

**From:** [Hopkins, Scott](#)  
**To:** "[Ashley Rawhouser@nps.gov](mailto:Ashley.Rawhouser@nps.gov)"; [Bob Rose](#); [Breean Zimmerman](#); [Buehn, Scott](#); "[carlmerkle@ctuir.com](mailto:carlmerkle@ctuir.com)"; [Clement, Marcie](#); [David Bowen](#); [Emily Johnson](#); [Graham Simon](#); [Hugh Anthony](#); [Jim Pacheco](#); [Justin Yeager](#); [Kari Grover Wier](#); [M. Cooney](#); [Mark Peterschmidt](#); [Nick Elwell](#); "[nona.snell@rco.wa.gov](mailto:nona.snell@rco.wa.gov)"; [Osborn, Jeff](#); [Paul Willard](#); [Phil Archibald](#); [Richard Uhlhorn](#); [Smith, Michelle](#); [Steve Lewis](#); [Thomas O'Keefe](#); "[tom.ernsberger@parks.wa.gov](mailto:tom.ernsberger@parks.wa.gov)"; [Towey, Bill](#); [Travis Maitland](#); [Underwood, Alene](#); [Von Reis, Charles](#); [Willard, Catherine](#); "[Ana Cerro-Timpone](#)"; "[Chuck Brushwood](#)"; "[Mayfield, Mariah - FS](#)"; [Whiteman, Martha](#)  
**Cc:** "[Joseph Miller](#)"; "[Pradeep Mugunthan](#)"; [West, Todd](#)  
**Subject:** Chelan River Temperature Monitoring Data - 2018 August Report  
**Date:** Friday, September 28, 2018 2:52:08 PM  
**Attachments:** [2018 Chelan River Daily Average Temperature Data August Report.pdf](#)  
[2018 Chelan River Hourly Temperature Data August Report.pdf](#)

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PUBLIC UTILITY DISTRICT NO. 1 of CHELAN COUNTY  
P.O. Box 1231, Wenatchee, WA 98807-1231 • 327 N. Wenatchee Ave., Wenatchee, WA 98801  
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To: Department of Ecology  
Water Quality Program  
Central Regional Office

Chelan River Fishery Forum:  
Washington Department of Ecology  
Washington Department of Fish and Wildlife  
United States Forest Service  
National Park Service  
United States Fish and Wildlife Service  
National Marine Fisheries Service  
CCT (Colville)  
YN (Yakama)  
CTUIR (Umatilla tribe)  
Lake Chelan Sportsman Association  
United States Geological Survey  
Washington State Parks and Recreation Commission  
Washington State Recreation and Conservation Office  
City of Chelan  
Manson Parks and Recreation Department  
Lake Chelan Recreation Association  
American Whitewater

From: Scott Hopkins, Fisheries Biologist II  
Public Utility District No. 1 of Chelan County (Chelan PUD)  
[scott.hopkins@chelanpud.org](mailto:scott.hopkins@chelanpud.org)  
(509)661-4763

Re: Lake Chelan Hydroelectric Project No. 637 (Project)  
Appendix D 401 Water Quality Certification Condition V.C.i)  
Water Temperature Data Reports: August 2018

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Dear Ecology Water Quality Program, Chelan River Fishery Forum, and Other Parties:

Water temperature monitoring data for August 2018 is provided in the attached files. This information will be posted to the Lake Chelan Implementation web page under resource documents.

<http://www.chelanpud.org/hydropower/licensing-and-compliance/lake-chelan-license-implementation/resource-documents>

Data during times of maintenance, calibration, or other miscellaneous events have been denoted with "NA" to designate these periods when data was either unavailable or inaccurate. Noteworthy events labeled with "NA" are explained below.

- 1) 8/21/18 through 8/23/18 - End of R4 Habitat Channel logger failed and data was inaccurate from August 21 until it could be replaced on August 23.
- 2) 8/23/18 through 8/31/18 - This logger location could not be accessed and data has not been retrieved at this time. Data for this time period will be provided in the 3<sup>rd</sup> quarter report once it has been downloaded.

Please feel free to call or email any questions or comments.

**Scott Hopkins**  
Fisheries Biologist  
Chelan County PUD  
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509-630-2708 (cell)  
[Scott.Hopkins@chelanpud.org](mailto:Scott.Hopkins@chelanpud.org)

Date	Hour	Low Level Outlet Pipe -Auto- (Deg. C)	Top of Reach 1 -Logger- (Deg. C)	End of Reach 1 -Logger- (Deg. C)	End of Reach 3 -Logger- (Deg. C)	Top of R4 Habitat Channel -Logger- (Deg. C)	End of R4 Habitat Channel -Logger- (Deg. C)	Tailrace at Pump Intake -Auto- (Deg. C)	Tailrace at Pump Intake -Logger- (Deg. C)
8/1/2018	1	21.3	22.8	23.2	23.2	23.2	23.2	23.4	23.3
8/1/2018	2	21.3	22.9	23.4	23.4	23.3	23.3	23.3	23.2
8/1/2018	3	21.3	23.0	23.5	23.5	23.5	23.4	23.3	23.0
8/1/2018	4	21.6	23.2	23.7	23.7	23.6	23.6	23.2	22.9
8/1/2018	5	22.0	23.5	23.7	23.8	23.7	23.7	23.1	22.8
8/1/2018	6	22.9	23.9	23.8	23.8	23.8	23.7	23.1	22.8
8/1/2018	7	23.3	24.0	23.9	23.9	23.9	23.8	23.0	22.7
8/1/2018	8	23.6	24.1	24.1	24.1	24.0	24.0	23.0	22.7
8/1/2018	9	23.7	24.1	24.2	24.2	24.1	24.1	22.9	22.8
8/1/2018	10	23.8	24.1	24.3	24.3	24.2	24.3	23.1	23.2
8/1/2018	11	23.8	24.1	24.5	24.5	24.4	24.5	23.4	23.4
8/1/2018	12	23.9	24.2	24.6	24.7	24.6	24.7	23.6	23.8
8/1/2018	13	23.8	24.2	24.7	24.8	24.8	24.8	23.8	24.3
8/1/2018	14	23.9	24.3	24.8	24.8	24.8	24.9	24.0	24.8
8/1/2018	15	24.0	24.4	24.8	24.8	24.8	24.9	24.3	24.5
8/1/2018	16	24.1	24.6	24.7	24.8	24.8	24.8	24.5	24.6
8/1/2018	17	24.1	24.6	24.7	24.8	24.7	24.8	24.7	24.4
8/1/2018	18	24.1	24.5	24.7	24.8	24.7	24.8	24.5	24.2
8/1/2018	19	24.1	24.6	24.6	24.6	24.6	24.6	24.3	24.1
8/1/2018	20	24.2	24.6	24.6	24.6	24.6	24.5	24.2	23.9
8/1/2018	21	24.3	24.7	24.4	24.5	24.5	24.4	24.1	23.6
8/1/2018	22	24.4	24.6	24.4	24.4	24.4	24.4	23.9	23.4
8/1/2018	23	24.4	24.6	24.4	24.4	24.4	24.4	23.8	23.4
8/1/2018	24	24.3	24.5	24.3	24.4	24.4	24.3	23.6	23.3
8/2/2018	1	24.3	24.4	24.2	24.3	24.3	24.3	23.5	23.1
8/2/2018	2	24.2	24.3	24.1	24.2	24.2	24.2	23.4	23.1
8/2/2018	3	24.1	24.3	24.1	24.1	24.1	24.1	23.3	22.9
8/2/2018	4	24.1	24.2	24.0	24.1	24.1	24.0	23.2	22.6
8/2/2018	5	24.0	24.1	23.9	24.0	24.0	24.0	23.2	22.5
8/2/2018	6	24.0	24.1	23.9	23.9	23.9	23.9	23.1	22.6
8/2/2018	7	23.9	24.1	23.9	23.9	23.9	23.8	23.1	22.6
8/2/2018	8	23.9	24.1	23.9	24.0	23.9	23.9	23.0	22.5
8/2/2018	9	23.8	24.0	24.1	24.0	24.0	24.0	23.0	22.7
8/2/2018	10	23.8	24.0	24.2	24.2	24.1	24.2	23.0	23.1
8/2/2018	11	23.8	24.1	24.2	24.3	24.2	24.3	23.2	23.3
8/2/2018	12	23.8	24.1	24.4	24.4	24.4	24.4	23.4	23.5
8/2/2018	13	23.8	24.1	24.4	24.5	24.4	24.5	23.6	23.6
8/2/2018	14	23.9	24.1	24.2	24.2	24.3	24.4	23.7	23.6
8/2/2018	15	24.0	24.2	24.3	24.3	24.3	24.3	23.8	23.6
8/2/2018	16	24.0	24.2	24.3	24.3	24.3	24.4	23.9	23.6
8/2/2018	17	24.0	24.2	24.1	24.2	24.2	24.2	23.8	23.3
8/2/2018	18	24.0	24.1	24.0	24.0	24.0	24.0	23.7	23.2
8/2/2018	19	24.0	24.1	23.9	23.9	23.9	23.8	23.5	23.0
8/2/2018	20	23.9	24.0	23.8	23.8	23.8	23.7	23.3	22.8
8/2/2018	21	23.8	24.0	23.7	23.7	23.7	23.6	23.1	22.6
8/2/2018	22	23.8	23.9	23.7	23.6	23.6	23.5	22.9	22.5
8/2/2018	23	23.7	23.8	23.6	23.6	23.6	23.5	22.8	22.4

