

Newington Drinking Water System

Waterworks # 220008051
System Category – Large Municipal Residential

Annual Water Report

Prepared For: Township of South Stormont

Reporting Period of January 1st – December 31st 2024

Issued: February 26, 2025

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

Table of Contents

Revision History	1
Report Availability	1
Compliance Report Card	1
System Process Description	1
Raw Source	1
Treatment.....	2
Distribution.....	2
Summary of Non-Compliance	2
Adverse Water Quality Incidents.....	2
Non-Compliance	2
Non-Compliance Identified in a Ministry Inspection:.....	2
Flows	3
Raw Water Flows.....	3
Treated Water Flows	4
Regulatory Sample Results Summary	5
Microbiological Testing.....	5
Operational Testing	5
Inorganic Parameters	5
Organic Parameters	7
Additional Legislated Samples.....	8
Major Maintenance Summary	8
Distribution Maintenance.....	8
WTRS Data and Submission Confirmation	A

Revision History

Date	Revision #	Revision Notes
February 26, 2025	0	Issued Annual Report

Report Availability

This system does not serve more than 10,000 residence and the annual reports will be available to residents at the Township of South Stormont municipal office, located at 2 Mille Roches Road, Long Sault, ON. The report is also available on the Township website (www.southstormont.ca).

Compliance Report Card

Compliance Event	# of Events
Ministry of Environment Inspections	January 30, 2024
Ministry of Labour Inspections	0
QEMS External Audit	0
AWQI's/BWA	0
Non-Compliance	0
Spills	0
Watermain Breaks	0

System Process Description

Raw Source

The Newington DWS draws groundwater from two wells. The wells are operated in series. The first well, known as the "Kraft" well is the primary source of water. It is a dug well which was originally installed in 1937. In dry periods, when the water level hits a minimum depth in the Kraft Well, the pump in the second well, the "Fairgrounds" well, is activated to pump water to the Kraft Well. The Fairgrounds Well is a drilled well originally installed in 1979.

Treatment

Disinfection is supplied by sodium hypochlorite. The metering pump rate is set to correspond with the groundwater pumping rate and the chlorine residual in the distribution system. Two filter banks (North and South) comprised of 3 filters each, only one filter bank operates at any given time and the other is isolated. Pumping is activated by a pressure drop in the distribution system. It maintains pressure by pressure tanks attached to the distribution system feeder main. A 21 m length of 600 mm diameter pipe between the plant and the distribution system provides additional chlorine contact time prior to the first user. Treated water leaving the plant is continuously monitored for flow, chlorine residual and turbidity.

Treatment Chemicals used during the reporting year:

Chemical Name	Use	Supplier
Sodium Hypochlorite	Disinfection	Sanisol

Distribution

The distribution system that serves the Village of Newington consist of approximately 2.9 km of 4" PVC distribution piping. The system is a looped with two flushing ports and one flushing line. The system includes shut-off valves for isolation. Pressure within the distribution system is created and maintained through the use of pneumatic tanks located within the Water Treatment Plant.

Summary of Non-Compliance

Adverse Water Quality Incidents

Date	AWQI #	Location	Problem	Details	Legislation	Corrective Action Taken
There were no adverse Water Quality incidents reported during the reporting period.						

Non-Compliance

Legislation	requirement(s) system failed to meet	duration of the failure (i.e. date(s))	Corrective Action	Status
There were no non-compliance incidents reported during the reporting period.				

Non-Compliance Identified in a Ministry Inspection:

Legislation	requirement(s) system failed to meet	duration of the failure	Corrective Action	Status
There was no actions identified in the received inspection report.				

