1 Simpson Maxwell onsite to test the generator and the transfer switch from generator to utility power
Mar 4 Submitted data for the month of February 2019. Reference # 2161197
Mar 5 Plant shut down for repairs – Neil changes out UV sensors – Trinity installs a filter/strainer in sodium hypo line
Mar 16 Started up the ACTIFLO units in high turb mode testing, sand levels and verifying equipment operations
Mar 21 Backflow devices tested by contractor
Mar 25 Filling up Zone 3 Reservoir from Zone 2
Mar 27 EPCOR QA/QC Audit

April

Apr 1 Johnson Controls on site to upgrade the UPS for the security system
Apr 1 Submitted data for the month of March 2019. Reference # 2173298
Apr 2 Steven Hewitt reconnects rack mounted NRP card in LCP 6900
Apr 3 Zone 3 shutdown and bypass due to a leak in the new waterline inside the building. Chandos to repair.
Apr 4 Biannual maintenance of the HVAC system
Apr 5 rack mounted NRP card fails, removed from service and operating on backup module
Apr 15 Aaron Drilling onsite to start Well 11 rehab
Apr 16 Well 11 flushed and pump tested and back in service by end of the workday
Apr 17 Divers on site to locate the overflow in the South Reservoir, overflow is found on SE corner
Apr 17 Aaron Drilling starts Well 10 rehab
Apr 18 Well 10 flushed and pump tested and back in service by end of the workday
Apr 23 Aaron Drilling starts Well 13 rehab
Apr 25 Well 10 flushed and pump tested and back in service by end of the workday
Apr 25 Aaron Drilling installs a new level probe in Well 8

May

May 3 Neil changed out capacitors in UV2 as a result of the low current alarm
May 6 High Country found south reservoir overflow pipe, started 48hr backwashing cycles, Steve started tuning filter effluent valves
May 7 Submitted AEP online data Reference # 2189111, WURS entered January to April
May 9 Suntech installed pressure switches at both south res and zone 2, turned up coagulant from 0.80 to 1.00mg/l inlet turbidity starting to rise
May 10 Stonewall changed out air intake filters part of scheduled maintenance, Suntech starting to pull wires for chlorine panel upraged
May 13 Flushed and cleaned polymer lines
May 15 Adjusted all wells to see what max flow would be 165 l/s, adjusting polymer as some cells are starting to trip offline dirty on flow change
May 21 Gate Works on site doing scheduled pm work on west gate
May 25 Turned up chlorine as raw water was coming in at over 1NTU
May 28 Steven H doing flow meter verification on all raw water well mag meters
May 29 Neil changed out lamps in all 3 UV reactors, UV 1 lamps 1,2,3, UV 2 lamps 1,2, UV 3 lamps 1,2, camera over flow pipe south reservoir found plugged with mud about 15 feet away needs to be moved
May 30 Suntech commissioning pressure switches at south res and zone 2
May 31 Calibrated all UV reactors, Neil replacing chemical feed line from coagulant pump 1 to acti flo raw water line 1, feed line 2 to be replaced next week

June

Jun 3 Neil replaces chemical feed line from coagulant pump #2 to the ACTIFLO raw water line # 2
Jun 11 Contractor on site for the South Reservoir overflow line
Jun17 submitted data for the month of May 2019. Reference # 2207770
Jun 17 Contractor onsite to clean out the polymer tanks
Jun 17 Steven tunes the effluent valves to cell 6 & 7
Jun 19 Contractor replaces valve on hot water tank
Jun 17 Gateworks on site to replace rollers on west gate
Jun 26 High Country onsite to clean the overland channel

July

Jul 9 Zone 3 shutdown for the installation of the new transformer
Jul 9 Submit June Online data for the month of June. Reference # 2218051.
Jul 11 Zone 3 shutdown for the installation of the new transformer – wrong transformer was installed by Fortis
Jul 18 Contractor onsite to start of the tie in of the south reservoir overflow line will take a couple of days to complete
Jul 24 De watering bag failure
Jul 25 Contractor onsite to perform the installation of the new chlorine skid- this to take place over several days

August

Aug 1 AE Security on site to install new backup battery in alarm system
Aug 1 Suntech on site complete connections for chlorine skid to auto dialer
Aug 2 Suntech onsite programming new chlorine skid
Aug 7 Suntech on site to install surge protection in wells
Aug 7 submitted data for the month of July 2019. Reference # 2230486
Aug 8 Suntech on site to install surge protection in wells and calibrate new sodium hypo pumps
Aug 30 Steven h adding logic to Zone 3 high lift pumps. No logic in place to have lag pump turn on if lead pump fails
Aug 30 Stantec onsite to access Filter 3

September

Sept 04 submitted data for the month of Aug 2019. Reference # 2241394.
Sept 10 & 13 AWI onsite to do filter audits
Sept 11 Vector Electric onsite running cable for the new dialer for Zone 3
CIMA on site on several occasions programming for Zone 3

