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MONTHLY REPORTING PERIOD - JUNE, 2017

1. SUMMARY

The list below provides a summary of the water quality information collected by BMID in June, 2017. Documentation and figures are provided on the following pages to support this submission.

	June 2017	
Source	**Total (US Gals)**	**Total (Mega Litres)**
Mission Creek	542,999,000	2,055.25
Well 4	0	0
Well 5	38,636,000	146.24
Scotty Creek (Irrigation Only)	3,003,300	11.37
Total	584,638,300	2,212.86

1. Turbidity levels at Hadden Pond Outlet, remained below 1.0 NTU for all of June. Peak turbidity at the Hadden Pond intake was 0.93 NTU on June 06, 2017;
2. The highest monthly turbidity level recorded at the first customer (Booster #1) was 0.98 NTU on June 3, 2017 and average monthly turbidity was 0.52 NTU;
3. Mission Creek witnessed high flows for most of June as periods of significant precipitation and snow melt upstream of Mission Creek resulted in a rise in raw water turbidity. However, BMID's WTP was able to maintain acceptable turbidity levels throughout the event;
4. BMID's Scotty Creek intake, used for irrigation water, was brought back on-line after removal of large amounts of debris that entered the reservoir during May's flooding event;
5. *E.Coli* levels at the raw water intake on Mission Creek were average during June as the watershed continued its spring freshet. The highest raw water *E.Coli* count was 53 on June 29, 2017;
6. *E.Coli* levels at the point immediately prior to disinfection (Hadden Outlet) had low counts on all samples during June, with a peak count of 7 on June 7, 2017;
7. No *E.Coli* were found in treated water in the distribution system through third-party analysis. However, the Ellison Blow-off sample on June 15 had positive count of 1 Coliform. In addition, no positive bacteria tests were found from the in-house presence-absence tests ;
8. Well #5 was used throughout June as a source for domestic and irrigation water in the north-end of the system in conjunction with Mission Creek system water as determined by usage and pressures in the area;
9. BMID's Water Treatment Plant resumed operations on March 15, 2017 as water quality in Mission Creek began to diminish due to melting conditions in the watershed which initiated the yearly spring freshet resulting in high turbidity;

1.0 FLOWS - JUNE, 2017

Maximum est. Daily Flow was on June 26, 2017 at 32,950,700 US gallons (124.72 ML)

Minimum est. Daily Flow was on June 3, 2017 at 8,183,000 US gallons (30.97 ML)

Mission Creek provided 96% of domestic flow throughout June.

