



MONTHLY REPORTING PERIOD - AUGUST, 2019

1. SUMMARY

The list below provides a summary of the water quality information collected by BMID in August, 2019. Documentation and figures are provided on the following pages to support this submission.

| Source | Total (US Gals) | Total (Mega Litres) |
|--------------------------------|-----------------|---------------------|
| Mission Creek | 610,407,855 | 2,310.39 |
| Well 4 | 0 | 0 |
| Well 5 | 42,908,402 | 162.41 |
| Well 6 (Irrigation Only) | 23,155,597 | 87.64 |
| Scotty Creek (Irrigation Only) | 14,942,000 | 56.56 |
| Total | 691,413,854 | 2,617.00 |

1. A portion of the BMID's transmission main west of the Mission Creek Intake and east of the tunnel is located on an unstable slope. Slope movement has been minimal throughout August, continuing the trend seen in the previous months. Groundwater monitoring is showing a steady decline in groundwater levels since the fall of 2018. The hillside is being monitored for movement and groundwater levels every month.
2. As a contingency plan for the unstable slope, BMID has 300m of flexible 900mm diameter High-density Polyethylene (HDPE) pipe on-site. The pipe has been fused into longer sections and is stored on location. Should a slope failure occur, the pipe can be assembled in a short period of time to restore significant water service;
3. Turbidity levels at the Distribution Intake peaked at 0.32 NTU on August 28 and 31, 2019. Average turbidity for August was 0.26 NTU;
4. The highest monthly turbidity level recorded at the first customer (Booster #1) was 0.24 NTU on August 31. Average monthly turbidity was 0.19 NTU for August;
5. BMID's Ultraviolet Treatment Facility treated 2,132,536.7m³ of water, with only 0.049% being "Off-Spec". Average UV Transmissivity was 90.79%. The average inlet chlorine residual was 1.42 mg/L compared to an average of 1.45 mg/L for the outlet after UV treatment (from BMID sodium hypochlorite top-up system);
6. Mission Creek had average natural flows for summer during August. Average rainfall occurred in the watershed in August however the rains of July helped offset potentially dry conditions in August;
7. BMID's Scotty Creek source, used for irrigation in the north-end, was used as a supplementary source throughout August 2019;
8. Well # 5 was the primary source of domestic water for the north-end for all of August;
9. Well #6 which supplies irrigation water to the twinned north-end of the system, was used consistently throughout August to supplement irrigation flow supplied from Well 5 and Mission Creek;
10. *E.Coli* levels at Mission Creek's Point of Diversion (creek intake prior to WTP) had high counts throughout August with a peak count of 240 on August 12, 2019. The Point of

Diversion had an average *E. Coli* count of 44.3 CFU/100ml per sample based on the 7 samples taken throughout the last month;

11. *E. Coli* levels in the raw water at the distribution system intake, down-stream of the WTP, prior to disinfection, had low counts throughout most of August, 2019 with a peak counts of 3 *E-Coli* on August 19. Average *E. Coli* counts for the month was less than 1.0 (0.86) CFU/100ml based of the 7 samples taken. The reduction in *E. Coli* levels is credited to the performance of the WTP and settling of particles in the water after the water treatment plant;
12. No *E. Coli* or were found in treated water in the distribution system through third-party analysis;
13. One sample collected at the Ellison School sample site was found to have positive counts for Total Coliforms. The August 6 sample had Total Coliform counts of 40 CFU/100ml. No positive *E. Coli* counts were found in the water distribution system;
14. Once the positive samples were identified, the water mains in the affected area were thoroughly flushed and the chlorination dose was increased at Well 5 which is the primary domestic water source for the area. Subsequent testing took place on August 8 at six additional locations throughout the North-end of the distribution system. All of six samples had zero counts and all subsequent samples at Ellison School had zero Total Coliforms and *E. Coli* for the remainder of the month;
15. One positive presence/absence sample was found on August 6 at the Morrison Rd sample station. BMID crews thoroughly flushed the water mains in the area and retested the sample site for both in-house analysis and third-party analysis through CARO Analytical. All subsequent samples came back as negative for both Total Coliforms and *E. Coli*;
16. A new sample location was installed at Esquire Reservoir in the north end of the distribution system. The installation of this sample station will help to allow BMID crews to isolate the location of potential positive bacteria samples;
17. The WTP ran throughout August, 2019 as water quality conditions in Mission Creek required chemical treatment to reduce turbidity and colour levels associated with raw water quality in the early summer.

1.0 FLOWS - AUGUST, 2019

Maximum Daily Flow was on August 6, 2019 at 30,406,286 US gallons (115.09 ML)

Minimum Daily Flow was on August 12, 2019 at 13,619,291 US gallons (51.55 ML)

Mission Creek provided 88% of domestic flow throughout August.