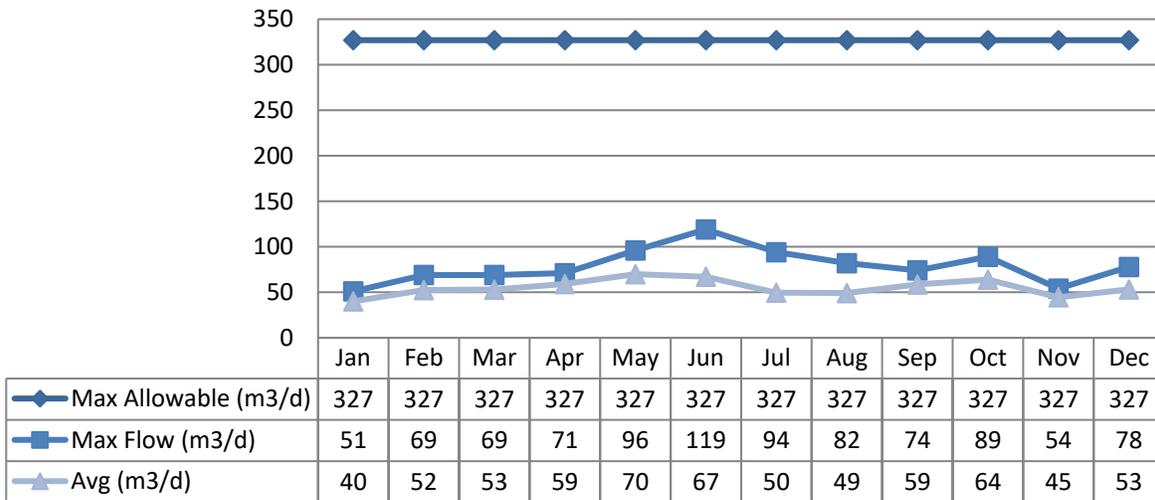
Flows

Raw Water Flows

The Raw Water flows are regulated under the Permit to Take Water. Raw flow data for 2024 was submitted to the Ministry electronically under Permit #P-5764-9XYMDS. The submission confirmation can be found attached in Appendix A.

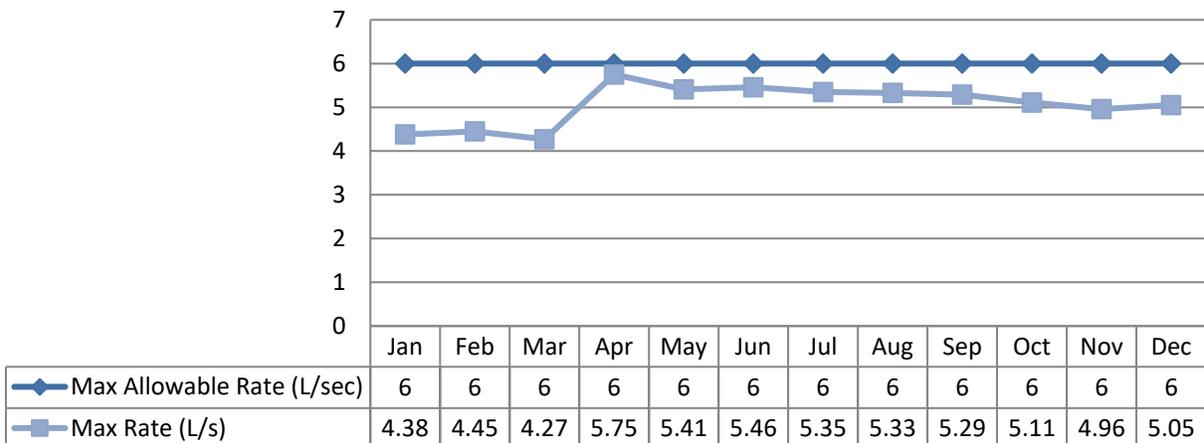
Kraft Well Flows (m3/d)