Figure 1.1 - Domestic Water System Flow

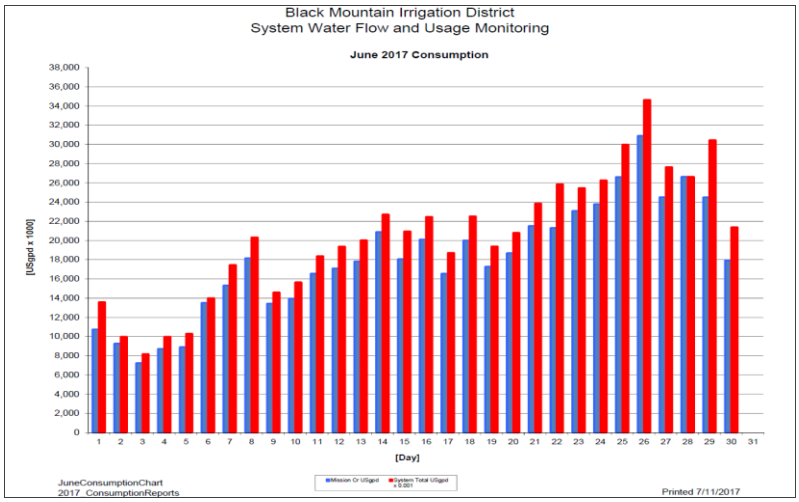

Table 1.2 - June, 2017 Daily Consumption Report

Year	Mission Cr	Well #4	Well #5	Scotty Crk	System Total	System Total
2017	Usgpd	Usgpd	Usgpd	Usgpd	Usgpd	ML/Day
1-Jun	10,748,000	0	2,835,000.0	0.0	13,583,000	51.41
2-Jun	9,263,000	0	715,000.0	0.0	9,978,000	37.77
3-Jun	7,241,000	0	942,000.0	0.0	8,183,000	30.97
4-Jun	8,710,000	0	1,285,000.0	0.0	9,995,000	37.83
5-Jun	8,910,000	0	1,395,000.0	0.0	10,305,000	39.00
6-Jun	13,514,000	0	498,000.0	0.0	14,012,000	53.04
7-Jun	15,319,000	0	1,037,000.0	110,100.0	16,466,100	62.32
8-Jun	18,151,000	0	899,000.0	128,300.0	19,178,300	72.59
9-Jun	13,435,000	0	489,000.0	68,000.0	13,992,000	52.96
10-Jun	13,949,000	0	1,346,000.0	35,500.0	15,330,500	58.03
11-Jun	16,556,000	0	1,480,000.0	34,400.0	18,070,400	68.40
12-Jun	17,097,000	0	1,579,000.0	69,800.0	18,745,800	70.95
13-Jun	17,825,000	0	958,000.0	124,400.0	18,907,400	71.56
14-Jun	20,882,000	0	735,000.0	109,600.0	21,726,600	82.24
15-Jun	18,054,000	0	1,639,000.0	126,200.0	19,819,200	75.02
16-Jun	20,113,000	0	1,148,000.0	120,400.0	21,381,400	80.93
17-Jun	16,540,000	0	1,083,000.0	110,000.0	17,733,000	67.12
18-Jun	20,004,000	0	1,354,000.0	116,500.0	21,474,500	81.28
19-Jun	17,269,000	0	1,037,000.0	109,200.0	18,415,200	69.70
20-Jun	18,690,000	0	1,141,000.0	97,600.0	19,928,600	75.43
21-Jun	21,513,000	0	1,360,000.0	97,600.0	22,970,600	86.94
22-Jun	21,303,000	0	1,482,000.0	308,500.0	23,093,500	87.41
23-Jun	23,080,000	0	1,382,000.0	100,000.0	24,562,000	92.97
24-Jun	23,778,000	0	1,494,000.0	100,000.0	25,372,000	96.03
25-Jun	26,615,000	0	1,498,000.0	187,200.0	28,300,200	107.12
26-Jun	30,901,000	0	1,862,000.0	187,700.0	32,950,700	124.72
27-Jun	24,505,000	0	1,534,000.0	161,000.0	26,200,000	99.17
28-Jun	26,628,000	0	0.0	0.0	26,628,000	100.79
29-Jun	24,497,000	0	3,157,000.0	280,500.0	27,934,500	105.73
30-Jun	17,909,000	0	1,272,000.0	220,800.0	19,401,800	73.44
Totals Usgpd	542,999,000	0	38,636,000	3,003,300	584,638,300	2212.86
Totals ML	2,055.25	0.00	146.24	11.37		
Avg's	18,099,967	68.51			19,487,943	73.76
Max	30,901,000	116.96			32,950,700	124.72
Min	7,241,000	27.41			8,183,000	30.97

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 Hadden Reservoir Outlet (point of disinfection) and at the raw water intake on Mission Creek; one sample is taken per week at Stevens (east, upstream settling basin) outlet.

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

Figure 2.1 - E.Coli Readings (CARO Lab results) May 2017 - June 2017

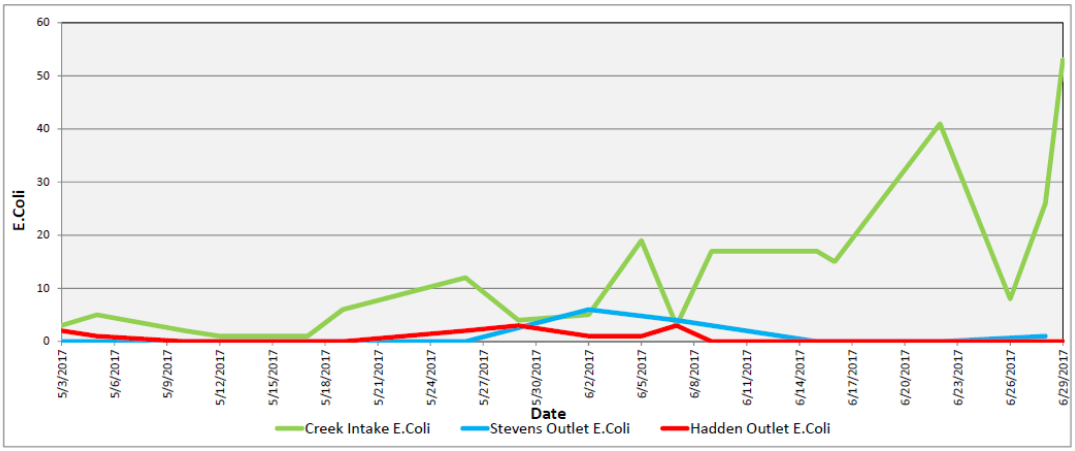

Table 2.2 - E.Coli Readings (CARO Labs)