8/2/2018	24	23.6	23.7	23.5	23.5	23.5	23.4	22.6	22.3
8/3/2018	1	23.5	23.6	23.4	23.4	23.4	23.4	22.4	22.2
8/3/2018	2	23.4	23.5	23.3	23.3	23.3	23.3	22.3	22.2
8/3/2018	3	23.3	23.4	23.2	23.2	23.2	23.2	22.3	22.1
8/3/2018	4	23.2	23.3	23.0	23.1	23.1	23.1	22.2	22.0
8/3/2018	5	23.1	23.2	23.0	23.0	23.0	22.9	22.2	22.0
8/3/2018	6	23.1	23.1	22.9	22.9	22.9	22.9	22.1	22.0
8/3/2018	7	23.0	23.1	22.9	22.9	22.9	22.8	22.1	21.9
8/3/2018	8	23.0	23.1	22.9	22.9	22.9	22.9	22.0	21.9
8/3/2018	9	22.9	23.0	23.0	23.0	22.9	22.9	22.0	22.0
8/3/2018	10	22.9	23.0	23.1	23.1	23.1	23.1	22.1	22.1
8/3/2018	11	22.9	23.1	23.3	23.3	23.2	23.3	22.3	22.2
8/3/2018	12	22.9	23.1	23.4	23.4	23.4	23.4	22.5	22.4
8/3/2018	13	22.9	23.2	23.5	23.6	23.5	23.6	22.7	22.9
8/3/2018	14	23.0	23.2	23.6	23.7	23.6	23.7	22.9	23.1
8/3/2018	15	23.0	23.3	23.6	23.7	23.7	23.8	23.0	23.3
8/3/2018	16	23.1	23.3	23.6	23.6	23.6	23.7	23.2	23.5
8/3/2018	17	23.2	23.4	23.5	23.6	23.6	23.6	23.3	23.4
8/3/2018	18	23.3	23.5	23.4	23.5	23.5	23.5	23.3	23.4
8/3/2018	19	23.3	23.5	23.4	23.5	23.4	23.4	23.2	23.2
8/3/2018	20	23.3	23.5	23.3	23.4	23.4	23.3	23.1	23.1
8/3/2018	21	23.3	23.4	23.2	23.2	23.2	23.2	23.1	23.0
8/3/2018	22	23.3	23.4	23.2	23.2	23.2	23.1	23.0	22.9
8/3/2018	23	23.2	23.4	23.1	23.1	23.1	23.1	22.9	22.7
8/3/2018	24	23.2	23.3	23.1	23.1	23.1	23.0	22.8	22.6
8/4/2018	1	23.2	23.3	23.0	23.0	23.0	23.0	22.7	22.5
8/4/2018	2	23.1	23.2	22.9	22.9	22.9	22.9	22.6	22.4
8/4/2018	3	23.1	23.1	22.9	22.9	22.9	22.9	22.5	22.3
8/4/2018	4	23.0	23.1	22.8	22.9	22.8	22.8	22.4	22.1
8/4/2018	5	22.9	23.0	22.8	22.8	22.8	22.8	22.3	22.1
8/4/2018	6	22.9	22.9	22.8	22.8	22.8	22.7	22.3	22.1
8/4/2018	7	22.8	22.9	22.7	22.7	22.7	22.7	22.3	22.1
8/4/2018	8	22.8	22.8	22.8	22.8	22.7	22.7	22.4	22.1
8/4/2018	9	22.7	22.8	22.8	22.8	22.8	22.8	22.4	22.1
8/4/2018	10	22.7	22.8	22.9	22.9	22.9	22.9	22.4	22.3
8/4/2018	11	22.7	22.8	23.1	23.1	23.0	23.1	22.4	22.4
8/4/2018	12	22.7	22.9	23.2	23.3	23.2	23.3	22.5	22.6
8/4/2018	13	22.7	22.9	23.3	23.4	23.4	23.4	22.6	22.9
8/4/2018	14	22.8	23.0	23.4	23.5	23.4	23.5	22.7	23.2
8/4/2018	15	22.9	23.0	23.4	23.5	23.5	23.6	22.9	23.4
8/4/2018	16	22.9	23.1	23.4	23.5	23.5	23.6	23.0	23.5
8/4/2018	17	22.9	23.1	23.4	23.4	23.4	23.5	23.1	23.6
8/4/2018	18	23.0	23.2	23.3	23.4	23.4	23.4	23.2	23.4
8/4/2018	19	23.0	23.2	23.3	23.4	23.4	23.4	23.2	23.3
8/4/2018	20	23.0	23.2	23.3	23.4	23.3	23.4	23.2	23.4
8/4/2018	21	23.1	23.3	23.2	23.3	23.3	23.3	23.1	23.3
8/4/2018	22	23.1	23.3	23.2	23.2	23.2	23.2	23.1	23.1
8/4/2018	23	23.1	23.3	23.1	23.2	23.2	23.2	23.0	23.0
8/4/2018	24	23.1	23.3	23.1	23.2	23.1	23.1	23.0	22.9
8/5/2018	1	23.1	23.2	23.1	23.1	23.1	23.1	22.9	22.9
8/5/2018	2	23.1	23.2	23.0	23.1	23.1	23.0	22.9	22.8
8/5/2018	3	23.0	23.1	23.0	23.0	23.0	23.0	22.9	22.7
8/5/2018	4	23.0	23.1	22.9	23.0	23.0	22.9	22.9	22.7
8/5/2018	5	23.0	23.0	22.9	22.9	22.9	22.9	22.8	22.6

8/5/2018	6	22.9	23.0	22.8	22.9	22.8	22.8	22.8	22.5
8/5/2018	7	22.9	22.9	22.8	22.8	22.8	22.8	22.8	22.5
8/5/2018	8	22.8	22.9	22.9	22.9	22.8	22.8	22.8	22.5
8/5/2018	9	22.8	22.9	22.9	23.0	22.9	22.9	22.7	22.5
8/5/2018	10	22.8	22.9	23.1	23.1	23.0	23.1	22.7	22.7
8/5/2018	11	22.7	22.9	23.2	23.3	23.2	23.3	22.8	22.8
8/5/2018	12	22.8	23.0	23.4	23.4	23.4	23.4	22.9	23.0
8/5/2018	13	22.8	23.1	23.5	23.6	23.5	23.6	23.1	23.4
8/5/2018	14	22.9	23.1	23.5	23.6	23.6	23.7	23.2	23.8
8/5/2018	15	22.9	23.1	23.5	23.7	23.7	23.8	23.3	24.2
8/5/2018	16	22.9	23.1	23.5	23.6	23.6	23.7	23.4	24.1
8/5/2018	17	22.9	23.2	23.5	23.6	23.6	23.7	23.5	24.2
8/5/2018	18	23.0	23.2	23.4	23.5	23.5	23.6	23.6	24.1
8/5/2018	19	23.0	23.2	23.4	23.5	23.4	23.5	23.6	24.0
8/5/2018	20	23.0	23.2	23.3	23.4	23.4	23.4	23.5	23.8
8/5/2018	21	23.0	23.2	23.2	23.3	23.3	23.3	23.5	23.7
8/5/2018	22	23.0	23.2	23.2	23.2	23.2	23.2	23.4	23.5
8/5/2018	23	23.0	23.2	23.1	23.2	23.2	23.2	23.3	23.3
8/5/2018	24	23.0	23.2	23.1	23.2	23.1	23.1	23.3	23.2
8/6/2018	1	23.0	23.2	23.1	23.1	23.1	23.1	23.2	23.1
8/6/2018	2	23.0	23.1	23.0	23.1	23.1	23.1	23.1	22.9
8/6/2018	3	23.0	23.1	23.0	23.0	23.0	23.0	23.1	22.9
8/6/2018	4	23.0	23.0	22.9	23.0	23.0	22.9	23.1	22.8
8/6/2018	5	22.9	22.9	22.8	22.9	22.9	22.9	23.1	22.7
8/6/2018	6	22.8	22.9	22.8	22.8	22.8	22.8	23.0	22.7
8/6/2018	7	22.7	22.8	22.7	22.8	22.8	22.8	23.0	22.6
8/6/2018	8	22.6	22.6	22.7	22.8	22.7	22.7	23.0	22.6
8/6/2018	9	22.3	22.4	22.7	22.7	22.7	22.8	22.9	22.7
8/6/2018	10	22.1	22.3	22.8	22.8	22.8	22.8	22.9	22.8
8/6/2018	11	22.0	22.3	22.8	22.9	22.8	22.9	23.0	22.9
8/6/2018	12	22.0	22.3	22.9	23.1	23.0	23.1	23.0	23.2
8/6/2018	13	22.0	22.3	23.0	23.1	23.1	23.2	23.1	23.4
8/6/2018	14	22.0	22.3	23.0	23.1	23.1	23.2	23.1	23.7
8/6/2018	15	22.0	22.4	23.0	23.1	23.1	23.2	23.2	23.9
8/6/2018	16	21.9	22.4	23.0	23.1	23.0	23.1	23.3	24.2
8/6/2018	17	21.9	22.4	22.8	23.0	23.0	23.0	23.3	24.0
8/6/2018	18	21.9	22.4	22.8	22.9	22.9	22.9	23.3	23.8
8/6/2018	19	21.9	22.4	22.8	22.9	22.9	22.9	23.3	23.7
8/6/2018	20	21.9	22.4	22.7	22.8	22.8	22.8	23.2	23.5
8/6/2018	21	21.8	22.4	22.7	22.8	22.8	22.7	23.2	23.4
8/6/2018	22	21.9	22.4	22.7	22.7	22.7	22.7	23.1	23.2
8/6/2018	23	21.9	22.4	22.7	22.7	22.7	22.7	23.1	23.0
8/6/2018	24	21.9	22.4	22.6	22.7	22.7	22.6	23.0	23.0
8/7/2018	1	21.9	22.4	22.6	22.7	22.6	22.6	22.9	22.8
8/7/2018	2	21.8	22.3	22.6	22.6	22.6	22.6	22.9	22.7
8/7/2018	3	21.8	22.3	22.5	22.6	22.6	22.6	22.9	22.6
8/7/2018	4	21.7	22.3	22.5	22.5	22.5	22.5	22.8	22.6
8/7/2018	5	21.7	22.2	22.4	22.4	22.4	22.4	22.8	22.5
8/7/2018	6	21.8	22.2	22.3	22.4	22.3	22.3	22.7	22.5
8/7/2018	7	21.8	22.2	22.3	22.3	22.3	22.3	22.7	22.4
8/7/2018	8	21.8	22.2	22.4	22.4	22.3	22.3	22.7	22.4
8/7/2018	9	21.9	22.2	22.5	22.5	22.4	22.4	22.6	22.5
8/7/2018	10	21.9	22.2	22.6	22.6	22.6	22.6	22.6	22.6
8/7/2018	11	21.8	22.2	22.8	22.8	22.8	22.8	22.7	22.7