Max Allowable Flow PTTW



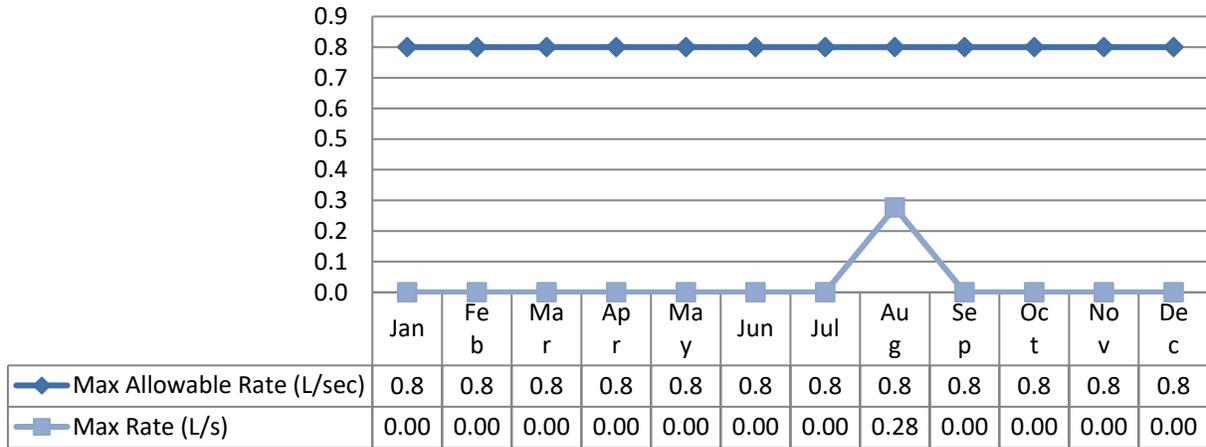
Kraft Well – Maximum Flow Rate (L/s)

Max allowable rate - PTTW



Fairgrounds Well– Maximum Flow Rate (L/s)

