Rockland Drinking Water System

Waterworks # 210000639
System Category – Large Municipal Residential

Annual Water Report

Prepared For:
The Corporation of the City of Clarence Rockland

Reporting Period of January 1st – December 31st 2019

Issued: February 25, 2020

Revision: 0

Operating Authority:



This report has been prepared to satisfy the annual reporting requirements in O.Reg 170/03 Section 11 and Schedule 22

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Report Availability

This system serves more than 10,000 residents therefore the annual reports shall be made available publically to residents of The Corporation of the City of Clarence-Rockland. Notification should be made available on the municipal website and copies provided free of charge if requested at the Municipal Office located at, 1560 Laurier St. Rockland On. K4K 1P7.

Compliance Report Card

Compliance Event	# of Events
Ministry of Environment Inspections	1
Ministry of Labour Inspections	0
QEMS External Audit	1
AWQIs	1
Precautionary BWA	3
Non-Compliance	1
Community Complaints	7
Watermain Breaks & Service Repairs	5

System Process Description

Raw Source

Raw water source for the Rockland Drinking Water System is the Ottawa River as per Permit to Take Water #3168-B2JK5N expiring on June 30th 2028. Raw water intake facility consists of a 630mm HDP# Series 45 pipe extending approximately 126 meters from the low lift pumping station into the Ottawa river. Water is conveyed to the water treatment facility by one of 3 vertical turbine pumps.

Treatment

The Clarence Rockland Water Treatment Plant is a 13,500 m3/day conventional filtration type treatment plant with Actiflo® pre-treatment. The Plant is located at 125 Edwards Street in Rockland and services the City of Clarence Rockland and five Hamelets(Clarence Creek, St-Pascal Baylon, Hammond, Bourget and Cheney. The facility consist of the following components; Raw water intake obtained from the Ottawa River. A low lift pumping station including three vertical turbine pumps. Water is directed to two Actiflo® units followed by two rapid dual media gravity filters of sand and anthracite. Filtered water is disinfected and passed through a UV system consisting of two units. A baffled chlorine contact tank of 233.5 m3 and two reservoirs having a total capacity of 471 m3. Secondary disinfection is achieved via chloramination at the discharge of the plant.

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Treatment Chemicals used during the reporting year:

Chemical Name	Use	Supplier
Sodium Hydroxide 50%	Pre and Post pH adjustment	Sodrox
Aluminium Chloride Hydroxide Sulphate (PAX-XL6)	Coagulant	Kemira
Magnafloc LT27AG Polymer	Flocculation Agent	BASF
Sodium Hypochlorite	Post Disinfection	UBA
Ammonium Sulphate	Secondary Disinfection "Chloramination"	Canada Colors & Chemicals

Distribution

Water is pumped into the distribution system by four centrifugal high lift pumps. A Booster Station with three centrifugal pumps is used for the water demand of the Hamlets. The rate of water supplied is based on the three elevated water tower storage tanks and demand from the City of Clarence-Rockland and its Hamlets.

Summary of Non-Compliance

Adverse Water Quality Incidents

Date	AWQI#	Parameter	Value	Limit	Legislation
April 3, 2019	145116	Sodium	26.9 mg/L	20 mg/L	O. Reg. 170/03

Non-Compliance

Legislation	requirement(s) system failed to meet	Details	Corrective Action	Status
O. Reg. 170/03	Schedule 15 lead sampling.	Only 2 sets of lead/alkalinity samples were taken during the June 15 – Oct 15 sampling period. (Ref. 0365-BHMNX9)	Two additional sets of samples were taken immediately after the missed samples were noticed.	The sampling calendar and controlled copy of the chain of custody has been reviewed with operations staff.

Non-Compliance Identified in a Ministry Inspection:

Legislation	requirement(s) system failed to meet	duration of the failure (i.e. date(s))	Corrective Action	Status
		Inspection report pending	3 .	