8/7/2018	12	21.8	22.3	22.9	23.0	22.9	23.0	22.8	23.0
8/7/2018	13	21.8	22.3	22.9	23.0	23.0	23.1	22.8	23.4
8/7/2018	14	21.8	22.3	23.0	23.1	23.0	23.1	22.9	23.4
8/7/2018	15	21.8	22.4	23.0	23.1	23.1	23.2	23.0	23.2
8/7/2018	16	21.8	22.4	23.0	23.1	23.0	23.1	23.0	23.2
8/7/2018	17	21.9	22.5	22.9	23.1	23.0	23.1	23.0	23.2
8/7/2018	18	21.9	22.5	22.9	22.9	22.9	23.0	23.0	23.2
8/7/2018	19	21.9	22.5	22.8	22.9	22.9	22.9	23.0	23.1
8/7/2018	20	22.0	22.5	22.8	22.8	22.8	22.8	22.9	23.0
8/7/2018	21	22.0	22.4	22.7	22.8	22.8	22.8	22.9	22.9
8/7/2018	22	22.0	22.5	22.7	22.7	22.7	22.7	22.8	22.8
8/7/2018	23	22.0	22.4	22.7	22.7	22.7	22.7	22.8	22.7
8/7/2018	24	21.9	22.4	22.6	22.7	22.7	22.7	22.7	22.7
8/8/2018	1	21.9	22.3	22.5	22.6	22.6	22.6	22.7	22.6
8/8/2018	2	21.9	22.2	22.4	22.5	22.5	22.5	22.6	22.5
8/8/2018	3	21.8	22.2	22.4	22.4	22.4	22.4	22.6	22.5
8/8/2018	4	21.7	22.1	22.3	22.3	22.3	22.3	22.5	22.4
8/8/2018	5	21.7	22.1	22.2	22.3	22.3	22.3	22.4	22.3
8/8/2018	6	21.6	22.0	22.2	22.2	22.2	22.2	22.4	22.3
8/8/2018	7	21.6	22.0	22.1	22.2	22.1	22.1	22.3	22.3
8/8/2018	8	21.5	21.9	22.2	22.2	22.1	22.2	22.3	22.3
8/8/2018	9	21.4	21.8	22.3	22.3	22.2	22.3	22.4	22.3
8/8/2018	10	21.3	21.8	22.4	22.4	22.3	22.4	22.5	22.4
8/8/2018	11	21.2	21.8	22.6	22.6	22.5	22.6	22.6	22.5
8/8/2018	12	21.3	21.9	22.8	22.8	22.7	22.8	22.7	22.7
8/8/2018	13	21.3	22.1	22.9	23.0	22.9	23.0	22.9	22.9
8/8/2018	14	21.4	22.1	23.0	23.2	23.1	23.2	23.0	23.2
8/8/2018	15	21.4	22.2	23.1	23.2	23.2	23.3	23.1	23.3
8/8/2018	16	21.4	22.3	23.1	23.3	23.2	23.4	23.2	23.4
8/8/2018	17	21.5	22.3	23.1	23.3	23.3	23.3	23.2	23.5
8/8/2018	18	21.5	22.3	22.9	23.1	23.1	23.2	23.2	23.5
8/8/2018	19	21.4	22.2	22.9	23.0	23.0	23.0	23.1	23.5
8/8/2018	20	21.3	22.1	22.8	22.9	22.9	22.9	23.1	23.4
8/8/2018	21	21.2	22.0	22.6	22.8	22.8	22.8	23.1	23.4
8/8/2018	22	21.2	22.0	22.5	22.6	22.7	22.7	23.0	23.3
8/8/2018	23	21.2	22.0	22.5	22.6	22.6	22.6	23.0	23.2
8/8/2018	24	21.1	21.9	22.5	22.6	22.5	22.5	22.9	23.2
8/9/2018	1	21.1	21.9	22.4	22.5	22.5	22.5	22.9	22.9
8/9/2018	2	21.1	22.0	22.4	22.5	22.5	22.5	22.9	22.8
8/9/2018	3	21.1	22.0	22.5	22.6	22.5	22.5	22.8	22.7
8/9/2018	4	21.1	22.0	22.5	22.6	22.5	22.5	22.8	22.6
8/9/2018	5	21.0	22.0	22.5	22.5	22.5	22.5	22.7	22.6
8/9/2018	6	21.0	22.0	22.4	22.5	22.5	22.5	22.7	22.6
8/9/2018	7	21.0	21.9	22.5	22.5	22.5	22.4	22.6	22.6
8/9/2018	8	21.0	22.0	22.6	22.6	22.5	22.5	22.6	22.5
8/9/2018	9	21.0	22.0	22.7	22.8	22.7	22.7	22.7	22.6
8/9/2018	10	21.0	22.0	22.9	22.9	22.8	22.9	22.8	22.7
8/9/2018	11	21.1	22.0	23.0	23.1	23.0	23.1	22.9	22.8
8/9/2018	12	21.0	22.0	23.2	23.3	23.2	23.3	23.0	23.0
8/9/2018	13	21.0	22.0	23.2	23.4	23.3	23.4	23.1	23.3
8/9/2018	14	21.1	22.1	23.3	23.4	23.4	23.5	23.3	23.4
8/9/2018	15	21.1	22.2	23.3	23.4	23.4	23.5	23.4	23.4
8/9/2018	16	21.1	22.2	23.3	23.4	23.4	23.5	23.5	23.4
8/9/2018	17	21.1	22.3	23.3	23.4	23.4	23.5	23.5	23.4

8/9/2018	18	21.1	22.2	23.1	23.3	23.3	23.3	23.4	23.5
8/9/2018	19	21.0	22.1	23.0	23.1	23.1	23.2	23.4	23.6
8/9/2018	20	21.0	22.0	22.8	23.0	23.0	23.0	23.4	23.4
8/9/2018	21	20.9	22.0	22.8	22.9	22.9	22.9	23.3	23.4
8/9/2018	22	20.9	22.0	22.7	22.8	22.8	22.8	23.3	23.3
8/9/2018	23	20.8	21.9	22.7	22.8	22.7	22.7	23.2	23.4
8/9/2018	24	20.8	21.8	22.6	22.7	22.7	22.7	23.2	23.3
8/10/2018	1	20.8	21.8	22.5	22.6	22.6	22.6	23.2	23.2
8/10/2018	2	20.7	21.8	22.5	22.6	22.6	22.5	23.1	23.1
8/10/2018	3	20.7	21.8	22.5	22.6	22.5	22.5	23.0	23.0
8/10/2018	4	20.7	21.8	22.5	22.6	22.6	22.5	23.0	22.9
8/10/2018	5	20.7	21.7	22.4	22.5	22.5	22.5	22.9	22.8
8/10/2018	6	20.7	21.8	22.4	22.5	22.5	22.4	22.8	22.8
8/10/2018	7	20.6	21.8	22.5	22.5	22.5	22.4	22.8	22.7
8/10/2018	8	20.7	21.9	22.7	22.7	22.6	22.6	22.7	22.7
8/10/2018	9	20.7	22.1	22.9	22.9	22.8	22.8	22.8	22.7
8/10/2018	10	20.8	22.1	23.2	23.1	23.0	23.1	22.9	22.8
8/10/2018	11	20.9	22.2	23.4	23.4	23.3	23.4	23.1	22.9
8/10/2018	12	20.9	22.0	23.5	23.6	23.5	23.6	23.2	23.1
8/10/2018	13	20.9	22.0	23.4	23.6	23.6	23.7	23.3	23.6
8/10/2018	14	20.9	22.0	23.2	23.4	23.4	23.6	23.4	23.9
8/10/2018	15	20.8	22.1	23.2	23.3	23.3	23.4	23.6	23.9
8/10/2018	16	20.9	22.3	23.3	23.5	23.4	23.4	23.7	24.3
8/10/2018	17	21.0	22.3	23.4	23.4	23.4	23.4	23.6	24.3
8/10/2018	18	21.0	22.3	23.4	23.5	23.4	23.5	23.4	23.9
8/10/2018	19	21.0	22.3	23.3	23.4	23.4	23.4	23.3	23.6
8/10/2018	20	21.0	22.4	23.3	23.4	23.4	23.4	23.3	23.5
8/10/2018	21	21.1	22.4	23.3	23.4	23.3	23.3	23.3	23.6
8/10/2018	22	21.1	22.6	23.3	23.4	23.4	23.3	23.3	23.5
8/10/2018	23	21.2	22.7	23.4	23.5	23.4	23.4	23.2	23.4
8/10/2018	24	21.3	22.8	23.6	23.6	23.5	23.5	23.2	23.3
8/11/2018	1	21.6	23.2	23.7	23.7	23.7	23.6	23.2	23.2
8/11/2018	2	22.0	23.4	23.8	23.8	23.7	23.7	23.2	23.1
8/11/2018	3	22.5	23.6	23.9	23.9	23.8	23.8	23.2	22.9
8/11/2018	4	22.7	23.8	23.9	23.9	23.9	23.9	23.1	22.9
8/11/2018	5	22.8	23.8	24.0	24.0	24.0	23.9	23.1	22.8
8/11/2018	6	23.2	24.0	23.9	24.0	23.9	23.9	23.1	22.8
8/11/2018	7	23.4	24.0	23.9	24.0	23.9	23.9	23.1	22.8
8/11/2018	8	23.5	24.1	24.0	24.0	24.0	23.9	23.0	22.7
8/11/2018	9	23.7	24.1	24.1	24.1	24.1	24.1	23.0	22.8
8/11/2018	10	23.7	24.1	24.3	24.3	24.2	24.3	23.0	22.9
8/11/2018	11	23.6	23.8	24.4	24.5	24.4	24.5	23.2	23.1
8/11/2018	12	22.7	23.3	24.5	24.6	24.5	24.7	23.4	23.7
8/11/2018	13	22.1	23.1	24.2	24.4	24.4	24.6	23.5	23.9
8/11/2018	14	22.1	23.2	24.1	24.2	24.2	24.3	23.7	23.9
8/11/2018	15	22.1	23.4	24.0	24.1	24.1	24.1	23.9	23.8
8/11/2018	16	22.3	23.4	24.0	24.0	24.0	24.0	23.9	23.7
8/11/2018	17	22.6	23.7	23.9	23.9	23.9	23.9	23.7	23.5
8/11/2018	18	23.0	23.8	23.8	23.8	23.8	23.7	23.6	23.3
8/11/2018	19	23.3	23.9	23.6	23.6	23.6	23.6	23.4	22.9
8/11/2018	20	23.5	23.9	23.7	23.6	23.6	23.5	23.3	23.0
8/11/2018	21	23.7	24.0	23.6	23.5	23.5	23.5	23.1	22.8
8/11/2018	22	23.7	23.8	23.5	23.5	23.5	23.4	23.0	22.7
8/11/2018	23	23.5	23.7	23.5	23.5	23.5	23.4	22.8	22.5

