

The Corporation of the City of Kawartha Lakes
Agenda
Lindsay-Ops Landfill Public Review Committee Meeting

2020-163

Wednesday, November 18, 2020

Electronic Participation starts at 3:00pm. To access zoom link contact ksnoddy@kawarthalakes.ca

Public Works and Engineering Boardroom

322 Kent Street West

Lindsay, ON K9V 4T7

Members:

Councillor Pat Dunn

Chris Appleton

Karen Buckley

Barry Hodgson

Lloyd Robertson

Larry Scrivens

Ken Trodd

Accessible formats and communication supports are available upon request. The City of Kawartha Lakes is committed to accessibility for persons with disabilities. Please contact AgendaItems@kawarthalakes.ca if you have an accessible accommodation request.

1.	Call to Order	
2.	Adoption of Agenda	
3.	Disclosures of Pecuniary Interest	
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7.	Leachate Outbreaks	
8.	Other New Business	
8.1.	WSP Capital Needs Assessment Presentation	
8.2.	New Blue Box Regulation	
9.	Public Comment Period	
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**The Corporation of the City of Kawartha Lakes
Minutes
Lindsay-Ops Landfill Public Review Committee
Meeting**

2020-162

Wednesday, September 2, 2020

3:00 P.M.

Public Works and Engineering Boardroom

322 Kent Street West

Lindsay, ON K9V 4T7

Members:

Councillor Pat Dunn

Chris Appleton

Karen Buckley

Lloyd Robertson

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1. Call to Order

The Chair called the meeting to order at 3:01pm.

2. Adoption of Agenda

Moved By Councillor Dunn

Seconded By C. Appleton

Carried

3. Disclosures of Pecuniary Interest

There were no declarations of pecuniary interest disclosed.

4. Approval of the Minutes of the Previous Meeting

Moved By Councillor Dunn

Seconded By K. Buckley

Carried

5. Reports

5.1 PRC Activity Summary Spreadsheet

6. Landfill Complaints

No complaints.

7. Leachate Outbreaks

There have been no leachate outbreaks. However there were a couple of spills since the last PRC meeting.

There was a fire on May 22nd at the tip face of the landfill. The cause is still unknown. This was contained to the cell and all water used to put out the fire went into the leachate collection system. MECP and PRC were both notified. We also had an inspection done on the liner afterwards and the liner was not damaged.

There was a very small spill of motor oil at our HHW depot on July 14th. Our HHW contractor was loading vehicle. This was about 10L of oil and it was cleaned with absorbent and put into a drum to be shipped to the HHW processing facility. MECP and PRC were notified.

8. Other New Business

8.1 2020 Biomonitoring Report

Kerri provided a summary of the 2020 Biomonitoring Report completed by Cambium and answered questions from the PRC.

Sampling for the 2020 Biomonitoring report was completed in February of 2020 and the report will be included as part of the Annual Monitoring Report submitted to the MECP in April of 2021. Highlights of the 2020 report include an increase in aquatic worms, with chemical analysis of seven metals detected, and no VOC or PCBs detected.

8.2 Lindsay Ops 2019 Annual Monitoring Report Presentation

Kerri conducted a PowerPoint presentation on the 2019 Annual Monitoring Report for the Lindsay Ops Landfill and answered questions from the PRC. There were a few questions that were not able to be answered during the meeting and staff will provide answers at the next meeting. The questions are:

What is Lagoon 6 used for now after sludge was removed several years ago?

In 2019 the ammonia measured in the old landfill was 4.7mg/L which is higher than 1.9mg/L in 2018 and 3.0mg/L. Do we have an idea as to why this has increased?

9. Public Comment Period

No comments.

10. Next Meeting

The next meeting will be Wednesday, October 28th at 3:00pm on Zoom.

11. Adjournment

The meeting was adjourned at 4:15pm.