Max allowable rate - PTTW

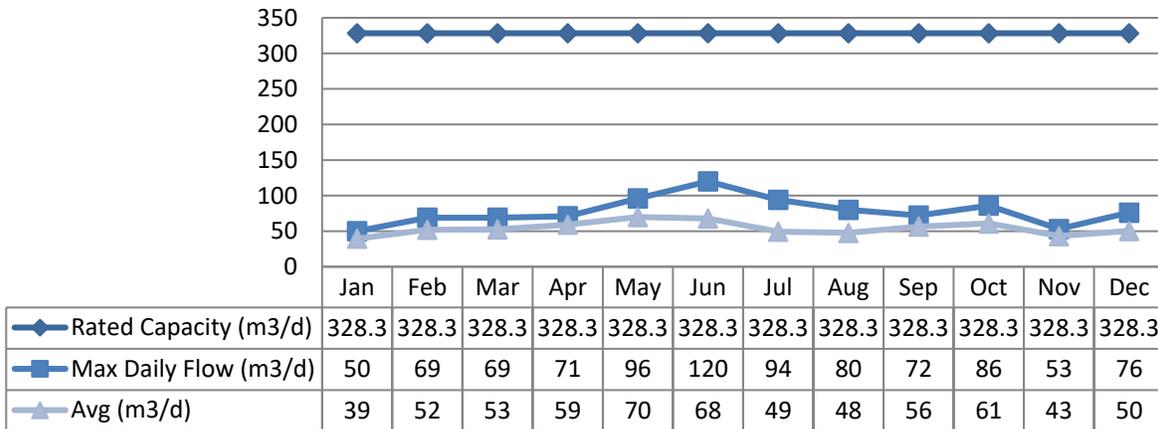


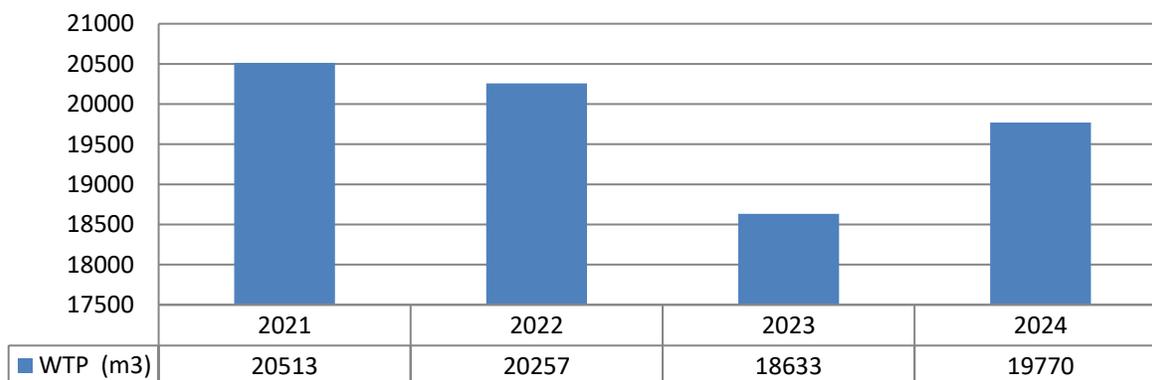
Treated Water Flows

The Treated Water flows are regulated under the Municipal Licence.

Treated Flows

Rated Capacity - MDWL



Annual Total Flow Comparison

*Fairgrounds Well total annual flow from August 2024 is 3.8 m³.

Regulatory Sample Results Summary

Microbiological Testing

	# of Samples Collected	Range of E.Coli		Range of Total Coliform Results		# of HPC Samples	Range of HPC Results	
		Min	Max	Min	Max		Min	Max
Raw Well #2 (Fairgrounds)	1	0	0	0	0	0	N/A	N/A
Raw Well #1 (Kraft)	53	0	0	0	0	0	N/A	N/A
Treated Water	53	0	0	0	0	53	<2	2
Distribution System	53	0	0	0	0	53	<0.05	12

Operational Testing

Parameter & Sample Type	No. of Samples Collected	Range of Results		
		Minimum	Average	Maximum
Turbidity; On-Line (NTU)- Filt	8760	0.00	0.03	2.00
Turbidity; In-House (NTU)- RW1 Kraft Well	12	0.03	0.05	0.42
Total Chlorine Residual; In-House (mg/L)- TW	96	1.12	1.44	1.60
Free Chlorine Residual; In-House (mg/L)- TW	74	1.00	1.36	1.51
Free Chlorine Residual; On-Line (mg/L)- TW	8760	0.64	1.32	2.11

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

Inorganic Parameters

These parameters are tested as a requirement under 170/03. Sodium and Fluoride are required to be tested every 60 months. 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
- MDL = Method Detection Limit

Treated Water	Sample Date (yyyy/mm/dd)	Result	MAC	Exceedance	
				MAC	1/2 MAC
Antimony: Sb (ug/L) - TW	2024/05/13	< MDL 0.1	6	No	No
Arsenic: As (ug/L) - TW	2024/05/13	< MDL 0.1	10	No	No
Barium: Ba (ug/L) - TW	2024/05/13	37	1000	No	No
Boron: B (ug/L) - TW	2024/05/13	5	5000	No	No
Cadmium: Cd (ug/L) - TW	2024/05/13	< MDL 0.015	5	No	No
Chromium: Cr (ug/L) - TW	2024/05/13	< MDL 1	50	No	No
Mercury: Hg (ug/L) - TW	2024/05/13	< MDL 0.02	1	No	No
Selenium: Se (ug/L) - TW	2024/05/13	< MDL 1	50	No	No
Uranium: U (ug/L) - TW	2024/05/13	0.37	20	No	No
Additional Inorganics					
Nitrate : (mg/L) - TW	2024/05/06	5.66	10	No	Yes
Nitrate : (mg/L) - TW	2024/05/14	5.55	10	No	Yes
Nitrate : (mg/L) - TW	2024/06/03	5.44	10	No	Yes
Nitrate : (mg/L) - TW	2024/07/02	5.83	10	No	Yes
Nitrate : (mg/L) - TW	2024/08/07	5.79	10	No	Yes
Nitrate : (mg/L) - TW	2024/08/12	5.89	10	No	Yes
Nitrate : (mg/L) - TW	2024/09/03	5.95	10	No	Yes
Nitrate : (mg/L) - TW	2024/10/02	6.01	10	No	Yes
Nitrate : (mg/L) - TW	2024/11/04	6.19	10	No	Yes
Nitrate : (mg/L) - TW	2024/11/13	6.27	10	No	Yes
Nitrate : (mg/L) - TW	2024/12/04	6.62	10	No	Yes
Nitrite : (mg/L) - TW	2024/05/14	< MDL 0.05	1	No	No
Nitrite : (mg/L) - TW	2024/02/12	< MDL 0.05	1	No	No
Nitrite : (mg/L) - TW	2024/05/22	< MDL 0.05	1	No	No
Nitrite : (mg/L) - TW	2024/08/12	< MDL 0.05	1	No	No
Nitrite : (mg/L) - TW	2024/11/13	< MDL 0.05	1	No	No