October

Oct 3 Submitted data for the month of Sept 2019. Reference # 2262417.
Oct 3 Bi -annual maintenance/service on HVAC and unit heaters
Oct 6 CIMA troubleshoots low reading at the chlorine analyzer at Zone 3-4. Chandos recalibrates the analyzer.
Oct 9 CIMA to fix the reports in SCADA, neither flow nor chlorine is populating the reports from Zone 3.
Oct 9 CIMA installs the SIM card for the new dialer and tests.
Oct 13 Lost communications to all buildings, the problem was the radio tower link between the WWTP and WTP which has been fixed.
Oct 16 Steven and Richard performing PM's at the waterplant
Oct 16 Jay and Tony from town testing equipment and installing cabling
Oct 17 Quartz sleeves replaced in 2 of the UV reactors
Oct 22 CIMA in SCADA doing programming for Zone 3
Oct 23 Started pumping the filter to waste tank to sanitary sewer, no longer flowing to the overland channel
Oct 23 PRV on the waste line is leaking Neil removes to be replaced
Oct 24 Richard performing PM's in the South Reservoir
Oct 25 Adjustments made to PRV in Zone 4, no longer flowing through Crystal Shores Booster Station
Oct 28 Well 2 fails to run, Neil assesses and determines the motor needs to be replaced
Oct 29 CIMA fixing SCADA reports so flow from Zone 3 and Zone 4 will populate the report
Oct 31 PLC communication failures, Neil and Richard replace a switch and a PLC card.
Oct 31 PLC communication failures with Brendan on site to troubleshoot, overnight shift in place

November

Nov 1 Submitted data for the month of Oct 2019. Reference # 2280733
Nov 1 PLC communication failures, Brendan replace Ethernet card, plant on and off continues, able to restart operations after every shut down
Nov 1 EPCOR tech updates the firmware
Nov 1 Major fault on Pretreatment 1 and Pretreatment 2
Nov 1 New switch installed in UV Reactor 3, plant started at 4:05pm with no further issues relating to this
Nov 12 EH&H on site to test the ABB flow meters
Nov 12 Town of Okotoks on site cabling, panels, etc., in preparation of transition
Nov 13 Johnson Controls on site to camera monitor reception for the CCTV system
Nov 18 Steven Hewitt on site to fix SCADA coagulant register
Nov 18- 20 HACH onsite to perform annual maintenance on all analyzers and lab instruments
Nov 25 Transition Day – EPCOR team onsite to remove computers, SCADA license, laptops, photocopiers
Nov 26 JCI onsite for CCTV
Nov 26 Photocopier installed

December

Dec 2, 2019 - submitted data for the month of Nov 2019. Reference # 2299539.
Dec 3 Air scour compressor serviced
Dec 4 Building locks changed
Dec 10 Balzers on site wuith Suntech to access filter cell inlets for pneumatic valve installation
Dec 18 CIMA working on reports for Zone 3_4 for Oct
Dec 19 Cleartech on site to review and access for preparation of the new sodium hypochlorite system

Jan 1, 2020 - submitted online data for the month of Dec 2019. Reference # 2315005.

18. Operator Certification

As required under section 4.2 of Approval No. 1029-03-00, the water treatment facility is classified as **Class III** and the water distribution system is classified as **Class III**. The facilities are classified in accordance with the *Water and Wastewater Operators' Certification Guidelines.*

As per approval section 4.2.3, the operation of the water treatment facility shall be performed by, or under the direction of:

a) An operator who holds a valid Level III (or higher) Water Treatment Operators Certificate of qualification; and
b) At least one other operator who holds a valid Level II (or higher) Water Treatment Operators Certificate

As per approval section 4.2.4, the operation of the water distribution system shall be performed by, or under the direction of:

a) An operator who holds a valid Level III (or higher) Water Distribution Operators Certificate; and
b) At least one other operator who holds a valid Level II (or higher) Water Distribution Operators Certificate

- The operators in Okotoks are certified as shown within the table below**:**

Name	Position	Water Treatment	Water Distribution	Cert. Number
Pacer Wilson	Lead hand	Level 3	Level 4	2956
Patti Kjinserdahl	Operator	Level 3	Level 2	2429
Bryan Steed	Operator	Level 3	Level 4	2292
Jordan Ballard	Operator	Level 1	Level 1	3714
Marlon Anthony	Operator	Level 2	Level 1	4944
James McElmon	Operator	N/A	Level 2	4045
Terry Sapsford	Operator	N/A	Level 2	4318
Kyle Cherkas	Operator in Training	N/A	N/A	N/A
The Operators listed below are no longer operators at this site				
Prakash Kattel	Operator in Okotoks until May 31, 2019	Level 1	Level 2	5759
Corey Hodgson	Lead hand in Okotoks until July 31, 2019	Level 3	Level 4	2529
Doug Farough	Operator in Okotoks until Nov 24, 2019	Level 2	Level 2	3852
Ernesto Moreno	Operator in Training until Nov 25, 2019	N/A	N/A	N/A
Eric Spencer	Operator in Training until Nov 25, 2019	N/A	N/A	N/A

Site Manager Contact Information:

Rakesh Savani, P.Eng., PMP
Water Services Manager
Okotoks Water Services
200 – 1118 North Railway Street
Okotoks, AB T1S 1K1
Bus: (403) 938-1230
Cell: (587) 432-6448
Email: rsavani@okotoks.ca

Supervising Operator Contact Information:

Pacer Wilson
Water Services Lead Hand

200 – 1118 North Railway Street
Okotoks, AB T1S 1K1
Bus: (403) 938-1230
Cell: (403) 899-6349
Email: pwilson@okotoks.ca

19. Operations Program

Updates were made to the Operations Manual.
Contact information, ERP updates, SOP's updates.

20. Drinking Water Safety Plan

The Town of Okotoks & EWSI have reviewed and updated the DWSP and made the following changes.

1. Population, length of distribution line, increased the number of service connections, risks reviewed.

21. Supervising Operator

Operator in Charge:

Pacer Wilson	**Pacer Wilson**	**2956**
Signature	Printed	Certificate #

Date:
Feb 28, 2020

Reviwed by. Rakesh Savani
Feb 28 2020