8/11/2018	24	23.5	23.6	23.4	23.4	23.4	23.4	22.7	22.4
8/12/2018	1	23.4	23.6	23.4	23.4	23.4	23.3	22.6	22.3
8/12/2018	2	23.3	23.5	23.2	23.2	23.2	23.2	22.5	22.1
8/12/2018	3	23.3	23.4	23.2	23.2	23.2	23.1	22.4	22.1
8/12/2018	4	23.3	23.4	23.1	23.1	23.1	23.1	22.3	22.0
8/12/2018	5	23.3	23.4	23.1	23.1	23.1	23.0	22.2	21.9
8/12/2018	6	23.2	23.3	23.0	23.0	23.0	23.0	22.1	21.9
8/12/2018	7	23.1	23.2	23.0	23.0	23.0	22.9	22.0	21.9
8/12/2018	8	23.1	23.2	23.0	23.0	23.0	22.9	22.0	22.0
8/12/2018	9	23.0	23.1	23.1	23.1	23.0	23.0	22.1	22.1
8/12/2018	10	23.0	23.1	23.2	23.2	23.1	23.2	22.1	22.1
8/12/2018	11	23.0	23.2	23.3	23.3	23.3	23.3	22.2	22.2
8/12/2018	12	23.0	23.2	23.4	23.5	23.4	23.5	22.3	22.5
8/12/2018	13	23.0	23.2	23.5	23.6	23.5	23.6	22.4	22.9
8/12/2018	14	23.1	23.3	23.6	23.6	23.6	23.7	22.6	23.0
8/12/2018	15	23.1	23.3	23.6	23.7	23.7	23.7	22.7	23.2
8/12/2018	16	23.1	23.4	23.6	23.7	23.7	23.7	22.7	23.2
8/12/2018	17	23.2	23.4	23.5	23.6	23.6	23.6	22.7	23.2
8/12/2018	18	23.2	23.4	23.5	23.5	23.5	23.5	22.7	23.0
8/12/2018	19	23.2	23.4	23.4	23.5	23.5	23.5	22.7	22.8
8/12/2018	20	23.3	23.4	23.4	23.5	23.4	23.4	22.7	22.8
8/12/2018	21	23.3	23.5	23.3	23.4	23.4	23.4	22.7	22.9
8/12/2018	22	23.3	23.4	23.3	23.3	23.3	23.3	22.7	22.9
8/12/2018	23	23.3	23.4	23.2	23.3	23.2	23.2	22.7	22.8
8/12/2018	24	23.3	23.4	23.2	23.2	23.2	23.2	22.6	22.8
8/13/2018	1	23.3	23.4	23.2	23.2	23.2	23.1	22.6	22.6
8/13/2018	2	23.2	23.4	23.1	23.2	23.1	23.1	22.6	22.5
8/13/2018	3	23.2	23.3	23.1	23.1	23.1	23.1	22.6	22.5
8/13/2018	4	23.0	23.0	23.0	23.0	23.0	23.0	22.6	22.4
8/13/2018	5	22.8	22.9	22.8	22.9	22.9	22.9	22.5	22.3
8/13/2018	6	22.6	22.8	22.7	22.8	22.8	22.7	22.5	22.3
8/13/2018	7	22.5	22.6	22.6	22.6	22.6	22.6	22.5	22.2
8/13/2018	8	22.4	22.5	22.5	22.5	22.5	22.5	22.5	22.2
8/13/2018	9	22.3	22.4	22.5	22.5	22.5	22.5	22.5	22.3
8/13/2018	10	22.2	22.4	22.5	22.6	22.5	22.5	22.5	22.3
8/13/2018	11	22.1	22.3	22.6	22.6	22.6	22.6	22.4	22.4
8/13/2018	12	22.1	22.2	22.6	22.7	22.7	22.7	22.5	22.5
8/13/2018	13	22.0	22.2	22.6	22.7	22.7	22.8	22.5	22.6
8/13/2018	14	21.9	22.2	22.7	22.7	22.7	22.8	22.5	22.7
8/13/2018	15	21.9	22.2	22.6	22.7	22.7	22.8	22.6	22.9
8/13/2018	16	21.9	22.2	22.7	22.7	22.7	22.8	22.6	22.8
8/13/2018	17	21.9	22.2	22.6	22.7	22.7	22.7	22.7	22.8
8/13/2018	18	21.9	22.2	22.5	22.6	22.6	22.6	22.7	22.7
8/13/2018	19	21.9	22.3	22.5	22.6	22.6	22.6	22.7	22.7
8/13/2018	20	21.9	22.4	22.5	22.6	22.6	22.5	22.7	22.6
8/13/2018	21	21.9	22.3	22.5	22.5	22.5	22.5	22.6	22.5
8/13/2018	22	21.9	22.3	22.5	22.6	22.6	22.5	22.5	22.4
8/13/2018	23	21.9	22.3	22.4	22.5	22.5	22.5	22.4	22.3
8/13/2018	24	21.9	22.2	22.3	22.4	22.4	22.4	22.4	22.3
8/14/2018	1	21.8	22.1	22.3	22.3	22.3	22.3	22.3	22.2
8/14/2018	2	21.8	22.1	22.2	22.2	22.2	22.2	22.2	22.2
8/14/2018	3	21.8	22.0	22.0	22.1	22.1	22.1	22.2	22.1
8/14/2018	4	21.7	21.9	22.0	22.0	22.0	22.0	22.2	22.0
8/14/2018	5	21.7	21.8	21.8	21.9	21.9	21.9	22.1	22.0



8/14/2018	6	21.6	21.7	21.7	21.8	21.8	21.8	22.1	21.9
8/14/2018	7	21.6	21.6	21.7	21.7	21.7	21.7	22.1	21.8
8/14/2018	8	21.5	21.6	21.6	21.7	21.7	21.7	22.1	21.9
8/14/2018	9	21.4	21.5	21.6	21.7	21.7	21.7	22.0	22.0
8/14/2018	10	21.4	21.5	21.7	21.7	21.7	21.7	22.0	22.0
8/14/2018	11	21.4	21.5	21.7	21.8	21.7	21.8	22.0	22.1
8/14/2018	12	21.3	21.4	21.8	21.9	21.8	21.9	22.1	22.2
8/14/2018	13	21.2	21.4	21.9	22.0	21.9	22.0	22.2	22.5
8/14/2018	14	21.2	21.5	21.9	22.1	22.0	22.1	22.3	22.9
8/14/2018	15	21.2	21.5	22.0	22.1	22.1	22.1	22.3	23.0
8/14/2018	16	21.2	21.6	22.1	22.2	22.2	22.2	22.4	23.1
8/14/2018	17	21.3	21.7	22.1	22.2	22.2	22.2	22.5	23.3
8/14/2018	18	21.3	21.7	22.1	22.2	22.2	22.2	22.6	23.4
8/14/2018	19	21.3	21.7	22.0	22.1	22.1	22.1	22.6	23.3
8/14/2018	20	21.2	21.7	22.0	22.1	22.1	22.1	22.5	22.8
8/14/2018	21	21.3	21.9	22.0	22.1	22.1	22.1	22.5	22.6
8/14/2018	22	21.4	22.0	22.1	22.1	22.1	22.1	22.4	22.4
8/14/2018	23	21.4	22.0	22.2	22.2	22.2	22.1	22.3	22.4
8/14/2018	24	21.5	21.9	22.2	22.2	22.2	22.2	22.3	22.3
8/15/2018	1	21.5	21.9	22.1	22.2	22.2	22.2	22.2	22.2
8/15/2018	2	21.4	21.8	22.0	22.1	22.1	22.1	22.1	22.2
8/15/2018	3	21.3	21.7	22.0	22.0	22.0	22.0	22.1	22.1
8/15/2018	4	21.3	21.7	21.9	22.0	22.0	21.9	22.1	22.1
8/15/2018	5	21.3	21.6	21.8	21.9	21.9	21.9	22.1	22.0
8/15/2018	6	21.3	21.6	21.7	21.8	21.8	21.7	22.0	22.0
8/15/2018	7	21.2	21.6	21.7	21.8	21.8	21.7	22.0	21.9
8/15/2018	8	21.2	21.5	21.7	21.7	21.7	21.7	22.0	21.9
8/15/2018	9	21.2	21.5	21.7	21.7	21.7	21.7	22.0	22.0
8/15/2018	10	21.1	21.4	21.8	21.8	21.7	21.7	22.0	22.0
8/15/2018	11	21.1	21.5	21.8	21.9	21.8	21.9	22.0	22.1
8/15/2018	12	21.1	21.4	22.0	22.0	21.9	22.0	22.1	22.2
8/15/2018	13	21.1	21.5	22.0	22.2	22.1	22.2	22.1	22.4
8/15/2018	14	21.1	21.5	22.1	22.2	22.2	22.3	22.2	22.8
8/15/2018	15	21.1	21.6	22.1	22.2	22.2	22.3	22.2	22.7
8/15/2018	16	21.2	21.7	22.2	22.3	22.2	22.3	22.3	22.7
8/15/2018	17	21.1	21.6	22.2	22.3	22.3	22.3	22.3	22.8
8/15/2018	18	21.1	21.8	22.1	22.2	22.2	22.2	22.4	22.8
8/15/2018	19	21.2	21.8	22.1	22.2	22.2	22.2	22.4	22.8
8/15/2018	20	21.1	21.7	22.1	22.2	22.2	22.2	22.4	22.7
8/15/2018	21	21.0	21.6	21.9	22.1	22.1	22.1	22.3	22.6
8/15/2018	22	21.0	21.6	21.8	22.0	21.9	21.9	22.3	22.4
8/15/2018	23	20.9	21.4	21.8	21.9	21.8	21.8	22.2	22.4
8/15/2018	24	20.8	21.4	21.7	21.8	21.8	21.8	22.2	22.3
8/16/2018	1	20.8	21.3	21.7	21.7	21.7	21.7	22.1	22.2
8/16/2018	2	20.7	21.3	21.6	21.7	21.7	21.7	22.1	22.1
8/16/2018	3	20.7	21.2	21.5	21.6	21.6	21.6	22.1	22.1
8/16/2018	4	20.6	21.3	21.5	21.5	21.5	21.5	22.0	22.0
8/16/2018	5	20.6	21.3	21.6	21.6	21.6	21.6	22.0	21.9
8/16/2018	6	20.6	21.2	21.5	21.6	21.6	21.5	22.0	21.8
8/16/2018	7	20.6	21.1	21.4	21.5	21.5	21.5	22.0	21.8
8/16/2018	8	20.6	21.2	21.4	21.5	21.5	21.5	22.0	21.8
8/16/2018	9	20.6	21.1	21.5	21.6	21.5	21.5	21.9	21.8
8/16/2018	10	20.5	21.1	21.5	21.6	21.5	21.6	21.9	21.9
8/16/2018	11	20.5	21.1	21.7	21.8	21.7	21.7	21.9	22.0