Figure 1.1 - Domestic Water System Flow

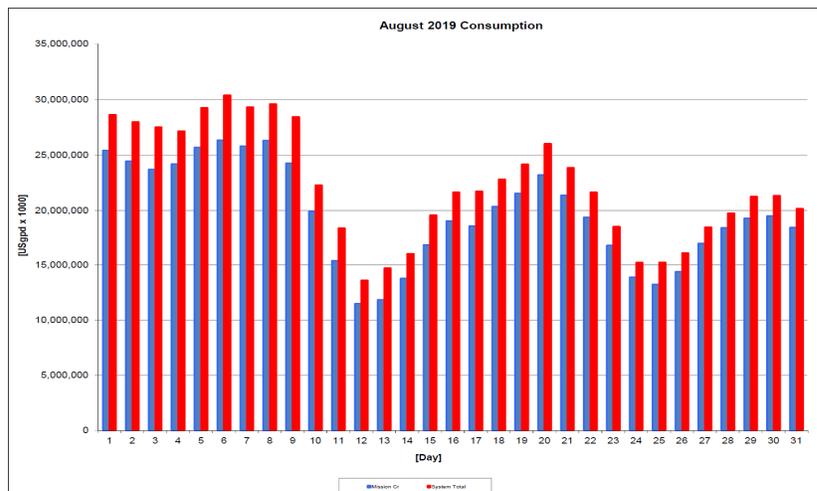


Table 1.2 - August 2019 - Daily Consumption Report

| Year | Mission Cr | Well #4 | Well #5 | Well #6 | Scotty Crk | System Total | System Total |
|--------------|-------------|---------|------------|------------|-------------|--------------|--------------|
| 2019 | Usgpd | Usgpd | Usgpd | Usgpd | Usgpd | Usgpd | ML/Day |
| 1-Aug | 25,416,934 | 0 | 1,230,074 | 1,042,265 | 947,000.0 | 28,636,273 | 108.39 |
| 2-Aug | 24,457,014 | 0 | 1,517,469 | 1,056,800 | 961,000.0 | 27,992,283 | 105.95 |
| 3-Aug | 23,712,354 | 0 | 1,735,433 | 1,197,840 | 876,000.0 | 27,521,627 | 104.17 |
| 4-Aug | 24,198,488 | 0 | 1,462,752 | 994,424 | 505,000.0 | 27,160,664 | 102.80 |
| 5-Aug | 25,688,932 | 0 | 1,518,496 | 1,029,280 | 1,033,000.0 | 29,269,708 | 110.79 |
| 6-Aug | 26,344,334 | 0 | 1,501,520 | 1,028,432 | 1,532,000.0 | 30,406,286 | 115.09 |
| 7-Aug | 25,811,240 | 0 | 1,552,272 | 1,077,095 | 890,000.0 | 29,330,607 | 111.02 |
| 8-Aug | 26,304,066 | 0 | 1,354,272 | 934,718 | 1,017,000.0 | 29,610,056 | 112.07 |
| 9-Aug | 24,273,170 | 0 | 1,775,247 | 1,231,292 | 1,162,000.0 | 28,441,709 | 107.65 |
| 10-Aug | 19,922,203 | 0 | 1,172,593 | 821,752 | 379,000.0 | 22,295,548 | 84.39 |
| 11-Aug | 15,391,030 | 0 | 1,523,776 | 1,031,368 | 476,000.0 | 18,422,174 | 69.73 |
| 12-Aug | 11,500,242 | 0 | 1,051,217 | 994,832 | 73,000.0 | 13,619,291 | 51.55 |
| 13-Aug | 11,852,894 | 0 | 1,701,867 | 1,158,175 | 14,000.0 | 14,726,936 | 55.74 |
| 14-Aug | 13,789,259 | 0 | 975,212 | 1,093,020 | 261,000.0 | 16,118,491 | 61.01 |
| 15-Aug | 16,914,742 | 0 | 1,013,791 | 925,311 | 735,000.0 | 19,588,844 | 74.14 |
| 16-Aug | 19,074,379 | 0 | 1,347,092 | 960,271 | 273,000.0 | 21,654,742 | 81.96 |
| 17-Aug | 18,611,322 | 0 | 1,930,331 | 1,103,618 | 93,000.0 | 21,738,271 | 82.28 |
| 18-Aug | 20,365,768 | 0 | 951,378 | 907,912 | 598,000.0 | 22,823,058 | 86.39 |
| 19-Aug | 21,562,768 | 0 | 1,011,495 | 1,092,675 | 509,000.0 | 24,175,938 | 91.51 |
| 20-Aug | 23,216,621 | 0 | 1,143,347 | 1,000,239 | 673,000.0 | 26,033,207 | 98.54 |
| 21-Aug | 21,383,010 | 0 | 1,143,348 | 1,000,238 | 342,000.0 | 23,868,596 | 90.34 |
| 22-Aug | 19,404,803 | 0 | 1,162,171 | 1,025,608 | 72,000.0 | 21,664,582 | 82.00 |
| 23-Aug | 16,861,275 | 0 | 1,071,295 | 448,332 | 181,000.0 | 18,561,902 | 70.26 |
| 24-Aug | 13,891,328 | 0 | 1,030,573 | 100 | 315,000.0 | 15,237,001 | 57.67 |
| 25-Aug | 13,244,955 | 0 | 1,856,480 | 0 | 144,000.0 | 15,245,435 | 57.70 |
| 26-Aug | 14,410,031 | 0 | 1,741,121 | 0 | 37,000.0 | 16,188,152 | 61.27 |
| 27-Aug | 17,043,912 | 0 | 1,260,490 | 0 | 203,000.0 | 18,507,402 | 70.05 |
| 28-Aug | 18,456,211 | 0 | 1,312,771 | 0 | 0.0 | 19,768,982 | 74.83 |
| 29-Aug | 19,306,336 | 0 | 1,515,549 | 0 | 454,000.0 | 21,275,885 | 80.53 |
| 30-Aug | 19,524,211 | 0 | 1,644,480 | 0 | 181,000.0 | 21,349,691 | 80.81 |
| 31-Aug | 18,474,023 | 0 | 1,700,490 | 0 | 6,000.0 | 20,180,513 | 76.38 |
| Totals Usgpd | 610,407,855 | 0 | 42,908,402 | 23,155,597 | 14,942,000 | 691,413,854 | 2617.00 |
| Totals ML | 2,310.39 | 0.00 | 162.41 | 87.64 | 56.56 | | |
| Avg's | 19,690,576 | 74.53 | | | | 22,374,445 | 84.42 |
| Max | 26,344,334 | 99.71 | | | | 30,406,286 | 115.09 |
| Min | 11,500,242 | 43.53 | | | | 13,619,291 | 51.55 |