Flows

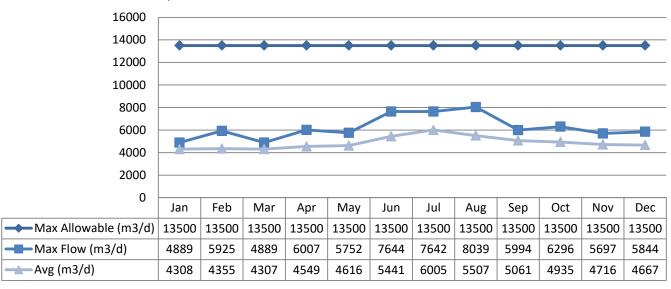
The Rockland Drinking Water System is operating on average under half the rated capacity. During summer peak demands both actiflo units are required to work in order to meet demand and fire capacity levels in the water tower reservoirs.

Raw Water Flows

The Raw Water flows are regulated under the Permit to Take Water Ontario Regulation 387/04. Water Taking and Transfers requires all water takers to report daily water taking amounts to the Water Taking Reporting System (WTRS) electronic database. The 2019 Raw Flow Data was submitted to the Ministry electronically under permit PTTW #3168-B2JK5N. The confirmation and a copy of the data that was submitted are attached in Appendix A.

Total Monthly Flows (m3/d)

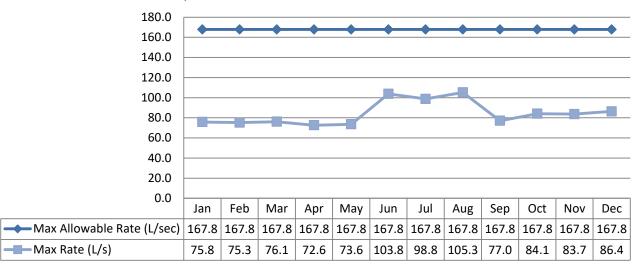
Max Allowable PTTW 14500 m3/d



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Monthly Rated Flows (L/s)

Max allowable rate - PTTW 167.8 L/sec

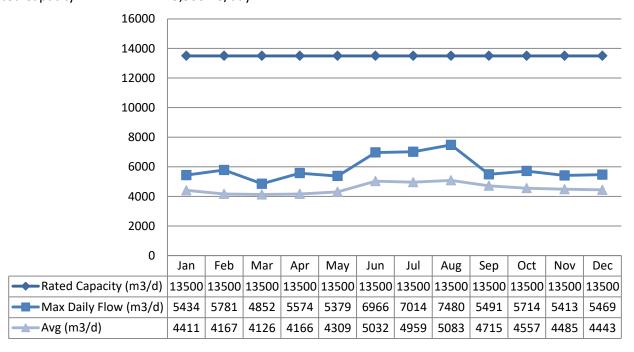


Treated Water Flows

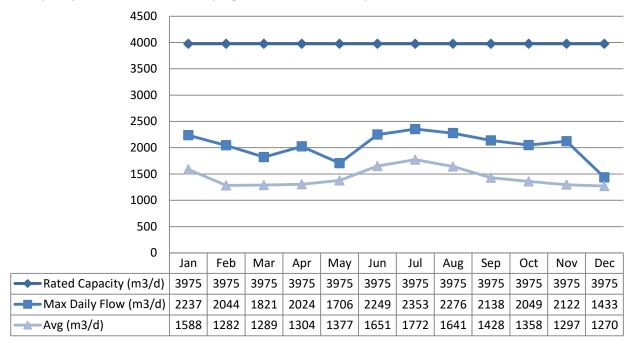
The Treated Water flows are regulated under the Municipal Drinking Water Licence Number: 175-101 Issue Number: 3

Monthly Rated Flows

Rated Capacity – MDWL WTP 13,500m3/day

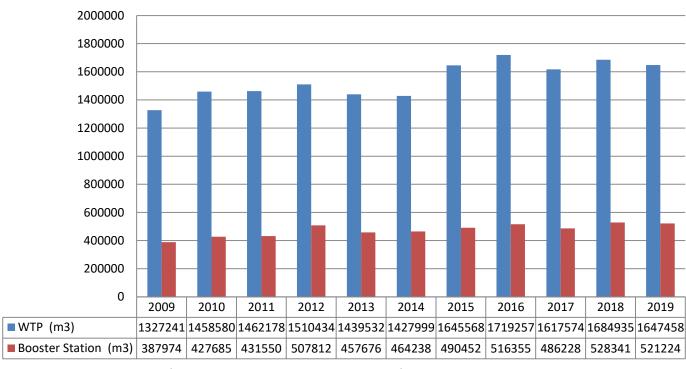


Rated Capacity – MDWL Booster Pumping Station 3,975 m3/day



Annual Total Flow Comparison

Total Annual m³



Please note that the booster station flows are included in the treated water WTP flows