8/16/2018	12	20.4	21.1	21.7	21.8	21.8	21.9	22.0	22.2
8/16/2018	13	20.4	21.0	21.8	22.0	21.9	22.0	22.1	22.3
8/16/2018	14	20.3	21.0	21.7	21.9	21.9	22.0	22.1	22.7
8/16/2018	15	20.3	21.0	21.8	21.9	21.8	21.9	22.2	22.9
8/16/2018	16	20.3	21.1	21.8	21.9	21.9	22.0	22.3	22.9
8/16/2018	17	20.2	21.1	21.8	21.9	21.9	21.9	22.3	22.9
8/16/2018	18	20.2	21.1	21.7	21.8	21.8	21.9	22.4	23.0
8/16/2018	19	20.2	21.1	21.6	21.7	21.7	21.7	22.4	22.8
8/16/2018	20	20.2	21.1	21.6	21.7	21.6	21.6	22.3	22.6
8/16/2018	21	20.2	21.1	21.5	21.6	21.6	21.6	22.3	22.4
8/16/2018	22	20.1	21.1	21.5	21.6	21.6	21.6	22.2	22.3
8/16/2018	23	20.1	21.1	21.5	21.6	21.5	21.5	22.2	22.2
8/16/2018	24	20.1	21.1	21.6	21.5	21.5	21.5	22.1	22.1
8/17/2018	1	20.1	21.1	21.6	21.6	21.6	21.6	22.1	22.1
8/17/2018	2	20.0	21.2	21.6	21.7	21.6	21.6	22.0	22.1
8/17/2018	3	20.1	21.3	21.6	21.6	21.6	21.6	22.0	22.1
8/17/2018	4	20.2	21.3	21.7	21.8	21.7	21.7	21.9	22.0
8/17/2018	5	20.4	21.5	21.8	21.8	21.8	21.7	21.9	21.9
8/17/2018	6	20.6	21.7	21.9	21.9	21.9	21.8	21.9	21.7
8/17/2018	7	21.0	21.9	21.9	22.0	21.9	21.9	21.8	21.8
8/17/2018	8	21.4	21.8	22.0	22.1	22.0	22.0	21.8	21.7
8/17/2018	9	21.5	22.0	22.1	22.1	22.1	22.1	21.8	21.8
8/17/2018	10	21.8	22.1	22.1	22.2	22.2	22.2	21.8	21.9
8/17/2018	11	21.9	22.2	22.4	22.4	22.3	22.3	21.9	22.0
8/17/2018	12	21.8	22.1	22.5	22.5	22.5	22.5	22.0	22.2
8/17/2018	13	21.9	22.2	22.5	22.6	22.5	22.6	22.2	22.3
8/17/2018	14	22.0	22.2	22.5	22.6	22.5	22.6	22.3	22.5
8/17/2018	15	22.0	22.3	22.7	22.7	22.7	22.7	22.4	22.8
8/17/2018	16	22.0	22.3	22.7	22.8	22.8	22.8	22.5	23.1
8/17/2018	17	22.1	22.5	22.6	22.7	22.7	22.8	22.7	23.1
8/17/2018	18	22.1	22.3	22.6	22.7	22.6	22.7	22.7	22.9
8/17/2018	19	22.1	22.4	22.5	22.7	22.6	22.7	22.7	22.7
8/17/2018	20	22.1	22.3	22.5	22.6	22.5	22.6	22.6	22.7
8/17/2018	21	22.1	22.3	22.4	22.5	22.5	22.5	22.5	22.6
8/17/2018	22	22.1	22.3	22.3	22.5	22.4	22.4	22.5	22.6
8/17/2018	23	22.1	22.3	22.3	22.4	22.4	22.4	22.4	22.4
8/17/2018	24	22.1	22.3	22.3	22.4	22.3	22.3	22.4	22.4
8/18/2018	1	22.1	22.3	22.2	22.3	22.3	22.3	22.3	22.3
8/18/2018	2	22.2	22.3	22.2	22.3	22.3	22.3	22.2	22.2
8/18/2018	3	22.2	22.3	22.2	22.3	22.2	22.2	22.2	22.2
8/18/2018	4	22.2	22.3	22.2	22.3	22.2	22.2	22.2	22.2
8/18/2018	5	22.2	22.3	22.2	22.2	22.2	22.2	22.1	22.1
8/18/2018	6	22.1	22.2	22.1	22.2	22.2	22.2	22.1	22.0
8/18/2018	7	22.1	22.2	22.1	22.1	22.1	22.1	22.0	21.9
8/18/2018	8	22.1	22.2	22.1	22.1	22.1	22.1	22.0	21.9
8/18/2018	9	22.0	22.1	22.1	22.2	22.1	22.1	22.0	21.9
8/18/2018	10	22.0	22.1	22.2	22.2	22.2	22.2	22.0	22.0
8/18/2018	11	22.0	22.1	22.3	22.3	22.3	22.3	22.0	22.0
8/18/2018	12	22.0	22.2	22.4	22.4	22.4	22.4	22.1	22.1
8/18/2018	13	22.0	22.2	22.4	22.5	22.5	22.5	22.2	22.3
8/18/2018	14	22.0	22.2	22.5	22.6	22.6	22.6	22.2	22.4
8/18/2018	15	22.1	22.3	22.6	22.7	22.6	22.7	22.3	22.7
8/18/2018	16	22.1	22.3	22.5	22.6	22.6	22.7	22.4	22.8
8/18/2018	17	22.1	22.3	22.5	22.6	22.6	22.6	22.4	22.7

8/18/2018	18	22.2	22.4	22.5	22.6	22.6	22.6	22.5	22.6
8/18/2018	19	22.2	22.4	22.5	22.6	22.5	22.6	22.4	22.5
8/18/2018	20	22.2	22.4	22.4	22.5	22.5	22.5	22.4	22.6
8/18/2018	21	22.2	22.4	22.3	22.4	22.4	22.4	22.4	22.5
8/18/2018	22	22.3	22.4	22.3	22.4	22.3	22.3	22.3	22.4
8/18/2018	23	22.3	22.4	22.3	22.4	22.3	22.3	22.3	22.3
8/18/2018	24	22.3	22.4	22.3	22.3	22.3	22.3	22.2	22.2
8/19/2018	1	22.3	22.4	22.3	22.3	22.3	22.3	22.2	22.1
8/19/2018	2	22.3	22.4	22.3	22.3	22.3	22.3	22.1	22.1
8/19/2018	3	22.2	22.3	22.2	22.3	22.3	22.3	22.1	22.0
8/19/2018	4	22.2	22.3	22.2	22.3	22.2	22.2	22.1	22.0
8/19/2018	5	22.2	22.3	22.2	22.2	22.2	22.2	22.0	21.9
8/19/2018	6	22.2	22.3	22.1	22.2	22.1	22.1	22.0	21.8
8/19/2018	7	22.1	22.3	22.1	22.1	22.1	22.1	21.9	21.7
8/19/2018	8	22.1	22.2	22.1	22.1	22.1	22.1	21.9	21.8
8/19/2018	9	22.1	22.2	22.1	22.1	22.1	22.1	21.8	21.8
8/19/2018	10	22.1	22.2	22.2	22.2	22.2	22.1	21.8	21.8
8/19/2018	11	22.1	22.2	22.2	22.2	22.2	22.2	21.8	21.8
8/19/2018	12	22.1	22.2	22.2	22.3	22.3	22.3	21.9	21.9
8/19/2018	13	22.1	22.2	22.3	22.3	22.3	22.3	21.9	21.9
8/19/2018	14	22.1	22.2	22.3	22.4	22.3	22.4	21.9	22.0
8/19/2018	15	21.9	21.9	22.3	22.4	22.4	22.4	22.0	22.1
8/19/2018	16	21.5	21.7	22.2	22.3	22.3	22.3	22.0	22.2
8/19/2018	17	21.4	21.7	22.0	22.1	22.1	22.2	22.0	22.1
8/19/2018	18	21.2	21.6	21.9	22.0	22.0	22.0	22.0	22.0
8/19/2018	19	21.1	21.5	21.8	21.9	21.9	21.9	22.0	22.0
8/19/2018	20	21.1	21.5	21.7	21.8	21.8	21.8	21.9	21.9
8/19/2018	21	21.0	21.5	21.7	21.7	21.7	21.7	21.9	21.9
8/19/2018	22	21.0	21.5	21.6	21.7	21.7	21.6	21.9	21.8
8/19/2018	23	21.0	21.5	21.6	21.7	21.6	21.6	21.8	21.8
8/19/2018	24	21.1	21.5	21.6	21.6	21.6	21.6	21.8	21.8
8/20/2018	1	21.2	21.6	21.6	21.6	21.6	21.6	21.8	21.7
8/20/2018	2	21.2	21.5	21.5	21.6	21.5	21.5	21.7	21.6
8/20/2018	3	21.2	21.6	21.5	21.5	21.5	21.5	21.7	21.6
8/20/2018	4	21.3	21.6	21.5	21.5	21.5	21.4	21.7	21.5
8/20/2018	5	21.5	21.6	21.4	21.4	21.4	21.4	21.6	21.4
8/20/2018	6	21.5	21.6	21.4	21.4	21.4	21.3	21.6	21.4
8/20/2018	7	21.4	21.6	21.4	21.4	21.4	21.3	21.5	21.3
8/20/2018	8	21.3	21.5	21.4	21.4	21.4	21.3	21.5	21.3
8/20/2018	9	21.3	21.4	21.5	21.5	21.4	21.4	21.5	21.4
8/20/2018	10	21.2	21.3	21.7	21.6	21.6	21.6	21.6	21.4
8/20/2018	11	21.0	21.3	21.9	21.8	21.7	21.8	21.6	21.5
8/20/2018	12	21.0	21.2	21.9	22.0	21.9	22.0	21.6	21.7
8/20/2018	13	20.9	21.2	21.9	22.0	22.0	22.1	21.6	21.7
8/20/2018	14	20.9	21.1	21.9	22.0	22.0	22.1	21.6	21.7
8/20/2018	15	20.8	21.0	21.8	22.0	21.9	22.0	21.7	21.8
8/20/2018	16	20.8	21.0	21.7	21.9	21.9	22.0	21.7	21.8
8/20/2018	17	20.8	21.0	21.6	21.8	21.8	21.8	21.7	21.8
8/20/2018	18	20.8	21.0	21.4	21.6	21.6	21.7	21.6	21.7
8/20/2018	19	20.8	21.0	21.3	21.5	21.5	21.5	21.6	21.7
8/20/2018	20	20.8	21.0	21.2	21.3	21.4	21.4	21.6	21.7
8/20/2018	21	20.8	20.9	21.0	21.1	21.1	21.1	21.5	21.6
8/20/2018	22	20.8	20.9	20.9	20.9	21.0	20.9	21.5	21.6
8/20/2018	23	20.8	20.9	20.8	20.8	20.8	20.8	21.5	21.4