2.0 RAW WATER QUALITY - BACTERIOLOGICAL MONITORING

Raw water samples were taken at three points at BMID settling ponds before chlorination

Samples were taken twice per week at the Distribution Intake's Point of Disinfection and at the Mission Creek raw water Point of Diversion; one sample is taken per week at Stevens Pond outlet (point halfway between WTP Outlet and Distribution Intake).

Samples from the previous month are also provided to show a two-month trend

The WTP lowers colour, turbidity and particle counts in the raw water. The *E.Coli* readings are consistent with the reduction in those other parameters. The *E.Coli* readings confirm the WTP's effectiveness in reducing raw water quality risks with coagulation, flocculation, and sedimentation process followed by settling times across Stevens and Hadden Reservoirs.

Figure 2.1 - Raw Water *E.Coli* Readings (CARO Lab results) July-August 2019

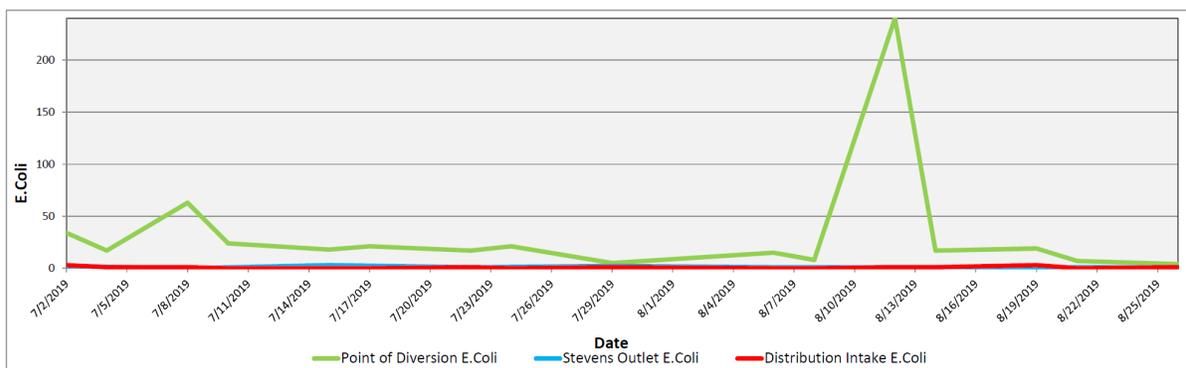


Table 2.1 - *E.Coli* Readings (CARO Labs)