Moved By C. Appleton

Seconded By K. Buckley

Carried

**Lindsay Ops Landfill Public Review Committee
Action List**

Meeting Date of Activity	Action	Responsibility	Action Item Date:	Status
15-May-13	PRC requested operational updates on the Landfill Gas Electricity Generation.	CKL	Monthly	November 18 Meeting: Have seen increases in KWH produced since new wells have been installed. Council approved recommendations in feasibility study to continue generator and asked for an annual financial report.
15-Jan-14	That the PRC is copied on Staff Reports to Council regarding the Lindsay Ops Landfill	CKL	As Available	November 18 Meeting: Textile pilot program report went to COW and Council on Nov 17.
21-Jan-15	Provide update on quarterly PCB testing (SW3/ SW13)	CKL	Quarterly	November 18 Meeting: Two sampling events completed (April 30, June 24, August 10). No PCBs detected. All locations dry in August. Next event to occur before Nov 30, 2020.
17-Jun-15	MECP Comments	CKL	As Available	November 18 Meeting: No comments.
23-Nov-16	Biomonitoring	CKL	As Available	November 18 Meeting: Biomonitoring Report for 2020 complete, no updates.
21-Jan-19	Leachate Water Quality Results	CKL	As Available	November 18 Meeting: See attached spreadsheet.
17-May-17	Waste Management Advisory Committee Update	CKL	As Available	November 18 Meeting: Met Nov 16th. Same Agenda items as PRC.
17-Jan-17	Updates on Blue Box markets and Legislation	CKL	As Available	November 18 Meeting: Draft regulation posted. To be discussed as Agenda Item.
16-May-18	Construction and Demolition Update	CKL	As Available	November 18 Meeting: Mixed C&D program going well. Have diverted over 200 tonnes.
8-Jan-20	Update on Implementation of Waste Strategy Initiatives	CKL	As Available	November 18 Meeting: On track to achieve Initiatives set out for 2020, next meeting will discuss plan for 2021.
20-Jun-18	Lindsay Ops EA Process Update	CKL	As Available	November 18 Meeting: Dillon awarded work. Future Options Study to be completed by June 30, 2021.