*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 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. Lead

samples are to be collected in 2025. Lead samples were last collected April 11, 2022 and October 12, 2022.

Distribution System	Number of Sampling Points	Number of Samples	Range of Results		MAC (ug/L)	Number of Exceedances
			Minimum	Maximum		
Alkalinity (mg/L)	1	2	254	255	N/A	N/A
pH	1	2	8.08	8.22	N/A	N/A
Lead (ug/l)	N/A	N/A	N/A	N/A	10	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 (yyyy/mm/dd)	Sample Result	MAC	No of Exceedances	
				MAC	1/2 MAC
Treated Water					
1,1-Dichloroethylene (ug/L)-TW	2024/05/13	< MDL 0.5	14	No	No
1,2-Dichlorobenzene (ug/L)-TW	2024/05/13	< MDL 0.5	200	No	No
1,2-Dichloroethane (ug/L)-TW	2024/05/13	< MDL 0.5	5	No	No
1,4-Dichlorobenzene (ug/L)-TW	2024/05/13	< MDL 0.5	5	No	No
2,3,4,6-Tetrachlorophenol (ug/L)-TW	2024/05/13	< MDL 0.2	100	No	No
2,4,6-Trichlorophenol (ug/L)-TW	2024/05/13	< MDL 0.2	5	No	No
2,4-Dichlorophenol (ug/L)-TW	2024/05/13	< MDL 0.2	900	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L)-TW	2024/05/13	< MDL 1	100	No	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (ug/L)-TW	2024/05/13	< MDL 10	100	No	No
Alachlor (ug/L) -TW	2024/05/13	< MDL 0.3	5	No	No
Atrazine + N-dealkylated metabolites (ug/L)-TW	2024/05/13	< MDL 0.5	5	No	No
Azinphos-methyl (ug/L)-TW	2024/05/13	< MDL 1	20	No	No
Benzene (ug/L)-TW	2024/05/13	< MDL 0.5	1	No	No
Benzo(a)pyrene (ug/L)-TW	2024/05/13	< MDL 0.006	0.01	No	Yes
Bromoxynil (ug/L)-TW	2024/05/13	< MDL 0.5	5	No	No
Carbaryl (ug/L)-TW	2024/05/13	< MDL 3	90	No	No
Carbofuran (ug/L) -TW	2024/05/13	< MDL 1	90	No	No
Carbon Tetrachloride (ug/L) -TW	2024/05/13	< MDL 0.2	2	No	No
Chlorpyrifos (ug/L) -TW	2024/05/13	< MDL 0.5	90	No	No
Diazinon (ug/L)-TW	2024/05/13	< MDL 1	20	No	No
Dicamba (ug/L)-TW	2024/05/13	< MDL 1	120	No	No
Dichloromethane (Methylene Chloride) (ug/L)-TW	2024/05/13	< MDL 5	50	No	No