| Date | Point of Diversion E.Coli | Stevens Outlet E.Coli | Distribution Intake E.Coli |
|-----------|---------------------------|-----------------------|----------------------------|
| 2-Jul-19 | 34 | 2 | 3 |
| 4-Jul-19 | 17 | 1 | 1 |
| 8-Jul-19 | 63 | 0 | 1 |
| 10-Jul-19 | 24 | 0 | 0 |
| 15-Jul-19 | 18 | 3 | 0 |
| 17-Jul-19 | 21 | 0 | 0 |
| 22-Jul-19 | 17 | 1 | 1 |
| 24-Jul-19 | 21 | 0 | 0 |
| 29-Jul-19 | 5 | 2 | 1 |
| 6-Aug-19 | 15 | 1 | 0 |
| 8-Aug-19 | 8 | 0 | 0 |
| 12-Aug-19 | 240 | 1 | 1 |
| 14-Aug-19 | 17 | 1 | 1 |
| 19-Aug-19 | 19 | 1 | 3 |
| 21-Aug-19 | 7 | 0 | 0 |
| 26-Aug-19 | 4 | 1 | 1 |

Stevens or WTP Intake (Raw) - Sampling of raw water at intake from Mission Creek

Stevens Outlet (Raw) - Sampling point after exiting 142,000 m³ 1st upper balancing reservoir (Stevens Res.)

Hadden Outlet (Raw) - Sampling point after exiting 75,000 m³ 2nd lower balancing reservoir (Hadden Res.)

(Hadden Outlet = Distribution Intake - Point of Disinfection)

3.0 RAW AND TREATED WATER TURBIDITY

Through August, 2019, turbidity for the Mission Creek source was measured at Booster Station No. 1 on Gallagher's Road, which is the approximate location of the first-customer. The highest turbidity recorded at this location was 0.29 NTU on August 6. The average turbidity for the month was 0.23 NTU during August.

The distribution intake is where the water leaves Hadden Reservoir.

Figure 3.1 – Daily Turbidity Readings (Distribution Intake and Booster Station 1)

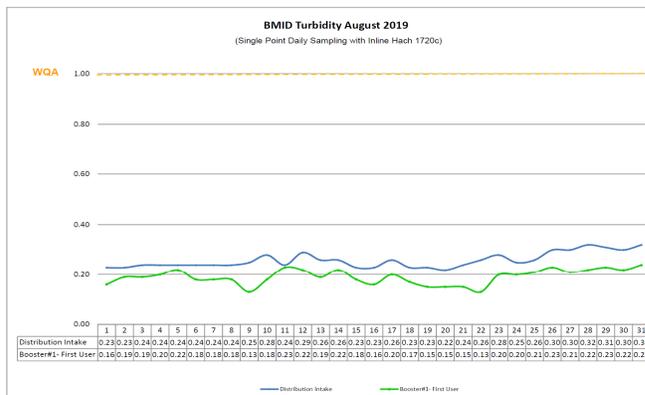


Table 3.1 - Daily Monitoring Record – Turbidity at Distribution Intake & Bst Stn 1

| Turbidity Point Sampling for August 2019 | | |
|--|---------------------|-----------------------|
| Date | Distribution Intake | Booster#1- First User |
| | Daily Average [NTU] | Daily Average [NTU] |
| 1 | 0.23 | 0.16 |
| 2 | 0.23 | 0.19 |
| 3 | 0.24 | 0.19 |
| 4 | 0.24 | 0.20 |
| 5 | 0.24 | 0.22 |
| 6 | 0.24 | 0.18 |
| 7 | 0.24 | 0.18 |
| 8 | 0.24 | 0.18 |
| 9 | 0.25 | 0.13 |
| 10 | 0.28 | 0.18 |
| 11 | 0.24 | 0.23 |
| 12 | 0.29 | 0.22 |
| 13 | 0.26 | 0.19 |
| 14 | 0.26 | 0.22 |
| 15 | 0.23 | 0.18 |
| 16 | 0.23 | 0.16 |
| 17 | 0.26 | 0.20 |
| 18 | 0.23 | 0.17 |
| 19 | 0.23 | 0.15 |
| 20 | 0.22 | 0.15 |
| 21 | 0.24 | 0.15 |
| 22 | 0.26 | 0.13 |
| 23 | 0.28 | 0.20 |
| 24 | 0.25 | 0.20 |
| 25 | 0.26 | 0.21 |
| 26 | 0.30 | 0.23 |
| 27 | 0.30 | 0.21 |
| 28 | 0.32 | 0.22 |
| 29 | 0.31 | 0.23 |
| 30 | 0.30 | 0.22 |
| 31 | 0.32 | 0.24 |
| AVG | 0.26 | 0.19 |

4.0 CHLORINE CONTACT TIME

Temperature, pH, current flow and chlorine residual levels are recorded to determine the CT levels that are required to provide 3 log inactivation of *Giardia*. Chlorine Contact times exceeded the CT levels required to provide 3 log (99.9%) inactivation of *Giardia Lamblia* throughout the month of August, 2019.