Lindsay Ops Leachate
2019

Exceeds Bylaw Value
Exceeds PWQO Value

Parameters	CKL Sewer Bylaw Limits (mg/L)	Provincial Water Quality Objectives (mg/L)	Jan. Results (mg/L)	Feb. Results (mg/L)	Mar. Results (mg/L)	April. Results (mg/L)	April. Results (mg/L) new cell	May Results (mg/L)	June Results (mg/L)	July Results (mg/L)	August Results (mg/L)	September Results (mg/L)	October. Results (mg/L) new cell	Oct Results (mg/L)	Nov Results (mg/L)	Dec Results (mg/L)
Hardness (CaCO3)	N/A	N/A	593	596	544	653	925	557	475	628	649	664	1090	666	610	580
Alkalinity (CaCO3)	N/A	N/A	609	599	601	482	1270	528	531	693	773	759	2380	731	610	543
Biochemical Oxygen Demand (BOD)	300	N/A	<3	19	8	7	262	4	3	5	4	n/a	62	< 3	5	5
TDS	N/A	N/A	991	1005	972	928	1550	796	743	1045	1144	1258	4318	1226	1017	868
Dissolved Organic Carbon	N/A	N/A	13.1	13.4	13.5	12.9	207	14.8	12.1	16.1	18.5	1.3	130	11.4	10	8.2
COD	N/A	N/A	73	62	63	56	644	40	38	76	78	112	692	87	59	50
Chloride	N/A	N/A	176	199	198	127	27.5	107	106	138	202	307	887	278	201	146
Ammonia (N) - Total	N/A	1.11	17.6	17.6	16.9	14.1	10	9.71	10.5	20.9	26.6	28.4	350	27.9	17.4	11.8
Fluoride	10	N/A	0.2	0.1	< 0.1	< 0.1	0.8	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 3	< 0.1	< 0.1	< 0.1
Phenolic, 4AAP	1	0.001	0.012	<0.002	< 0.002	< 0.002	0.14	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Sulphate	N/A	N/A	45	42	48	139	10	38	34	33	22	15	121	17	49	50
Nitrite	N/A	N/A	<0.05	<0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 1	< 0.05	< 0.05	< 0.05
Nitrate	N/A	N/A	0.08	0.15	0.18	0.16	< 0.05	0.42	0.32	< 0.05	< 0.05	< 0.05	< 1	< 0.05	0.21	0.49
Kjeldahl Nitrogen - Total	50	N/A	19.7	20.5	20.8	17.6	104	10.9	10.5	25.2	30.7	35.8	364	35.3	18	14.9
Aluminum - Total	50	0.075*	0.27	0.12	0.12	0.68	0.13	0.1	0.08	0.15	0.1	0.07	0.62	0.1	0.11	0.11
Antimony - Total	5	0.02	<0.0005	<0.0001	< 0.0005	0.0006	0.0022	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.002	< 0.0005	< 0.0005	< 0.0005
Arsenic - Total	1	0.1	0.0024	0.0013	0.0008	0.0013	0.0107	0.0013	0.0009	0.0026	0.0012	0.0014	0.0189	0.0013	0.0015	0.0012
Barium	N/A	N/A	0.331	0.297	0.253	0.245	0.362	0.211	0.159	0.394	0.382	0.471	0.82	< 0.462	0.313	0.226
Beryllium	N/A	1.1**	<0.002	<0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	N/A	0.2	0.382	0.426	0.37	0.299	2.95	0.281	0.278	0.509	0.54	0.632	9.68	0.605	0.411	0.3
Cadmium - Total	0.7	0.0002	<0.00007	<0.00015	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070
Calcium	N/A	N/A	179	175	160	211	273	184	154	184	186	180	267	182	184	185
Chromium - Total	2.8	0.0099	0.017	0.011	0.012	0.161	0.013	0.004	0.001	0.013	< 0.001	0.004	0.037	0.003	0.01	0.004
Cobalt - Total	5	0.0009	0.0013	0.007	0.0013	0.0025	0.0052	0.0009	0.0011	0.0015	0.001	0.0011	0.0159	0.0013	0.001	0.0008
Copper - Total	2	0.005	0.0042	0.0011	0.0011	0.0062	0.011	0.001	0.0015	0.0021	< 0.0005	< 0.0005	0.008	< 0.0005	0.0006	0.0011
Iron	N/A	0.3	27.7	11	5.64	21	7.96	20.9	10.8	45.5	14.4	15.1	59.6	11.8	13.9	13
Lead - Total	1	0.005	0.0025	0.00012	0.0002	0.0016	0.0016	0.0004	0.0001	0.0005	< 0.0001	< 0.0001	0.0013	0.0002	0.0005	0.0002
Magnesium	N/A	N/A	35.3	38.6	35.1	30.6	59.1	23.6	21.9	40.9	44.8	52	104	51.3	36.6	28.5
Manganese - Total	5	N/A	0.45	0.363	0.355	0.618	0.63	0.439	0.35	0.447	0.379	0.299	0.837	0.272	0.404	0.416
Mercury - Total	0.01	0.0002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum - Total	5	0.04	<0.0005	0.0002	< 0.0005	0.0022	0.0009	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0021	< 0.0005	0.0007	< 0.0005
Nickel - Total	2	0.025	0.01	0.01	0.01	0.07	0.03	< 0.01	< 0.01	0.01	< 0.01	0.01	0.09	0.01	0.01	< 0.01
Potassium	N/A	N/A	18.1	21.3	19.1	14.5	139	11.7	10.8	24	27.4	28.9	260	31.5	19	12.8
Phosphorus	N/A	N/A	<0.1	<0.1	< 0.1	0.1	0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	3.3	< 0.1	< 0.1	< 0.1
Phosphorus - Total	10	0.01	0.05	0.03	0.03	0.1	0.29	0.05	0.02	0.05	0.03	0.03	3.21	0.06	0.02	0.04
Selenium - Total	1	0.1	<0.005	<0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.012	< 0.005	< 0.005	< 0.005
Silver - Total	0.4	0.0001	<0.0001	<0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Sodium	N/A	N/A	121	136	123	97.6	257	81.6	73	136	149	168	740	179	124	91.6
Strontium	N/A	10 bq/L	0.64 mg/L	0.715 mg/L	0.622	0.678	1.35	0.572	0.515	0.774	0.732	0.794	2.73	82.80%	0.679	0.6
Thallium	N/A	0.0003	<0.0003	<0.0005	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Vanadium	N/A	0.006	0.0018	0.0009	0.0008	0.0025	0.0074	0.0009	0.0005	0.0018	0.0007	0.001	0.0239	0.001	0.001	0.0007
Zinc - Total	2	0.03	0.023	0.009	0.03	0.035	0.034	0.009	< 0.005	0.006	< 0.005	0.005	0.185	< 0.005	0.018	< 0.005
Benzene	0.01	0.1	0.0023	0.0007	0.0006	< 0.5	0.0007	< 0.0005	< 0.0016	0.0006	< 0.0005	0.0018	0.0017	< 0.0005	0.0015	0.0019
Toluene	0.02	0.0008	<0.0005	<0.0005	< 0.0005	< 0.0005	0.0126	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Ethylbenzene	0.06	0.008	0.0027	<0.0005	< 0.0005	< 0.0005	0.0006	< 0.0005	< 0.0011	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0008
Xylene, m, p -	N/A	N/A	0.0042	<0.001	< 0.001	< 0.001	0.0012	< 0.001	< 0.0011	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Xylene, o -	N/A	0.04	0.0005	<0.0005	< 0.0005	< 0.0005	0.0006	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Xylene, m, p, o -	N/A	N/A	0.0042	<0.0011	< 0.0011	< 0.0011	0.0018	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011