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No of Exceedances	
				MAC	1/2 MAC
Diclofop-methyl (ug/L)-TW	2024/05/13	< MDL 0.9	9	No	No
Dimethoate (ug/L)-TW	2024/05/13	< MDL 1	20	No	No
Diquat (ug/L)-TW	2024/05/13	< MDL 5	70	No	No
Diuron (ug/L)-TW	2024/05/13	< MDL 5	150	No	No
Glyphosate (ug/L)-TW	2024/05/13	< MDL 25	280	No	No
Malathion (ug/L)-TW	2024/05/13	< MDL 5	190	No	No
Metolachlor (ug/L)-TW	2024/05/13	< MDL 3	50	No	No
Metribuzin (ug/L)-TW	2024/05/13	< MDL 3	80	No	No
Monochlorobenzene (Chlorobenzene) (ug/L)- TW	2024/05/13	< MDL 0.5	80	No	No
Paraquat (ug/L)-TW	2024/05/13	< MDL 1	10	No	No
PCB (ug/L)-TW	2024/05/13	< MDL 0.05	3	No	No
Pentachlorophenol (ug/L)-TW	2024/05/13	< MDL 0.2	60	No	No
Phorate (ug/L)-TW	2024/05/13	< MDL 0.3	2	No	No
Picloram (ug/L)-TW	2024/05/13	< MDL 5	190	No	No
Prometryne (ug/L)-TW	2024/05/13	< MDL 0.1	1	No	No
Simazine (ug/L)-TW	2024/05/13	< MDL 0.5	10	No	No
Terbufos (ug/L)-TW	2024/05/13	< MDL 0.5	1	No	No
Tetrachloroethylene (ug/L)-TW	2024/05/13	< MDL 0.5	10	No	No
Triallate (ug/L) -TW	2024/05/13	< MDL 10	230	No	No
Trichloroethylene (ug/L)-TW	2024/05/13	< MDL 0.5	5	No	No
Trifluralin (ug/L)-TW	2024/05/13	< MDL 0.5	45	No	No
Vinyl Chloride (ug/L)-TW	2024/05/13	< MDL 0.2	1	No	No
Distribution					
HAA Total (ug/L) Annual Average-DW2	2024/01/01	5.3	80	No	No
Trihalomethane: Total (ug/L) Annual Average- DW1	2024/01/01	6	100	No	No

Additional Legislated Samples

There was no additional sampling required.

Major Maintenance Summary

Date	Description
August 27, 2024	New turbidity meter installed.

Distribution Maintenance

Date	Location Reference	Category	Details	Corrective Repair
There was no distribution maintenance in the reporting period.				

Appendix A - WTRS Data and Submission Confirmation




Ministry of the Environment,
Conservation and Parks

| WT DATA | USER PROFILE | CONTACT US | HELP | HOME | LOGOUT |

Location: [WTRS](#) / [WT DATA](#) / [Input WT Record](#)
WTRS-WT-00

Water Taking Data submitted successfully.

Confirmation:

Thank you for submitting your water taking data online.

Permit Number: 5764-9XYMDS
 Permit Holder: THE CORPORATION OF THE TOWNSHIP OF SOUTH STORMONT.
 Received on: Feb 4, 2025 11:42 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.

Print Confirmation
Return to Main Page

SELENA SHANE | 2025/02/04
 version: v4.5.0.21 (build#: 22
 Last modified: 2016/09/11