Figure 4.1 - CT Trending – BMID Mission Creek Source – August 2019

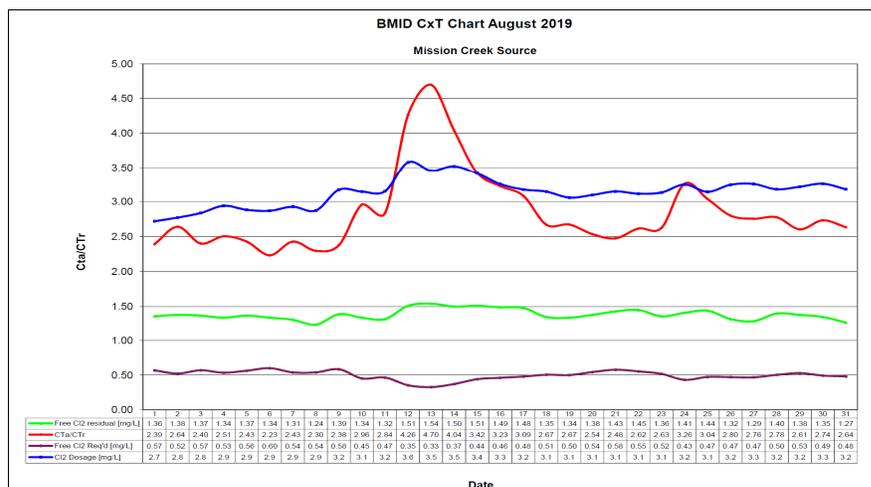


Table 4.2 - CT Table – Mission Creek Source

| BMID August 2019 Mission Creek Source | | | | | | | | | | | | | |
|--|-----------|-----------|---------|----------------------|----------|-------|---------|----------------------|-----------------|---------|--------|---------------|------------------------|
| DATE | pH | TEMP | PEAK | Free Cl ₂ | CT | CT | CTa/CTr | Free Cl ₂ | Cl ₂ | VOLUME | TIME | FLOW | Cl ₂ DOSAGE |
| August | (Average) | (Present) | FLOW | residual | achieved | req'd | | Req'd | Dosage | TOTAL | [mins] | Daily Average | Average |
| | | [°C] | [USgpm] | [mg/L] | | | | [mg/L] | [mg/L] | [USgal] | | [USGPM] | [PPD] |
| 1 | 7.23 | 18.7 | 21410 | 1.36 | 168.3 | 70.3 | 2.39 | 0.57 | 2.7 | 2649600 | 124 | 17672 | 578 |
| 2 | 7.21 | 18.8 | 19917 | 1.38 | 183.6 | 69.5 | 2.64 | 0.52 | 2.8 | 2649600 | 133 | 17009 | 567 |
| 3 | 7.26 | 18.4 | 20779 | 1.37 | 174.7 | 72.7 | 2.40 | 0.57 | 2.8 | 2649600 | 128 | 16504 | 563 |
| 4 | 7.25 | 18.3 | 19494 | 1.34 | 182.1 | 72.7 | 2.51 | 0.53 | 2.9 | 2649600 | 136 | 16818 | 595 |
| 5 | 7.24 | 18.4 | 20701 | 1.37 | 175.4 | 72.1 | 2.43 | 0.56 | 2.9 | 2649600 | 128 | 17858 | 619 |
| 6 | 7.23 | 18.2 | 21882 | 1.34 | 162.3 | 72.6 | 2.23 | 0.60 | 2.9 | 2649600 | 121 | 18307 | 632 |
| 7 | 7.22 | 18.9 | 20791 | 1.31 | 166.9 | 68.7 | 2.43 | 0.54 | 2.9 | 2649600 | 127 | 17919 | 631 |
| 8 | 7.24 | 19.6 | 21860 | 1.24 | 150.3 | 65.4 | 2.30 | 0.54 | 2.9 | 2649600 | 121 | 18320 | 633 |
| 9 | 7.21 | 18.9 | 22420 | 1.39 | 164.3 | 69.1 | 2.38 | 0.58 | 3.2 | 2649600 | 118 | 16905 | 645 |
| 10 | 7.23 | 19.2 | 17696 | 1.34 | 200.6 | 67.8 | 2.96 | 0.45 | 3.1 | 2649600 | 150 | 13866 | 524 |
| 11 | 7.26 | 19.2 | 18027 | 1.32 | 194.0 | 68.4 | 2.84 | 0.47 | 3.2 | 2649600 | 147 | 10735 | 407 |
| 12 | 7.27 | 18.2 | 12502 | 1.51 | 320.0 | 75.1 | 4.26 | 0.35 | 3.6 | 2649600 | 212 | 8005 | 344 |
| 13 | 7.30 | 18.9 | 11976 | 1.54 | 340.7 | 72.5 | 4.70 | 0.33 | 3.5 | 2649600 | 221 | 8232 | 342 |
| 14 | 7.29 | 18.5 | 13299 | 1.50 | 298.8 | 74.0 | 4.04 | 0.37 | 3.5 | 2649600 | 199 | 9586 | 406 |