Regulatory Sample Results Summary

Microbiological Testing

	No. of Samples Collected	Range of E.	Range of E.Coli Results		Range of Total Coliform Results		Range of HPC Results	
		Min	Max	Min	Max	Min	Max	
Raw Water	53	0	54	2	620			
Treated Water	53	0	0	0	0	0	8	
Distribution Water	410	0	0	0	0	0	42	

Operational Testing

	No. of	Range o	f Results
	Samples Collected	Minimum	Maximum
Turbidity, In-House (NTU) - RW	8760	1.5	52
Turbidity, On-Line (NTU) - TW	8760	.06	2.41
Turbidity, On-Line (NTU) – Filter #1	8760	.07	0.81
Turbidity, On-Line (NTU) – Filter #2	8760	.04	0.88
Free Chlorine Residual, On-Line (mg/L) - TW	8760	.65	2.81
Combined Chlorine Secondary Disinfection, On-Line (mg/L) – TW	8760	.59	2.97
Combined Chlorine Residual, On-Line (mg/L) – DW	8760	.50	2.97

NOTE: spikes recorded by on-line instrumentation were a result of air bubbles and various maintenance/calibration activities. All spikes are reviewed for compliance with O.Reg 170/03

NOTE: For continuous monitors use 8760 as the number of samples.

Inorganic Parameters

These parameters are tested as a requirement under 170/03. Sodium and Fluoride are required to be tested every 5 years. Nitrate and Nitrite are tested quarterly and the metals are tested annually as required under 170/03. In the event any of the parameters exceed half of the maximum allowable concentration the parameter is required to be sampled quarterly.

- MAC = Maximum Allowable Concentration as per O.Reg 169/03
- BDL = Below the laboratory detection level

	Sample Date	Commis Describ	MAG	No. of Exc	eedances
	(yyyy/mm/dd)	Sample Result	MAC	MAC	1/2 MAC
Treated Water					
Antimony: Sb (ug/L) - TW	2019/07/09	<mdl 0.1<="" td=""><td>6.0</td><td>No</td><td>No</td></mdl>	6.0	No	No
Arsenic: As (ug/L) - TW	2019/07/09	0.2	10.0	No	No
Barium: Ba (ug/L) - TW	2019/07/09	11.0	1000.0	No	No
Boron: B (ug/L) - TW	2019/07/09	<mdl 5.0<="" td=""><td>5000</td><td>No</td><td>No</td></mdl>	5000	No	No
Cadmium: Cd (ug/L) - TW	2019/07/09	<mdl 0.02<="" td=""><td>5.0</td><td>No</td><td>No</td></mdl>	5.0	No	No
Chromium: Cr (ug/L) - TW	2019/07/09	<mdl 2.0<="" td=""><td>50.0</td><td>No</td><td>No</td></mdl>	50.0	No	No
Mercury: Hg (ug/L) - TW	2019/07/09	<mdl 0.02<="" td=""><td>1.0</td><td>No</td><td>No</td></mdl>	1.0	No	No
Selenium: Se (ug/L) - TW	2019/07/09	<mdl 1.0<="" td=""><td>50.0</td><td>No</td><td>No</td></mdl>	50.0	No	No