Parameters	Limits	Provincial Water Quality Objectives	Jan. Results	Feb. Results	Mar. Results	April. Results	Apr. Results New Cell	May. Results	June. Results	July. Results	Aug. Results	Sept. Results	Oct. Results New Cell	Oct Results	Nov Results	Dec Results
pH (at 25 °C)	6.0 - 9.5	6.5 - 8.5	7.34	7.68	7.6	7.34	7.74	7.13	7.35	6.95	7.4	7.28	7.87	7.66	7.6	7.37
Conductivity (at 25 °C)	N/A	N/A	1750 µm ho/cm	1780 µm ho/cm	1790 µmho/cm	1590 µmho/cm	3490 µmho/cm	1370 µmho/cm	1350 µmho/cm	1860 µmho/cm	2000 µmho/cm	2160 µmho/cm	7050 µmho/cm	2110 µmho/cm	1750 µmho/cm	1540 µmho/cm
Conductivity (calculated)	N/A	N/A	1650 µm ho/cm	1720 µm ho/cm	1664 µmho/cm	1563 µmho/cm	2403 µmho/cm	1344 µmho/cm	1267 µmho/cm	1692 µmho/cm	1928 µmho/cm	2141 µmho/cm	6453 µmho/cm	2103 µmho/cm	1725 µmho/cm	1479 µmho/cm
Anion Sum	N/A	N/A	18.1 meq/L	18.5 meq/L	18.6 meq/L	16.1 meq/L	26.4 meq/L	14.4 meq/L	14.3 meq/L	18.4 meq/L	21.6 meq/L	24.1 meq/L	75.1 meq/L	22.8 meq/L	18.9 meq/L	16 meq/L
Cation Sum	N/A	N/A	20.3 meq/L	20.2 meq/L	18.2 meq/L	18.7 meq/L	34.4 meq/L	16.8 meq/L	14.3 meq/L	23 meq/L	22.8 meq/L	24.1 meq/L	88.5 meq/L	24.5 meq/L	20.1 meq/L	17.4 meq/L
% Difference	N/A	N/A	5.77%	4.51%	1.09%	7.29%	13.10%	7.78%	0.18%	11.00%	2.68%	0.02%	8.17%	3.55%	2.94%	415.00%
Ion Ratio (AS/CS)	N/A	N/A	0.891	0.914	1.02	0.864	0.769	0.856	1	0.801	0.948	1	0.849	0.931	0.943	0.92
Sodium Adsorption Ratio	N/A	N/A	2.16	2.42	2.29	1.66	3.68	1.5	1.46	2.36	2.54	2.84	9.73	3.02	2.18	1.66
TDS (calc.) / EC (actual)	N/A	N/A	0.567	0.565	0.542	0.585	0.444	0.58	0.551	0.561	0.572	0.582	0.612	0.581	0.582	0.562
Langelier Index (at 25°C)	N/A	N/A	0.875	1.19	1.08	0.845	1.77	0.635	0.78	0.543	1.05	0.903	2.12	1.27	1.14	0.88