| 15 | 7.27 | 18.7 | 16128 | 1.51 | 248.1 | 72.5 | 3.42 | 0.44 | 3.4 | 2649600 | 164 | 11721 | 481 |
| 16 | 7.21 | 18.6 | 17171 | 1.49 | 229.9 | 71.3 | 3.23 | 0.46 | 3.3 | 2649600 | 154 | 13271 | 519 |
| 17 | 7.23 | 18.1 | 17105 | 1.48 | 229.3 | 74.2 | 3.09 | 0.48 | 3.2 | 2649600 | 155 | 12935 | 494 |
| 18 | 7.25 | 17.8 | 17768 | 1.35 | 201.3 | 75.3 | 2.67 | 0.51 | 3.1 | 2649600 | 149 | 14122 | 534 |
| 19 | 7.26 | 17.6 | 17335 | 1.34 | 204.8 | 76.6 | 2.67 | 0.50 | 3.1 | 2649600 | 153 | 14998 | 552 |
| 20 | 7.27 | 17.5 | 18534 | 1.38 | 197.3 | 77.7 | 2.54 | 0.54 | 3.1 | 2649600 | 143 | 16094 | 599 |
| 21 | 7.28 | 17.7 | 19776 | 1.43 | 191.6 | 77.4 | 2.48 | 0.58 | 3.1 | 2649600 | 134 | 14901 | 564 |
| 22 | 7.30 | 17.3 | 18280 | 1.45 | 210.2 | 80.3 | 2.62 | 0.55 | 3.1 | 2649600 | 145 | 13457 | 504 |
| 23 | 7.31 | 17.0 | 16832 | 1.36 | 214.1 | 81.5 | 2.63 | 0.52 | 3.1 | 2649600 | 157 | 11763 | 443 |
| 24 | 7.33 | 17.3 | 14179 | 1.41 | 263.5 | 80.8 | 3.26 | 0.43 | 3.2 | 2649600 | 187 | 9649 | 377 |
| 25 | 7.36 | 16.2 | 14181 | 1.44 | 269.1 | 88.5 | 3.04 | 0.47 | 3.1 | 2649600 | 187 | 9203 | 348 |
| 26 | 7.34 | 16.1 | 14296 | 1.32 | 244.6 | 87.3 | 2.80 | 0.47 | 3.2 | 2649600 | 185 | 10029 | 391 |
| 27 | 7.32 | 16.1 | 14348 | 1.29 | 238.2 | 86.4 | 2.76 | 0.47 | 3.3 | 2649600 | 185 | 11811 | 462 |
| 28 | 7.30 | 16.5 | 15810 | 1.40 | 234.6 | 84.4 | 2.78 | 0.50 | 3.2 | 2649600 | 168 | 12847 | 491 |
| 29 | 7.30 | 16.5 | 16650 | 1.38 | 219.6 | 84.2 | 2.61 | 0.53 | 3.2 | 2649600 | 159 | 13406 | 518 |
| 30 | 7.26 | 17.2 | 16593 | 1.35 | 215.6 | 78.8 | 2.74 | 0.49 | 3.3 | 2649600 | 160 | 13571 | 532 |
| 31 | 7.25 | 17.2 | 16402 | 1.27 | 205.2 | 77.8 | 2.64 | 0.48 | 3.2 | 2649600 | 162 | 12849 | 491 |
| Averages | 7.27 | 17.92 | 17553 | 1.39 | 216.09 | 75.68 | 2.85 | 0.50 | 3.13 | | | | |

5.0 ULTRAVIOLET DISINFECTION

Total Water Treated: 2,132,536.7 m 100.000 %
 On-Spec Water: 2,131,487.5 m³ 99.951 %
 Off-Spec Water: 1,049.2 m³ 0.049%

Average monthly chlorine residual before UV Treatment was 1.42 mg/L compared to 1.45 mg/L after UV disinfection and re-chlorination.