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	Sample Date	Comple Besult	NAAC	No. of Exceedances	
	(yyyy/mm/dd)	Sample Result	MAC	MAC	1/2 MAC
Uranium: U (ug/L) - TW	2019/07/09	<mdl 0.05<="" td=""><td>20.0</td><td>No</td><td>No</td></mdl>	20.0	No	No
Additional Inorganics					
Fluoride (mg/L) - TW	2019/04/12	<mdl 0.1<="" td=""><td>1.5</td><td>No</td><td>No</td></mdl>	1.5	No	No
Nitrite (mg/L) - TW	2019/01/22	<mdl 0.1<="" td=""><td>1.0</td><td>No</td><td>No</td></mdl>	1.0	No	No
Nitrite (mg/L) - TW	2019/04/02	<mdl 0.1<="" td=""><td>1.0</td><td>No</td><td>No</td></mdl>	1.0	No	No
Nitrite (mg/L) - TW	2019/07/09	<mdl 0.1<="" td=""><td>1.0</td><td>No</td><td>No</td></mdl>	1.0	No	No
Nitrite (mg/L) - TW	2019/10/29	0.2	1.0	No	No
Nitrate (mg/L) - TW	2019/01/22	0.2	10.0	No	No
Nitrate (mg/L) - TW	2019/04/02	0.4	10.0	No	No
Nitrate (mg/L) - TW	2019/07/09	0.2	10.0	No	No
Nitrate (mg/L) - TW	2019/10/29	0.4	10.0	No	No
Sodium: Na (mg/L) - TW	2019/04/12	25.4	20	Yes	Yes

^{*}There is no "MAC" for Sodium. The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified mg/L when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restricted diets.

Schedule 15 Sampling:

The Schedule 15 Sampling is required under O.Reg 170/03. This system is under reduced sampling. No plumbing samples were collected.

Distribution System	Number of Sampling	Number of Samples	Range o	f Results	MAC	Number of	
Distribution system	Points	Number of Samples	Minimum	Maximum	(ug/L)	Exceedances	
Alkalinity (mg/L)	8	8	24	32	n/a	n/a	
pН	8	8	7.70	7.79	n/a	n/a	
Lead (mg/L)	8	8	0.00002	0.00356	0.01	n/a	

Organic Parameters

These parameters are tested annually as a requirement under O.Reg 170/03. In the event any of the parameters exceed half of the maximum allowable concentration the parameter is required to be sampled quarterly.

	Sample Date	Sample	MAC		nber of edances
	(yyyy/mm/dd)	Result		MAC	1/2 MAC
Treated Water					
Alachlor (ug/L) - TW	2019/07/09	BDL	5.00	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2019/07/09	BDL	5.00	No	No
Azinphos-methyl (ug/L) - TW	2019/07/09	BDL	20.00	No	No
Benzene (ug/L) - TW	2019/07/09	BDL	1.00	No	No
Benzo(a)pyrene (ug/L) - TW	2019/07/09	BDL	0.01	No	No
Bromoxynil (ug/L) - TW	2019/07/09	BDL	5.00	No	No
Carbaryl (ug/L) - TW	2019/07/09	BDL	90.00	No	No
Carbofuran (ug/L) - TW	2019/07/09	BDL	90.00	No	No
Carbon Tetrachloride (ug/L) - TW	2019/07/09	BDL	2.00	No	No
Chlorpyrifos (ug/L) - TW	2019/07/09	BDL	90.00	No	No