Lindsay Ops Leachate
2020

Exceeds Bylaw Value
Exceeds PWQO Value

Parameters	CKL Sewer Bylaw Limits (mg/L)	Provincial Water Quality Objectives (mg/L)	Jan. Results (mg/L)	Feb. Results (mg/L)	Mar. Results (mg/L)	April. Results (mg/L)	April. Results (mg/L) new cell	May Results (mg/L)	June Results (mg/L)	July Results (mg/L)	August Results (mg/L)	September Results (mg/L)	October. Results (mg/L) new cell	Oct Results (mg/L)	Nov Results (mg/L)	Dec Results (mg/L)
Hardness (CaCO3)	N/A	N/A	609	616	556	574	370	602	654	694	684	620	875			
Alkalinity (CaCO3)	N/A	N/A	579	560	529	603	442	626	697	710	719	688	1910			
Biochemical Oxygen Demand (BOD)	300	N/A	5	5	< 3	4	4	3	5	5	7	6	80			
TDS	N/A	N/A	896	927	791	906	1095	936	1076	1148	1178	1059	3296			
Dissolved Organic Carbon	N/A	N/A	11.1	12.9	10.9	10.6	34.4	12.4	11.6	15.8	17.5	12.5	67.5			
COD	N/A	N/A	44	51	35	73	104	54	63	80	88	63	548			
Chloride	N/A	N/A	135	162	116	136	274	142	185	215	241	199	705			
Ammonia (N) - Total	N/A	1.11	13.6	12.8	10.6	16.6	0.31	16.2	21.2	25.4	29.6	21.6	250			
Fluoride	10	N/A	< 0.1	0.4	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1			
Phenolic, 4AAP	1	0.001	< 0.002		< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.036			
Sulphate	N/A	N/A	46	44	42	45	94	39	34	29	19	21	58			
Nitrite	N/A	N/A	< 0.05	< 0.05	< 0.05	< 0.05	0.07	0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.5			
Nitrate	N/A	N/A	0.11	0.18	0.36	0.16	8.54	0.15	0.09	0.91	0.99	0.18	0.61			
Kjeldahl Nitrogen - Total	50	N/A	15.8	15.8	13.2	18	4.1	19.1	27.8	33.3	38.2	25.1	309			
Aluminum - Total	50	0.075*	0.18	0.06	0.09	0.09	0.07	0.08	0.02	0.09	0.11	0.1	0.29			
Antimony - Total	5	0.02	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0009	< 0.0005	0.0012	< 0.0005	< 0.0005	< 0.0005	0.0021			
Arsenic - Total	1	0.1	0.0022	0.0016	0.0014	0.0012	0.0018	0.001	0.0055	0.0012	0.0014	0.001	0.0171			
Barium	N/A	N/A	0.299	0.27	0.213	0.23	0.076	0.255	0.353	0.427	0.489	0.396	0.649			
Beryllium	N/A	1.1**	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002			
Boron	N/A	0.2	0.356	0.327	0.259	0.334	2.74	0.324	0.519	0.559	0.668	0.484	6.5			
Cadmium - Total	0.7	0.0002	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.00010	< 0.000059			
Calcium	N/A	N/A	192	196	182	179	83.3	188	194	202	192	183	239			
Chromium - Total	2.8	0.0099	0.023	0.048	0.001	0.004	0.004	0.001	0.003	0.001	0.001	0.001	0.025			
Cobalt - Total	5	0.0009	0.0008	0.0009	0.001	0.0009	0.0039	0.0008	0.0046	0.0012	0.0012	0.0013	0.013			
Copper - Total	2	0.005	0.0021	0.0006	0.0036	< 0.0005	0.0055	< 0.0005	0.0022	0.0006	0.0015	< 0.0005	0.0009			
Iron	N/A	0.3	33.6	26	21.3	15.3	0.226	14.8	16.4	15.3	14.1	15.8	36.1			
Lead - Total	1	0.005	0.0005	0.0004	0.0002	< 0.0001	0.0002	< 0.0001	0.0006	0.0001	0.0003	0.0002	0.00031			
Magnesium	N/A	N/A	31.4	30.7	24.5	30.9	39.4	32.1	41.2	45.9	49.6	39.5	86.7			
Manganese - Total	5	N/A	0.487	0.44	0.424	0.431	0.026	0.463	0.408	0.361	0.29	0.322	0.519			
Mercury - Total	0.01	0.0002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00013	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002			
Molybdenum - Total	5	0.04	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0017	< 0.0005	0.0009	< 0.0005	< 0.0005	< 0.0005	0.0029			
Nickel - Total	2	0.025	< 0.01	0.01	< 0.01	< 0.01	0.03	< 0.01	0.01	0.01	< 0.01	0.01	0.06			
Potassium	N/A	N/A	14.6	15.2	11.8	16.3	94.4	16.9	22.4	27.5	31.5	22.7	210			
Phosphorus	N/A	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.04	< 0.1	< 0.1	1.1			
Phosphorus - Total	10	0.01	0.03	0.03	0.02	0.01	0.05	0.02	0.02	< 0.1	0.04	0.04	2.29			
Selenium - Total	1	0.1	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.006	< 0.005	< 0.005	< 0.001	0.005			
Silver - Total	0.4	0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0002			
Sodium	N/A	N/A	95.8	100	75.4	99.5	244	107	137	155	161	138	496			
Strontium	N/A	10 bq/L	0.664	0.641	0.54	0.6	0.671	0.644	0.73	0.734	0.78	0.695	2.39			
Thallium	N/A	0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0001	0.00006			
Vanadium	N/A	0.006	0.0015	0.0007	0.0008	0.0006	0.0017	0.0006	0.0036	0.0008	0.0011	0.0011	0.0155			
Zinc - Total	2	0.03	0.006	0.006	0.007	< 0.005	0.363	< 0.005	0.013	< 0.005	0.016	0.011	0.194			
Benzene	0.01	0.1	0.0014	0.001	0.0012	0.0015	< 0.0005	0.0016	0.0013	0.0014	0.0015	0.0012	n/a			
Toluene	0.02	0.0008	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	n/a			
Ethylbenzene	0.06	0.008	0.0003	0.0006	0.0007	0.0007	< 0.0005	0.0007	0.0006	< 0.0005	< 0.0005	< 0.0005	n/a			
Xylene, m, p -	N/A	N/A	0.0019	< 0.0001	< 0.0001	0.001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	n/a			
Xylene, o -	N/A	0.04	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	n/a			
Xylene, m, p, o -	N/A	N/A	0.002	0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	n/a			