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Annual Values and Summary												Units:
Station: Newington - Kraft Well												cubic meter per day
											Daily Max:	119.0 on June 05
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	45.00	46.00	46.00	61.00	61.00	84.00	53.00	42.00	74.00	89.00	47.00	55.00
2	41.00	47.00	47.00	63.00	58.00	100.00	51.00	56.00	72.00	66.00	48.00	44.00
3	49.00	48.00	48.00	59.00	59.00	84.00	39.00	61.00	54.00	64.00	54.00	42.00
4	37.00	46.00	46.00	61.00	72.00	91.00	43.00	54.00	49.00	65.00	44.00	45.00
5	37.00	46.00	46.00	60.00	62.00	119.00	48.00	54.00	51.00	73.00	39.00	42.00
6	42.00	46.00	46.00	66.00	63.00	79.00	49.00	40.00	47.00	71.00	39.00	45.00
7	43.00	46.00	46.00	71.00	61.00	74.00	49.00	42.00	53.00	71.00	43.00	50.00
8	36.00	44.00	44.00	64.00	59.00	74.00	50.00	37.00	58.00	66.00	34.00	50.00
9	40.00	48.00	48.00	65.00	65.00	88.00	38.00	50.00	55.00	67.00	45.00	47.00
10	40.00	51.00	51.00	58.00	62.00	84.00	45.00	44.00	52.00	69.00	47.00	44.00
11	36.00	56.00	56.00	53.00	71.00	84.00	42.00	47.00	49.00	72.00	39.00	47.00
12	38.00	50.00	50.00	52.00	70.00	85.00	51.00	46.00	52.00	76.00	40.00	53.00
13	42.00	48.00	48.00	55.00	69.00	84.00	50.00	46.00	54.00	79.00	46.00	45.00
14	44.00	53.00	53.00	60.00	64.00	88.00	75.00	41.00	60.00	80.00	46.00	50.00
15	38.00	49.00	49.00	57.00	64.00	102.00	47.00	42.00	64.00	73.00	39.00	54.00
16	36.00	48.00	48.00	53.00	66.00	76.00	51.00	46.00	55.00	74.00	47.00	45.00
17	37.00	60.00	60.00	53.00	67.00	51.00	47.00	46.00	55.00	76.00	46.00	45.00
18	36.00	59.00	59.00	51.00	75.00	50.00	51.00	42.00	54.00	75.00	42.00	44.00
19	36.00	59.00	59.00	67.00	75.00	42.00	42.00	46.00	52.00	81.00	40.00	44.00
20	43.00	52.00	52.00	62.00	96.00	41.00	47.00	41.00	56.00	87.00	45.00	49.00
21	45.00	54.00	54.00	61.00	93.00	42.00	43.00	49.00	68.00	61.00	42.00	56.00
22	37.00	56.00	56.00	58.00	74.00	42.00	49.00	46.00	62.00	49.00	44.00	75.00
23	40.00	57.00	57.00	54.00	61.00	49.00	44.00	47.00	70.00	41.00	50.00	62.35
24	37.00	57.00	57.00	58.00	73.00	46.00	40.00	50.00	65.00	44.00	52.00	62.30
25	37.00	69.00	69.00	54.00	89.00	42.00	39.00	58.00	55.00	45.00	53.00	55.21
26	37.00	57.00	57.00	56.00	82.00	39.00	43.00	45.00	54.00	46.00	43.00	52.48
27	42.00	57.00	57.00	62.00	68.00	42.00	49.00	45.00	61.00	53.00	45.00	55.83
28	51.00	57.00	57.00	65.00	68.00	48.00	49.00	48.00	63.00	44.00	42.00	76.63
29	40.00	55.00	55.00	56.00	71.00	40.00	66.00	51.00	71.00	39.00	43.00	63.97
30	38.00		59.00	59.00	75.00	42.00	94.00	82.00	72.00	45.00	51.00	77.08
31	40.00		63.00		73.00		52.00	79.00		41.00		71.63
Min	36.00	44.00	44.00	51.00	58.00	39.00	38.00	37.00	47.00	39.00	34.00	42.00
Mean	40.00	52.45	53.00	59.13	69.87	67.07	49.55	49.13	58.57	63.94	44.50	53.18
Max	51.00	69.00	69.00	71.00	96.00	119.00	94.00	82.00	74.00	89.00	54.00	77.08