Figure 5.1 - UV Disinfection – BMID Mission Creek Source – August 2019

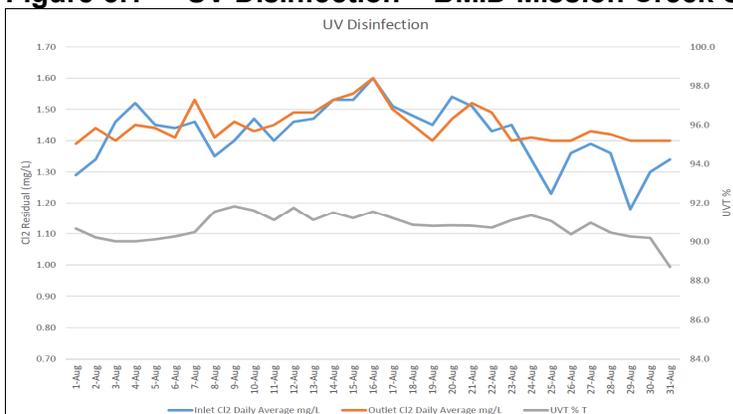


Table 5.2 - UV Disinfection Table – Mission Creek Source

| Date | Inlet Cl2 | Outlet Cl2 | UVT | | In Spec Water | Off Spec | Off Spec % |
|----------------|-------------|-------------|--------------|--------------|---------------------|---------------|---------------|
| | Daily | Daily | | | Volume | Water | of Water |
| | mg/L | mg/L | % T | | Cubic Meters | Cubic Meters | Percentage |
| 1-Aug | 1.29 | 1.39 | 90.7 | | 86,283 | 0 | 0.00% |
| 2-Aug | 1.34 | 1.44 | 90.2 | | 86,286 | 0 | 0.00% |
| 3-Aug | 1.46 | 1.40 | 90.0 | | 81,601 | 0 | 0.00% |
| 4-Aug | 1.52 | 1.45 | 90.0 | | 82,163 | 0 | 0.00% |
| 5-Aug | 1.45 | 1.44 | 90.1 | | 85,846 | 0 | 0.00% |
| 6-Aug | 1.44 | 1.41 | 90.3 | | 87,643 | 0 | 0.00% |
| 7-Aug | 1.46 | 1.53 | 90.5 | | 87,646 | 0 | 0.00% |
| 8-Aug | 1.35 | 1.41 | 91.6 | | 87,859 | 0 | 0.00% |
| 9-Aug | 1.40 | 1.46 | 91.8 | | 87,861 | 0 | 0.00% |
| 10-Aug | 1.47 | 1.43 | 91.6 | | 81,498 | 71 | 0.14% |
| 11-Aug | 1.40 | 1.45 | 91.1 | | 67,184 | 71 | 0.14% |
| 12-Aug | 1.46 | 1.49 | 91.8 | | 49,992 | 106 | 0.85% |
| 13-Aug | 1.47 | 1.49 | 91.1 | | 37,739 | 106 | 0.86% |
| 14-Aug | 1.53 | 1.53 | 91.5 | | 45,724 | 0 | 0.00% |
| 15-Aug | 1.53 | 1.55 | 91.2 | | 56,818 | 505 | 1.68% |
| 16-Aug | 1.60 | 1.60 | 91.6 | | 62,832 | 177 | 1.40% |
| 17-Aug | 1.51 | 1.50 | 91.2 | | 62,657 | 0 | 0.00% |
| 18-Aug | 1.48 | 1.45 | 90.9 | | 68,388 | 0 | 0.00% |
| 19-Aug | 1.45 | 1.40 | 90.8 | | 70,896 | 0 | 0.00% |
| 20-Aug | 1.54 | 1.47 | 90.8 | | 77,617 | 0 | 0.00% |
| 21-Aug | 1.51 | 1.52 | 90.8 | | 77,626 | 6 | 0.01% |
| 22-Aug | 1.43 | 1.49 | 90.7 | | 72,580 | 6 | 0.01% |
| 23-Aug | 1.45 | 1.40 | 91.1 | | 64,083 | 0 | 0.00% |
| 24-Aug | 1.34 | 1.41 | 91.4 | | 55,460 | 0 | 0.00% |
| 25-Aug | 1.23 | 1.40 | 91.1 | | 46,152 | 0 | 0.00% |
| 26-Aug | 1.36 | 1.40 | 90.4 | | 48,229 | 0 | 0.00% |
| 27-Aug | 1.39 | 1.43 | 91.0 | | 57,086 | 0 | 0.00% |
| 28-Aug | 1.36 | 1.42 | 90.5 | | 60,449 | 0 | 0.00% |
| 29-Aug | 1.18 | 1.40 | 90.3 | | 64,216 | 0 | 0.00% |
| 30-Aug | 1.30 | 1.40 | 90.2 | | 66,061 | 0 | 0.00% |
| 31-Aug | 1.34 | 1.40 | 88.7 | | 66,063 | 0 | 0.00% |
| Average | 1.42 | 1.45 | 90.79 | Total | 2,132,536.70 | 1049.2 | 0.049% |