Parameters	Limits	Provincial Water Quality Objectives	Jan. Results	Feb. Results	Mar. Results	April. Results	Apr. Results New Cell	May. Results	June. Results	July. Results	Aug. Results	Sept. Results	Oct. Results New Cell	Oct Results	Nov Results	Dec Results
pH (at 25 °C)	6.0 - 9.5	6.5 - 8.5	7.27	7.6	7.29	8.00	8.54	7.53	7.31	7.36	7.5	7.34	7.80			
Conductivity (at 25 °C)	N/A	N/A	1590	1590	1430	1600	2010	1650	1840	2010	2080	1870	5620			
Conductivity (calculated)	N/A	N/A	1448	1557	1309	1530	1852	1584	1814	1954	2024	1803	5181			
Anion Sum	N/A	N/A	16.3	16.7	14.7	16.8	19.1	17.3	19.9	20.9	21.6	19.8	59.2			
Cation Sum	N/A	N/A	18.5	19.4	15.8	18.2	20.5	19.1	22	23.9	24.3	21.3	65.5			
% Difference	N/A	N/A	6.32%	7.33%	3.62%	3.96%	3.34%	4.76%	5.07%	671.00%	5.84%	3.75%	5.02%			
Ion Ratio (AS/CS)	N/A	N/A	0.881	0.863	0.93	0.924	0.935	0.909	0.903	0.874	0.89	0.928	0.904			
Sodium Adsorption Ratio	N/A	N/A	1.69	1.75	1.39	1.81	5.52	1.9	2.33	2.56	2.68	2.41	6.99			
TDS (calc.) / EC (actual)	N/A	N/A	0.564	0.582	0.554	0.568	0.545	0.567	0.584	0.571	0.566	0.568	0.587			
Langelier Index (at 25°C)	N/A	N/A	0.823	1.14	0.791	1.53	1.59	1.1	0.929	1	1.13	0.928	1.93			