8/20/2018	24	20.8	20.8	20.7	20.7	20.7	20.7	21.5	21.4
8/21/2018	1	20.8	20.8	20.6	20.7	20.7	20.6	21.4	21.2
8/21/2018	2	20.7	20.8	20.6	20.6	20.6	20.5	21.3	21.2
8/21/2018	3	20.7	20.8	20.5	20.5	20.5	20.4	21.3	21.3
8/21/2018	4	20.7	20.7	20.4	20.4	20.4	20.3	21.2	21.1
8/21/2018	5	20.7	20.7	20.4	20.3	20.3	20.3	21.1	21.1
8/21/2018	6	20.6	20.7	20.3	20.3	20.3	20.2	21.0	20.9
8/21/2018	7	20.6	20.6	20.3	20.2	20.2	20.2	21.0	20.8
8/21/2018	8	20.5	20.6	20.4	20.2	20.2	20.2	20.9	20.8
8/21/2018	9	20.5	20.6	20.6	20.4	20.3	20.3	21.0	20.9
8/21/2018	10	20.5	20.6	20.9	20.6	20.5	20.6	21.1	21.0
8/21/2018	11	20.5	20.6	21.3	21.0	20.8	20.9	21.1	21.1
8/21/2018	12	20.5	20.6	21.7	21.4	21.2	21.4	21.2	21.3
8/21/2018	13	20.5	20.7	22.1	21.9	21.7	21.9	21.2	21.8
8/21/2018	14	20.5	20.7	22.3	22.3	22.1	22.4	21.3	22.2
8/21/2018	15	20.5	20.7	22.3	22.4	22.3	22.6	21.4	22.1
8/21/2018	16	20.5	20.7	22.2	22.5	22.4	22.7	21.4	22.2
8/21/2018	17	20.5	20.6	22.1	22.4	22.4	22.5	21.5	22.2
8/21/2018	18	20.5	20.6	21.8	22.2	22.2	22.3	21.5	22.4
8/21/2018	19	20.5	20.6	21.4	22.0	22.0	21.7	21.6	22.4
8/21/2018	20	20.5	20.6	21.0	21.7	21.7	NA	21.5	22.4
8/21/2018	21	20.5	20.6	20.6	21.3	21.4	NA	21.5	22.1
8/21/2018	22	20.5	20.6	20.3	21.0	21.1	NA	21.5	21.9
8/21/2018	23	20.5	20.6	20.0	20.7	20.8	NA	21.5	21.8
8/21/2018	24	20.5	20.6	19.8	20.4	20.5	NA	21.5	21.5
8/22/2018	1	20.5	20.5	19.7	20.1	20.2	NA	21.5	21.0
8/22/2018	2	20.5	20.5	19.6	19.8	20.0	NA	21.4	21.0
8/22/2018	3	20.5	20.5	19.4	19.6	19.7	NA	21.4	21.1
8/22/2018	4	20.5	20.5	19.3	19.4	19.5	NA	21.3	21.1
8/22/2018	5	20.5	20.5	19.2	19.2	19.4	NA	21.2	21.0
8/22/2018	6	20.4	20.5	19.1	19.1	19.2	NA	21.1	20.9
8/22/2018	7	20.4	20.5	19.1	19.0	19.1	NA	21.0	20.8
8/22/2018	8	20.4	20.5	19.2	19.0	19.0	NA	20.9	20.8
8/22/2018	9	20.4	20.6	19.5	19.1	19.0	NA	20.8	20.9
8/22/2018	10	20.4	20.6	20.0	19.2	19.1	NA	20.8	20.9
8/22/2018	11	20.4	20.6	20.7	19.5	19.3	NA	20.8	21.2
8/22/2018	12	20.4	20.7	21.4	19.8	19.6	NA	20.9	21.3
8/22/2018	13	20.5	20.7	21.9	20.4	20.2	NA	20.9	21.6
8/22/2018	14	20.5	20.7	22.2	21.1	20.7	NA	20.9	22.2
8/22/2018	15	20.5	20.7	22.0	21.6	21.3	NA	20.9	22.6
8/22/2018	16	20.5	20.7	21.8	21.9	21.6	NA	20.9	22.1
8/22/2018	17	20.5	20.7	21.6	22.0	21.8	NA	20.8	21.6
8/22/2018	18	20.5	20.7	21.3	21.9	21.8	NA	20.8	21.9
8/22/2018	19	20.5	20.7	21.0	21.7	21.6	NA	20.8	22.0
8/22/2018	20	20.5	20.6	20.7	21.4	21.4	NA	20.7	22.0
8/22/2018	21	20.5	20.6	20.4	21.1	21.2	NA	20.7	21.8
8/22/2018	22	20.5	20.6	20.2	20.8	20.9	NA	20.7	21.6
8/22/2018	23	20.5	20.6	19.9	20.5	20.6	NA	20.8	21.4
8/22/2018	24	20.5	20.6	19.8	20.2	20.3	NA	20.9	21.3
8/23/2018	1	20.5	20.6	19.7	19.9	20.1	NA	21.0	21.3
8/23/2018	2	20.6	20.6	19.6	19.7	19.9	NA	21.0	21.2
8/23/2018	3	20.6	20.6	19.5	19.6	19.7	NA	20.9	21.2
8/23/2018	4	20.6	20.7	19.4	19.4	19.5	NA	20.9	21.1
8/23/2018	5	20.6	20.7	19.4	19.3	19.4	NA	20.9	21.0

8/23/2018	6	20.6	20.7	19.3	19.2	19.3	NA	20.9	20.9
8/23/2018	7	20.6	20.7	19.3	19.2	19.2	NA	20.9	20.8
8/23/2018	8	20.6	20.7	19.4	19.2	19.2	NA	20.8	20.8
8/23/2018	9	20.6	20.7	19.7	19.2	19.2	NA	20.8	20.8
8/23/2018	10	20.6	20.7	20.1	19.4	19.3	NA	20.8	20.9
8/23/2018	11	20.6	21.0	20.8	19.6	19.4	NA	20.9	20.9
8/23/2018	12	20.6	NA	21.4	20.0	19.7	NA	20.9	21.0
8/23/2018	13	20.6	NA	21.9	20.4	20.2	21.2	21.0	21.2
8/23/2018	14	20.6	NA	21.9	21.0	20.7	21.9	21.1	21.6
8/23/2018	15	20.6	NA	21.7	21.4	21.1	22.2	21.2	21.6
8/23/2018	16	20.6	NA	21.5	21.5	21.4	22.2	21.2	21.4
8/23/2018	17	20.6	NA	21.4	21.5	21.4	22.7	21.2	21.4
8/23/2018	18	20.7	NA	21.0	21.3	21.3	22.2	21.1	21.2
8/23/2018	19	20.7	NA	20.5	21.0	21.0	21.5	21.0	20.9
8/23/2018	20	20.7	NA	20.1	20.7	20.8	21.2	21.0	20.8
8/23/2018	21	20.7	NA	19.7	20.4	20.5	20.8	20.9	20.7
8/23/2018	22	20.7	NA	19.6	20.1	20.2	20.3	20.8	20.7
8/23/2018	23	20.8	NA	19.5	19.7	19.9	19.9	20.8	20.6
8/23/2018	24	20.8	NA	19.4	19.5	19.6	19.5	20.7	20.5
8/24/2018	1	20.8	NA	19.4	19.3	19.4	19.3	20.6	20.4
8/24/2018	2	20.9	NA	19.3	19.2	19.3	19.1	20.5	20.3
8/24/2018	3	20.9	NA	19.2	19.1	19.1	18.9	20.4	20.3
8/24/2018	4	21.0	NA	19.1	19.0	19.1	18.7	20.3	20.3
8/24/2018	5	21.0	NA	19.0	18.9	18.9	18.6	20.3	20.3
8/24/2018	6	21.0	NA	18.9	18.8	18.8	18.5	20.3	20.2
8/24/2018	7	20.9	NA	18.9	18.6	18.7	18.4	20.3	20.1
8/24/2018	8	20.9	NA	19.1	18.6	18.6	18.5	20.3	20.1
8/24/2018	9	20.9	NA	19.4	18.7	18.6	18.8	20.3	20.2
8/24/2018	10	20.9	NA	20.0	18.7	18.7	19.2	20.3	20.2
8/24/2018	11	20.9	NA	20.5	19.0	18.9	19.6	20.3	20.2
8/24/2018	12	20.9	NA	21.1	19.4	19.2	20.1	20.3	20.4
8/24/2018	13	20.9	NA	21.7	20.0	19.7	20.6	20.4	20.7
8/24/2018	14	20.9	NA	22.2	20.6	20.3	21.2	20.4	20.8
8/24/2018	15	20.9	NA	22.3	21.1	20.8	21.7	20.5	21.1
8/24/2018	16	20.9	NA	22.3	21.6	21.3	22.2	20.5	21.2
8/24/2018	17	20.9	NA	22.2	21.9	21.7	22.3	20.6	21.0
8/24/2018	18	20.9	NA	21.8	21.9	21.8	22.2	20.6	21.0
8/24/2018	19	20.9	NA	21.2	21.8	21.7	21.9	20.5	20.8
8/24/2018	20	20.9	NA	20.5	21.6	21.6	21.6	20.5	20.8
8/24/2018	21	20.9	NA	19.9	21.2	21.2	21.3	20.5	20.7
8/24/2018	22	20.8	NA	19.5	20.6	20.8	20.7	20.5	20.6
8/24/2018	23	20.8	NA	19.3	20.1	20.3	20.2	20.5	20.5
8/24/2018	24	20.8	NA	19.1	19.6	19.8	19.6	20.4	20.4
8/25/2018	1	20.9	NA	19.0	19.2	19.4	19.1	20.4	20.3
8/25/2018	2	20.9	NA	18.9	18.9	19.1	18.7	20.4	20.4
8/25/2018	3	20.9	NA	18.9	18.7	18.9	18.3	20.4	20.2
8/25/2018	4	20.8	NA	18.8	18.6	18.7	18.2	20.3	20.1
8/25/2018	5	20.8	NA	18.8	18.5	18.6	18.1	20.3	20.0
8/25/2018	6	20.8	NA	18.8	18.4	18.5	18.0	20.3	20.0
8/25/2018	7	20.8	NA	18.9	18.4	18.4	18.0	20.2	20.0
8/25/2018	8	20.8	NA	19.1	18.4	18.4	18.0	20.2	20.0
8/25/2018	9	20.7	NA	19.4	18.4	18.4	18.1	20.2	20.1
8/25/2018	10	20.7	NA	19.7	18.6	18.5	18.5	20.2	20.1
8/25/2018	11	20.7	NA	20.2	18.9	18.7	19.0	20.2	20.2