6.0 WATER DISTRIBUTION SAMPLING (TREATED)

Third Party Analysis (CARO Analytical Services)

- Samples taken once per week at ten locations around the BMID service area
- 45 samples were found to be absent of Coliforms.
- 45 samples were found to be absent of *E. Coli*.
- One positive (40 Total Coliforms) sample was found at Ellison School on August
- 6 Additional samples were taken on August 8 in the North-end of the distribution system. All samples were found to be absent of both *E. Coli* and Total Coliforms

Table 6.1 - CARO Independent Lab Testing – Total Coliforms – E.Coli

| Date | 2921 Belgo Rd | | Booster 1 | | Ellison Blow-Off | | Ellison School | | 3976 Highway 97 | | Prospect Reservoir | | Tower Reservoir | | Well #5 | | Kirschner Res | | Pearson School | |
|-----------|---------------|--------|-----------|--------|------------------|--------|----------------|--------|-----------------|--------|--------------------|--------|-----------------|--------|-----------|--------|---------------|--------|----------------|--------|
| | Coliforms | E.coli | Coliforms | E.coli | Coliforms | E.coli | Coliforms | E.coli | Coliforms | E.coli | Coliforms | E.coli | Coliforms | E.coli | Coliforms | E.coli | Coliforms | E.coli | Coliforms | E.coli |
| 2-Jul-19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8-Jul-19 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12-Jul-19 | - | - | - | - | - | - | 1 | 0 | - | - | - | - | - | - | 0 | 0 | - | - | - | - |
| 15-Jul-19 | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22-Jul-19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 31-Jul-19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6-Aug-19 | 0 | 0 | 0 | 0 | 0 | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12-Aug-19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19-Aug-19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26-Aug-19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Table 6.2 – August 8 North-End distribution system testing

| 8/8/2019 Special Testing | | |
|--------------------------|-----------|--------|
| Location | Coliforms | E.coli |
| Esquire Reservoir | 0 | 0 |
| 2105 Morrison Rd | 0 | 0 |
| 4730 Bulman Rd | 0 | 0 |
| 3411 Esquire Rd | 0 | 0 |
| Ellison School | 0 | 0 |
| PRV 24 | 0 | 0 |

Table 6.3 – Disinfection By-Products - THM and HAA Results

| Location | THM | HAA |
|---------------------|--------|--------|
| Kirschner Reservoir | | 0.0519 |
| 2921 Belgo Rd | 0.0545 | |
| Pearson School | 0.0524 | 0.0395 |
| 3976 Highway 97 | 0.0558 | |

In-House Analysis (BMID Staff)

- Presence/Absence samples taken on a three week cycle at seven sites around the BMID service area.
- All 10 samples were found to be absent of both Total Coliforms and *E. Coli*.

Table 6.4 - BMID In-house Testing – Presence Absence

| Location | 8/6/2019 | | | | 8/8/2019 | | | | 8/12/2019 | | | | 8/19/2019 | | | | 8/26/2019 | | | |
|----------------|----------|-------|-------|------|----------|-------|-------|------|-----------|-------|-------|------|-----------|-------|-------|------|-----------|-------|-------|------|
| | Cl2 | Temp. | Pres. | Abs. | Cl2 | Temp. | Pres. | Abs. | Cl2 | Temp. | Pres. | Abs. | Cl2 | Temp. | Pres. | Abs. | Cl2 | Temp. | Pres. | Abs. |
| Sylvania Cres | | | | | | | | | | | | | 0.81 | 21.6 | - | X | | | | |
| 170 Kneller Rd | | | | | | | | | | | | | 0.89 | 24.4 | - | X | | | | |
| 2105 Morrison | 1.30 | 20.6 | X | - | 1.03 | 24.0 | - | X | | | | | | | | | 0.98 | 19.6 | - | X |
| Staymen Rd | 1.20 | 20.2 | - | X | | | | | | | | | | | | | 0.88 | 19.8 | - | X |
| 260 Campion Rd | | | | | | | | | 0.27 | 23.8 | - | X | | | | | | | | |
| Fenwick Rd | | | | | | | | | 0.35 | 23.6 | - | X | | | | | | | | |
| Solly Ct | | | | | | | | | | | | | 0.94 | 21.2 | - | X | | | | |

- BMID Population = 25,000

RECOMMENDED TESTS

- Recommended number of samples per month = 25

(as per Guide for Canadian Drinking Water Quality)

ACTUAL TESTS

- Total tests by BMID staff (presence/absence) = 10
- Total Positive PA Sampled by staff (presence/absence) = 1
- Total tests sampled by BMID and tested by Caro Labs = 46
- Total tests sampled in BMID treated distribution system = 56 (Two Positive Samples)