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	Sample Date	Sample	MAC	Number of Exceedances	
	(yyyy/mm/dd)	Result		MAC	1/2 MAC
Diazinon (ug/L) - TW	2019/07/09	BDL	20.00	No	No
Dicamba (ug/L) - TW	2019/07/09	BDL	120.00	No	No
1,2-Dichlorobenzene (ug/L) - TW	2019/07/09	BDL	200.00	No	No
1,4-Dichlorobenzene (ug/L) - TW	2019/07/09	BDL	5.00	No	No
1,2-Dichloroethane (ug/L) - TW	2018/07/04	BDL	5.00	No	No
1,1-Dichloroethylene (ug/L) - TW	2019/07/09	BDL	14.00	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2019/07/09	BDL	50.00	No	No
2,4-Dichlorophenol (ug/L) - TW	2019/07/09	BDL	900.00	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2019/07/09	BDL	100.00	No	No
Diclofop-methyl (ug/L) - TW	2019/07/09	BDL	9.00	No	No
Dimethoate (ug/L) - TW	2019/07/09	BDL	20.00	No	No
Diquat (ug/L) - TW	2019/07/09	BDL	70.00	No	No
Diuron (ug/L) - TW	2019/07/09	BDL	150.00	No	No
Glyphosate (ug/L) - TW	2019/07/09	BDL	280.00	No	No
Malathion (ug/L) - TW	2019/07/09	BDL	190.00	No	No
2-Methyl-4chlorophenoxyacetic Acid (MCPA) ug/L) - TW	2019/07/09	BDL	100	No	No
Metolachlor (ug/L) - TW	2019/07/09	BDL	50.00	No	No
Metribuzin (ug/L) - TW	2019/07/09	BDL	80.00	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2019/07/09	BDL	80.00	No	No
Paraquat (ug/L) - TW	2019/07/09	BDL	10.00	No	No
PCB (ug/L) - TW	2019/07/09	BDL	3.00	No	No
Pentachlorophenol (ug/L) - TW	2019/07/09	BDL	60.00	No	No
Phorate (ug/L) - TW	2019/07/09	BDL	2.00	No	No
Picloram (ug/L) - TW	2019/07/09	BDL	190.00	No	No
Prometryne (ug/L) - TW	2019/07/09	BDL	1.00	No	No
Simazine (ug/L) - TW	2019/07/09	BDL	10.00	No	No
Terbufos (ug/L) - TW	2019/07/09	BDL	1.00	No	No
Tetrachloroethylene (ug/L) - TW	2019/07/09	BDL	10.00	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2019/07/09	BDL	100.00	No	No
Triallate (ug/L) - TW	2019/07/09	BDL	230.00	No	No
Trichloroethylene (ug/L) - TW	2019/07/09	BDL	5.00	No	No
2,4,6-Trichlorophenol (ug/L) – TW	2019/07/09	BDL	5.00	No	No
Trifluralin (ug/L) – TW	2019/07/09	BDL	45.00	No	No
Vinyl Chloride (ug/L) – TW	2019/07/09	BDL	1.00	No	No
Distribution Water					
Trihalomethane: Total (ug/L) Annual Average - DW	2019/10/09	51.25	100	No	Yes
HAA Total (ug/L) Annual Average – DW	2019/10/09	36.5	80.00	N/A	N/A

MAC = Maximum Allowable Concentration as per O.Reg 169/03 BDL = Below the laboratory detection level

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Additional Legislated Samples

Summary of additional testing and sampling carried out in accordance with the requirement of an approval or order.

Date of order or Municipal Drinking Water Licence	Parameter	Date Sampled	Result	Unit of Measure
Municipal Drinking Water Licence #175-101	Suspended Solids	Jan 2,2019	12.0	mg/l
Municipal Drinking Water Licence #175-101	Suspended Solids	Feb 4, 2019	7.0	mg/l
Municipal Drinking Water Licence #175-101	Suspended Solids	Mar 4, 2019	8.0	mg/l
Municipal Drinking Water Licence #175-101	Suspended Solids	Apr 1, 2019	6.0	mg/l
Municipal Drinking Water Licence #175-101	Suspended Solids	May 13, 2019	14.0	mg/l
Municipal Drinking Water Licence #175-101	Suspended Solids	Jun 12, 2019	7.0	mg/l
Municipal Drinking Water Licence #175-101	Suspended Solids	Jul 4, 2019	6.0	mg/l
Municipal Drinking Water Licence #175-101	Suspended Solids	Aug 2, 2019	3.0	mg/l
Municipal Drinking Water Licence #175-101	Suspended Solids	Sep 11, 2019	4.0	mg/l
Municipal Drinking Water Licence #175-101	Suspended Solids	Oct 22, 2019	4.0	mg/l
Municipal Drinking Water Licence #175-101	Suspended Solids	Nov 1, 2019	11.0	mg/l
Municipal Drinking Water Licence #175-101	Suspended Solids	Dec 2, 2019	4.0	mg/l

Major Maintenance Summary

Description

2019 (WTP) – Capital Control was onsite at the WTP numerous times throughout the 2019 reporting year to perform various repairs, modifications, and upgrades to the PLC and SCADA system.

November 18, 2019 (Booster Station) – Rebuild booster pump motor.

December 2019 (WTP) – Installed new treated water turbidity analyzer.

December 17, 2019 (WTP) – Annual service/inspection completed on UV disinfection system.