8/25/2018	12	20.7	NA	20.6	19.2	19.1	19.3	20.2	20.2
8/25/2018	13	20.7	NA	20.9	19.7	19.4	19.8	20.1	20.3
8/25/2018	14	20.7	NA	21.3	20.1	19.9	20.5	20.1	20.3
8/25/2018	15	20.7	NA	21.2	20.4	20.2	20.6	20.1	20.4
8/25/2018	16	20.7	NA	20.9	20.6	20.4	20.5	20.1	20.3
8/25/2018	17	20.7	NA	20.6	20.8	20.6	20.5	20.1	20.3
8/25/2018	18	20.7	NA	20.2	20.7	20.6	20.4	20.1	20.2
8/25/2018	19	20.7	NA	20.0	20.4	20.4	20.4	20.1	20.2
8/25/2018	20	20.7	NA	19.9	20.2	20.2	20.1	20.1	20.1
8/25/2018	21	20.7	NA	19.8	19.9	20.0	19.8	20.0	20.1
8/25/2018	22	20.7	NA	19.7	19.7	19.8	19.6	20.0	20.1
8/25/2018	23	20.6	NA	19.7	19.6	19.7	19.3	20.0	20.0
8/25/2018	24	20.6	NA	19.5	19.4	19.5	19.1	20.0	19.9
8/26/2018	1	20.6	NA	19.3	19.3	19.4	18.9	20.0	19.8
8/26/2018	2	20.6	NA	19.2	19.2	19.2	18.8	20.0	19.7
8/26/2018	3	20.6	NA	19.1	19.0	19.1	18.6	20.0	19.7
8/26/2018	4	20.6	NA	19.0	18.9	19.0	18.5	20.0	19.8
8/26/2018	5	20.6	NA	18.9	18.7	18.8	18.4	20.0	19.8
8/26/2018	6	20.5	NA	18.9	18.6	18.7	18.2	20.0	19.8
8/26/2018	7	20.5	NA	19.0	18.6	18.6	18.2	19.9	19.8
8/26/2018	8	20.5	NA	19.2	18.6	18.6	18.5	19.9	19.9
8/26/2018	9	20.5	NA	19.6	18.7	18.7	19.1	19.9	20.0
8/26/2018	10	20.5	NA	19.8	18.8	18.7	19.0	19.9	20.2
8/26/2018	11	20.5	NA	20.1	19.0	18.9	19.1	19.9	20.1
8/26/2018	12	20.5	NA	20.2	19.3	19.2	19.4	19.9	20.0
8/26/2018	13	20.5	NA	20.6	19.7	19.5	19.8	19.9	20.1
8/26/2018	14	20.5	NA	21.2	20.0	19.8	20.4	20.0	20.1
8/26/2018	15	20.5	NA	21.5	20.2	20.1	20.5	20.0	20.1
8/26/2018	16	20.5	NA	21.5	20.6	20.4	20.7	20.0	20.3
8/26/2018	17	20.5	NA	21.3	20.9	20.7	20.9	20.0	20.3
8/26/2018	18	20.5	NA	20.9	21.1	20.9	21.0	20.0	20.2
8/26/2018	19	20.5	NA	20.4	21.0	20.9	20.9	20.0	20.2
8/26/2018	20	20.5	NA	20.0	20.7	20.7	20.7	20.0	20.1
8/26/2018	21	20.5	NA	19.7	20.4	20.5	20.4	20.0	20.1
8/26/2018	22	20.5	NA	19.5	20.1	20.2	20.1	20.0	20.0
8/26/2018	23	20.4	NA	19.3	19.7	19.8	19.6	20.0	19.8
8/26/2018	24	20.5	NA	19.3	19.5	19.6	19.2	20.0	19.9
8/27/2018	1	20.4	NA	19.3	19.2	19.4	19.0	20.0	20.0
8/27/2018	2	20.4	NA	19.2	19.0	19.2	18.7	20.0	19.8
8/27/2018	3	20.4	NA	19.0	18.9	19.0	18.5	20.0	19.8
8/27/2018	4	20.4	NA	18.9	18.8	18.9	18.3	19.9	19.6
8/27/2018	5	20.4	NA	18.8	18.7	18.8	18.2	19.9	19.7
8/27/2018	6	20.4	NA	18.7	18.5	18.6	18.0	20.0	19.4
8/27/2018	7	20.4	NA	18.7	18.4	18.5	18.0	20.0	19.5
8/27/2018	8	20.3	NA	18.8	18.4	18.4	18.3	20.0	19.4
8/27/2018	9	20.3	NA	19.1	18.4	18.4	18.7	20.0	19.5
8/27/2018	10	20.3	NA	19.9	18.6	18.5	18.6	20.1	19.6
8/27/2018	11	20.3	NA	20.7	20.1	19.6	19.8	20.1	19.8
8/27/2018	12	20.3	NA	21.0	20.8	20.6	20.9	20.1	20.1
8/27/2018	13	20.2	NA	21.0	21.1	21.0	21.2	20.2	20.1
8/27/2018	14	20.2	NA	21.0	21.0	21.0	21.2	20.2	20.3
8/27/2018	15	20.2	NA	21.0	21.1	21.0	21.2	20.3	20.4
8/27/2018	16	20.2	NA	20.9	21.0	21.0	21.2	20.4	20.4
8/27/2018	17	20.2	NA	20.7	20.8	20.9	21.0	20.4	20.5

8/27/2018	18	20.3	NA	20.5	20.7	20.7	20.7	20.4	20.6
8/27/2018	19	20.3	NA	20.4	20.5	20.5	20.5	20.3	20.6
8/27/2018	20	20.3	NA	20.3	20.4	20.4	20.4	20.3	20.5
8/27/2018	21	20.3	NA	20.3	20.3	20.3	20.3	20.3	20.4
8/27/2018	22	20.3	NA	20.2	20.2	20.2	20.2	20.3	20.4
8/27/2018	23	20.3	NA	20.2	20.2	20.2	20.2	20.3	20.4
8/27/2018	24	20.2	NA	20.1	20.1	20.1	20.1	20.3	20.4
8/28/2018	1	19.9	NA	20.0	20.0	20.0	20.0	20.3	20.3
8/28/2018	2	19.8	NA	19.9	19.9	19.9	19.9	20.3	20.3
8/28/2018	3	19.7	NA	19.7	19.8	19.8	19.8	20.2	20.2
8/28/2018	4	19.6	NA	19.6	19.7	19.7	19.7	20.2	20.2
8/28/2018	5	19.6	NA	19.6	19.5	19.6	19.6	20.2	20.1
8/28/2018	6	19.6	NA	19.5	19.5	19.5	19.5	20.2	20.1
8/28/2018	7	19.5	NA	19.5	19.4	19.4	19.4	20.2	20.0
8/28/2018	8	19.5	NA	19.5	19.4	19.4	19.4	20.2	20.1
8/28/2018	9	19.5	NA	19.7	19.5	19.5	19.5	20.2	20.1
8/28/2018	10	19.5	NA	19.9	19.7	19.7	19.8	20.3	20.2
8/28/2018	11	19.5	NA	20.2	20.1	20.0	20.1	20.4	20.3
8/28/2018	12	19.5	NA	20.4	20.4	20.3	20.4	20.5	20.6
8/28/2018	13	19.5	NA	20.5	20.6	20.5	20.7	20.6	20.9
8/28/2018	14	19.5	NA	20.7	20.7	20.7	20.8	20.7	21.2
8/28/2018	15	19.6	NA	20.7	20.8	20.7	20.9	20.8	21.7
8/28/2018	16	19.6	NA	20.7	20.7	20.7	20.9	20.9	22.2
8/28/2018	17	19.6	NA	20.5	20.6	20.7	20.8	20.9	22.1
8/28/2018	18	19.6	NA	20.2	20.4	20.4	20.5	20.9	21.6
8/28/2018	19	19.6	NA	19.9	20.1	20.1	20.2	20.9	21.2
8/28/2018	20	19.7	NA	19.8	19.8	19.9	19.9	20.8	21.1
8/28/2018	21	19.7	NA	19.7	19.7	19.7	19.7	20.8	21.0
8/28/2018	22	19.7	NA	19.8	19.7	19.7	19.7	20.8	20.9
8/28/2018	23	19.8	NA	19.9	19.8	19.8	19.8	20.7	20.7
8/28/2018	24	19.8	NA	19.9	19.8	19.8	19.9	20.6	20.6
8/29/2018	1	19.9	NA	19.9	19.8	19.8	19.8	20.6	20.7
8/29/2018	2	19.9	NA	19.9	19.9	19.8	19.9	20.5	20.6
8/29/2018	3	19.8	NA	19.9	19.8	19.8	19.8	20.5	20.5
8/29/2018	4	19.9	NA	19.8	19.8	19.8	19.8	20.4	20.3
8/29/2018	5	19.9	NA	19.8	19.8	19.7	19.8	20.3	20.3
8/29/2018	6	19.9	NA	19.8	19.7	19.7	19.7	20.3	20.2
8/29/2018	7	19.9	NA	19.8	19.7	19.7	19.7	20.3	20.2
8/29/2018	8	20.0	NA	19.9	19.8	19.8	19.8	20.4	20.2
8/29/2018	9	20.0	NA	20.0	19.9	19.8	19.9	20.4	20.2
8/29/2018	10	20.0	NA	20.2	20.1	20.0	20.1	20.4	20.3
8/29/2018	11	20.0	NA	20.3	20.2	20.2	20.3	20.5	20.4
8/29/2018	12	20.0	NA	20.6	20.5	20.4	20.5	20.5	20.6
8/29/2018	13	20.0	NA	20.6	20.6	20.6	20.7	20.5	20.7
8/29/2018	14	20.1	NA	21.0	20.8	20.7	20.9	20.6	20.9
8/29/2018	15	20.1	NA	21.1	21.2	21.1	21.3	20.8	21.2
8/29/2018	16	20.1	NA	20.8	21.1	21.1	21.2	21.0	21.6
8/29/2018	17	20.1	NA	20.5	20.7	20.8	20.9	21.2	21.2
8/29/2018	18	20.1	NA	20.3	20.4	20.5	20.6	21.3	21.2
8/29/2018	19	20.2	NA	20.2	20.3	20.3	20.3	21.2	21.0
8/29/2018	20	20.2	NA	20.2	20.2	20.2	20.2	21.1	20.8
8/29/2018	21	20.2	NA	20.1	20.1	20.1	20.1	21.0	20.7
8/29/2018	22	20.2	NA	20.1	20.0	20.0	20.0	20.9	20.6
8/29/2018	23	20.2	NA	20.1	20.1	20.0	20.1	20.8	20.5