Distribution Maintenance

Date	Location Reference	Details	Corrective Repair
January 4, 2019	St-Pascal rink	Water service in need of repair.	Repair service to the skating
			rink shack.
January 16-17, 2019	Clarence-Crossing	New watermain	N/A
		chlorination/sampling/connection.	
January 27, 2019	Lacroix St.	Watermain leak.	Watermain repaired.
	(Hammond)		
February 28, 2019	20 Lavigne St.	Water shut off requested due to	N/A
	(Bourget)	fire.	
June 10, 2019	Cheney Phase 2	Chlorination and sampling of new	N/A
		watermain.	
June 10, 2019	Roxanne Phase 2	Chlorination and sampling of new	N/A
		watermain.	
June 17, 2019	Gareau St.	Precautionary BWA issued for	N/A
		watermain replacement project.	
July 22, 2019	Rochelandaise St.	Precautionary BWA issued for	N/A
		watermain replacement project.	

July 24, 2019	845 St-Jean	Hydrant inoperable.	Install new hydrant.	
July 30, 2019	3642-3644 Marcil (Bourget)	New water service installed.	N/A	
August 6, 2019	Pouliotte St	Precautionary BWA issued for watermain replacement project.	N/A	
August 12, 2019	Entire WDS	HydraSpec started inspection and necessary repair of all hydrants within the water distribution system.	N/A	
August 16, 2019	Alain Potvin Park (Morris Village)	New water service installed	N/A	
September 30, 2019	Amber St. (Morris Village)	Chlorination and sampling of new watermain.	N/A	
Nov/Dec, 2019	WDS	Winterize all hydrants within the water distribution system.	N/A	
October 9, 2019	2042 Landry (Clarence-Creek)	Inspect new service connection.	N/A	
October 23, 2019	824 Lacroix (Hammond)	Leaking service connection.	Replace saddle with Poupart Excavation.	
November 5, 2019	1613 Labonté (Clarence-Creek)	Inspect new service connection.	N/A	
November 13, 2019	Marcil St. (Bourget)	Bypass distribution PRV to allow for proper water circulation/looping.	N/A	
November 19, 2019	3784 Drouin St (Cheney)	Service in need of repair.	Repair service connection with Poupart Excavation.	
November 21, 2019	Phase 3 JML Sub.	Chlorination, flushing and sampling of new watermain	N/A	
December 12, 2019	999 Payer St.	Leaking service connection.	Repair service connection with Beaver Construction.	

Appendix A

WTRS Data and Submission Confirmation



Location: WTRS / WT DATA / Input WT Record

WTRS-WT-008

Water Taking Data submitted successfully.

Confirmation:

Thank you for submitting your water taking data online.

Permit Number: 3168-B2JK5N

Permit Holder: THE CORPORATION OF THE CITY OF CLARENCE-ROCKLAND.

Received on: Feb 12, 2020 10:36 AM

This confirmation indicates that your data has been received by the Ministry, but should not be construed as acceptance of this data if it differs from that specified on the Permit Number, assigned to the Permit Holder stated above.

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ONTARIO CLEAN WATER AGENCY | 2020/02/12

version: v4.5.0.21 (build#: 22) Last modified: 2018/09/18



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ROCKLAND DRINKING WATER SYSTEM / Raw Water

Yearly Summary (Flow) 2019

Annual Values and Summary Units: cubic meter per day

Station: Daily Max: 8039.2 on August 26

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	4135.50	4098.00	4135.50	4134.40	4060.70	6051.60	5576.90	5538.20	5082.00	5592.00	4978.40	4378.00
2	4816.00	4729.00	4816.00	4337.10	4099.40	4937.20	7527.80	6415.90	5113.30	3923.80	4415.80	4645.10
3	4654.80	4457.00	4654.80	4009.60	3875.80	4874.20	7616.50	5918.30	5546.20	5261.10	5697.30	4676.70
4	3876.70	4486.00	3876.70	4579.20	5642.70	4942.80	6729.60	5566.50	5390.40	5132.20	3854.50	3947.10
5	4379.60	4061.00	4379.60	4798.70	4497.40	4642.90	5697.20	4969.80	4977.00	4546.50	4981.00	5603.80
6	3864.30	4024.00	3864.30	4901.80	5295.20	3998.60	6059.20	5878.80	5344.30	6006.40	5275.50	4750.00
7	4485.50	3954.00	4485.50	4981.20	4828.20	6575.90	6211.70	5341.10	4461.30	4897.20	3524.00	4226.10
8	4113.30	4227.00	4113.30	4313.40	4502.50	6462.80	5879.80	5067.10	5994.40	4438.90	5227.80	4589.00
9	4585.40	5039.00	4585.40	3952.50	4243.40	5697.60	6488.60	5169.80	4802.20	5761.40	5671.70	4759.90
10	4421.60	4453.00	4421.60	4512.30	4336.20	6204.10	6553.30	4604.20	4507.70	4370.40	4965.20	4473.80
11	3992.80	4439.00	3992.80	4610.30	4704.70	4947.80	5364.70	5521.80	5571.20	5453.70	4445.60	4591.20
12	4548.40	4113.00	4548.40	4301.10	5340.10	5750.80	5227.70	5686.70	4524.00	4743.40	4905.40	4435.60
13	4011.80	3978.00	4011.80	5189.00	4588.00	5119.60	4968.40	5285.70	5578.70	5073.60	4783.70	4306.10
14	3858.80	4110.00	3858.80	4313.50	4251.10	4860.30	5436.80	5985.20	5213.70	4663.20	4661.90	5093.50
15	3902.30	4449.00	3902.30	4712.00	4157.70	5208.40	5695.10	5463.00	5109.20	6296.00	4837.30	5844.30
16	4747.80	4638.00	4747.80	4253.20	4349.40	5369.80	5215.40	5755.40	4891.10	4518.50	4721.00	4529.50
17	4576.00	4831.00	4576.00	4225.90	4440.90	4658.40	6368.60	4606.40	5506.40	4886.20	4978.00	4647.70
18	4331.40	4019.00	4331.40	4825.40	4150.40	6378.50	4989.30	5188.50	4731.60	5568.30	4693.00	4371.80
19	4076.60	4372.00	4076.60	5042.40	4323.30	5703.40	7187.70	5698.60	5652.00	4282.60	4320.20	4823.10
20	4068.50	4148.00	4068.50	2754.50	4784.80	4606.60	6072.10	4895.00	4430.50	5863.50	4295.20	4510.10
21	4432.70	4023.00	4432.70	6007.40	4939.10	5504.00	5964.10	6859.90	5717.70	4491.00	4156.80	4648.50
22	4118.60	4023.00	4118.60	4712.60	5248.30	5851.00	5629.10	5954.10	4900.70	4827.00	4939.40	5018.00
23	4398.00	3719.00	4398.00	4651.90	4730.20	4871.90	5538.80	5801.10	4623.50	5078.00	5141.50	5022.20
24	4095.20	5925.00	4095.20	4619.60	4456.80	7644.40	5000.00	4601.70	5258.30	4262.10	4669.90	4824.60
25	4889.20	3881.00	4889.20	4299.40	4571.80	4816.10	5500.00	5321.50	4608.80	5031.30	4682.30	4401.40
26	4519.80	3985.00	4519.80	4418.70	4780.30	5955.60	5500.00	8039.20	4621.70	4689.00	4556.00	4571.20
27	4037.30	5199.00	4037.30	4506.80	5752.30	5766.20	5500.00	5615.60	5152.20	4816.50	4848.20	4886.40
28	3996.80	4559.00	3996.80	4705.40	4621.10	5426.60	5500.00	4852.10	4979.10	5362.60	4175.70	4712.90
29	4135.50		4272.20	4607.10	5018.90	5036.00	7642.90	5232.90	5163.40	4545.80	4275.30	4626.70
30	4816.00		4581.50	5206.40	3092.60	5359.00	7481.40	4831.60	4366.70	4211.40	5134.80	4117.70
31	4654.80		4738.60		5404.00		6027.10	5082.70		4386.10		4612.40
Min	3858.80	3719.00	3858.80	2754.50	3092.60	3998.60	4968.40	4601.70	4366.70	3923.80	3524.00	3947.10
Mean	4307.77	4354.96	4307.32	4549.43	4615.72	5440.74	6004.83	5507.01	5060.64	4934.83	4725.13	4665.95
Max	4889.20	5925.00	4889.20	6007.40	5752.30	7644.40	7642.90	8039.20	5994.40	6296.00	5697.30	5844.30