8/29/2018	24	20.1	NA	20.1	20.1	20.0	20.1	20.7	20.5
8/30/2018	1	20.1	NA	20.1	20.1	20.1	20.1	20.6	20.6
8/30/2018	2	20.1	NA	20.0	20.0	20.0	20.1	20.5	20.4
8/30/2018	3	20.1	NA	19.9	20.0	20.0	20.0	20.4	20.4
8/30/2018	4	20.1	NA	19.9	19.9	19.9	19.9	20.4	20.4
8/30/2018	5	20.0	NA	19.9	19.9	19.9	19.9	20.4	20.3
8/30/2018	6	20.0	NA	19.8	19.8	19.8	19.8	20.3	20.3
8/30/2018	7	20.0	NA	19.8	19.8	19.8	19.8	20.3	20.3
8/30/2018	8	19.9	NA	19.8	19.8	19.8	19.8	20.3	20.2
8/30/2018	9	19.9	NA	20.0	19.9	19.8	19.9	20.2	20.2
8/30/2018	10	19.9	NA	20.3	20.1	20.0	20.2	20.2	20.3
8/30/2018	11	19.9	NA	20.6	20.4	20.3	20.5	20.4	20.6
8/30/2018	12	19.9	NA	20.8	20.7	20.6	20.8	20.5	20.8
8/30/2018	13	19.9	NA	20.9	20.9	20.8	21.0	20.7	21.1
8/30/2018	14	19.9	NA	20.9	21.0	20.9	21.1	20.8	21.3
8/30/2018	15	19.9	NA	20.9	20.9	20.9	21.1	21.0	21.3
8/30/2018	16	20.0	NA	20.8	20.9	20.9	21.0	21.1	21.2
8/30/2018	17	20.0	NA	20.7	20.8	20.8	20.9	21.2	21.2
8/30/2018	18	20.0	NA	20.5	20.6	20.6	20.6	21.2	21.1
8/30/2018	19	20.1	NA	20.2	20.3	20.3	20.3	21.1	20.9
8/30/2018	20	20.1	NA	20.1	20.2	20.2	20.2	21.0	20.7
8/30/2018	21	20.2	NA	20.0	20.0	20.0	20.0	20.9	20.7
8/30/2018	22	20.2	NA	20.0	19.9	19.9	19.9	20.8	20.6
8/30/2018	23	20.2	NA	20.0	19.9	19.9	19.9	20.7	20.5
8/30/2018	24	20.1	NA	19.9	19.9	19.9	19.9	20.7	20.4
8/31/2018	1	20.1	NA	19.9	19.8	19.8	19.8	20.6	20.3
8/31/2018	2	20.1	NA	19.8	19.8	19.8	19.8	20.5	20.2
8/31/2018	3	20.1	NA	19.8	19.7	19.7	19.7	20.5	20.2
8/31/2018	4	20.0	NA	19.7	19.7	19.7	19.7	20.4	20.1
8/31/2018	5	20.0	NA	19.7	19.6	19.6	19.6	20.3	20.2
8/31/2018	6	20.0	NA	19.7	19.6	19.6	19.6	20.3	20.1
8/31/2018	7	19.9	NA	19.6	19.5	19.5	19.5	20.2	20.0
8/31/2018	8	19.9	NA	19.7	19.6	19.5	19.6	20.2	20.1
8/31/2018	9	19.9	NA	20.0	19.8	19.7	19.7	20.1	20.1
8/31/2018	10	19.9	NA	20.2	20.0	19.9	20.1	20.3	20.1
8/31/2018	11	19.9	NA	20.5	20.4	20.2	20.4	20.5	20.4
8/31/2018	12	19.9	NA	20.7	20.7	20.6	20.7	20.7	20.6
8/31/2018	13	19.9	NA	20.9	20.9	20.8	21.0	20.8	20.9
8/31/2018	14	19.9	NA	20.9	21.0	20.9	21.1	21.0	21.3
8/31/2018	15	19.9	NA	20.9	21.0	21.0	21.2	21.2	21.5
8/31/2018	16	19.9	NA	20.9	21.0	21.0	21.1	21.4	21.6
8/31/2018	17	20.0	NA	20.7	20.8	20.8	20.9	21.3	21.5
8/31/2018	18	20.0	NA	20.5	20.6	20.6	20.7	21.3	21.4
8/31/2018	19	20.0	NA	20.3	20.4	20.4	20.4	21.2	21.2
8/31/2018	20	20.0	NA	20.2	20.2	20.2	20.2	21.1	21.0
8/31/2018	21	20.0	NA	20.2	20.1	20.1	20.1	21.0	20.9
8/31/2018	22	20.1	NA	20.2	20.1	20.1	20.0	20.9	20.7
8/31/2018	23	20.1	NA	20.1	20.1	20.0	20.0	20.8	20.5
8/31/2018	24	20.1	NA	20.1	20.0	20.0	20.0	20.7	20.4



Date	Low Level Outlet Pipe -Auto- (Deg. C)	Top of Reach 1 -Logger- (Deg. C)	End of Reach 1 -Logger- (Deg. C)	End of Reach 3 -Logger- (Deg. C)	Top of R4 Habitat Channel -Logger- (Deg. C)	End of R4 Habitat Channel -Logger- (Deg. C)	Tailrace at Pump Intake -Auto- (Deg. C)	Tailrace at Pump Intake -Logger- (Deg. C)
8/1/2018	23.4	24.1	24.2	24.3	24.2	24.3	23.7	23.6
8/2/2018	23.9	24.1	24.0	24.0	24.0	24.0	23.3	23.0
8/3/2018	23.1	23.3	23.2	23.3	23.3	23.3	22.6	22.6
8/4/2018	22.9	23.1	23.1	23.1	23.1	23.1	22.7	22.8
8/5/2018	22.9	23.1	23.2	23.2	23.2	23.2	23.1	23.2
8/6/2018	22.3	22.6	22.8	22.9	22.9	22.9	23.1	23.2
8/7/2018	21.9	22.3	22.7	22.7	22.7	22.7	22.8	22.8
8/8/2018	21.4	22.1	22.6	22.7	22.7	22.7	22.8	22.9
8/9/2018	21.0	22.0	22.8	22.9	22.9	22.9	23.1	23.0
8/10/2018	20.9	22.1	23.0	23.1	23.1	23.1	23.2	23.3
8/11/2018	23.0	23.7	23.9	23.9	23.9	23.9	23.3	23.1
8/12/2018	23.2	23.3	23.3	23.3	23.3	23.3	22.5	22.5
8/13/2018	22.3	22.5	22.7	22.7	22.7	22.7	22.6	22.5
8/14/2018	21.4	21.7	21.9	22.0	22.0	22.0	22.3	22.4
8/15/2018	21.2	21.6	21.9	22.0	22.0	22.0	22.2	22.3
8/16/2018	20.4	21.1	21.6	21.7	21.7	21.7	22.1	22.3
8/17/2018	21.5	22.0	22.2	22.3	22.2	22.3	22.2	22.3
8/18/2018	22.1	22.3	22.3	22.4	22.4	22.4	22.2	22.3
8/19/2018	21.8	22.0	22.0	22.1	22.1	22.1	22.0	21.9
8/20/2018	21.0	21.2	21.5	21.5	21.5	21.5	21.6	21.6
8/21/2018	20.5	20.6	21.0	21.1	21.1	21.2	21.3	21.6
8/22/2018	20.5	20.6	20.4	20.3	20.3	NA	21.0	21.4
8/23/2018	20.6	20.7	20.2	20.1	20.1	21.3	21.0	21.0
8/24/2018	20.9	NA	20.2	20.0	19.9	20.1	20.4	20.5
8/25/2018	20.7	NA	19.8	19.4	19.4	19.3	20.2	20.2
8/26/2018	20.5	NA	19.9	19.6	19.6	19.5	20.0	20.0
8/27/2018	20.3	NA	19.9	19.8	19.8	19.7	20.2	20.0
8/28/2018	19.6	NA	20.0	20.0	20.0	20.0	20.5	20.7
8/29/2018	20.0	NA	20.2	20.2	20.2	20.2	20.7	20.6
8/30/2018	20.0	NA	20.2	20.2	20.2	20.3	20.7	20.7
8/31/2018	20.0	NA	20.2	20.2	20.2	20.2	20.7	20.6