Date	Creek Intake E.Coli	Stevens Outlet E.Coli	Hadden Outlet E.Coli
3-May-17	3	0	2
5-May-17	5		1
10-May-17	2	0	0
12-May-17	1		0
17-May-17	1	0	0
19-May-17	6		0
26-May-17	12	0	2
29-May-17	4		3
2-Jun-17	5	6	1
5-Jun-17	19		1
7-Jun-17	3	4	3
9-Jun-17	17		0
15-Jun-17	17	0	0
16-Jun-17	15		0
22-Jun-17	41	0	0
26-Jun-17	8		0
28-Jun-17	26	1	0
29-Jun-17	53		0

Stevens or WTP Intake (Raw) - Sampling of raw water at intake from Mission Creek
Stevens Outlet (Raw) - Sampling point after exiting 142,000 m^3 1st upper balancing reservoir (Stevens Res.)
Hadden Outlet (Raw) - Sampling point after exiting 75,000 m^3 2nd lower balancing reservoir (Hadden Res.)
(*Hadden Outlet = Point of Disinfection*)

3.0 RAW AND TREATED WATER TURBIDITY

Turbidity for the Mission Creek source was measured at Booster Station No. 1 on Gallagher's Road, the first-customer, through June 2017. The highest turbidity recorded at this location was 0.98 NTU on June 3, 2017.

Figure 3.1 – Daily Turbidity Readings (Hadden Outlet and Booster Station 1)

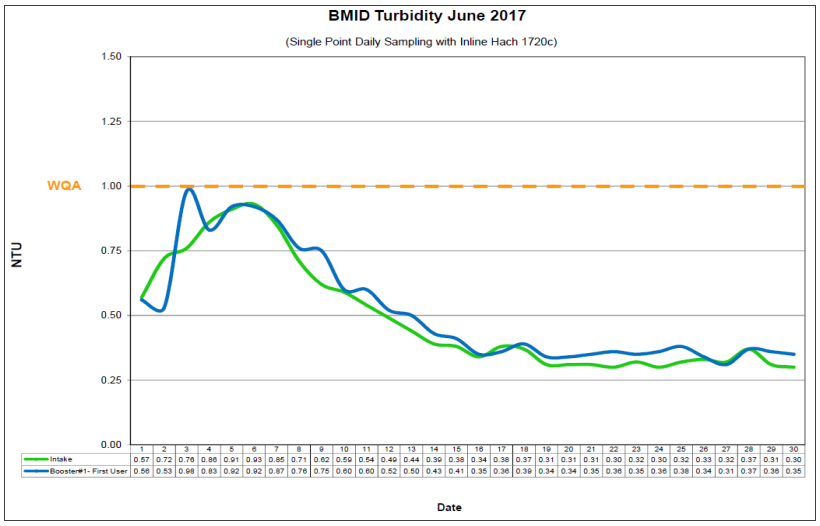

Table 3.2 - Daily Monitoring Record – Turbidity at Intake & Bst Stn 1

Turbidity Point Sampling for June 2017				
Date	Intake		Booster#1- First User	
	Sample Time	[NTU]	Sample Time	[NTU]
1	8:20 AM	0.57	7:48 AM	0.56
2	1:20 PM	0.72	12:45 PM	0.53
3	10:59 AM	0.76	10:02 AM	0.98
4	10:19 AM	0.86	9:52 AM	0.83
5	12:58 PM	0.91	11:47 AM	0.92
6	10:45 AM	0.93	9:18 AM	0.92
7	8:44 AM	0.85	8:11 AM	0.87
8	1:15 PM	0.71	11:22 AM	0.76
9	11:17 AM	0.62	10:44 AM	0.75
10	7:55 AM	0.59	7:30 AM	0.60
11	8:55 AM	0.54	8:30 AM	0.60
12	8:40 AM	0.49	7:58 AM	0.52
13	8:27 AM	0.44	7:43 AM	0.50
14	11:23 AM	0.39	10:02 AM	0.43
15	8:27 AM	0.38	7:50 AM	0.41
16	9:55 AM	0.34	11:07 AM	0.35
17	8:59 AM	0.38	8:45 AM	0.36
18	11:51 AM	0.37	11:25 AM	0.39
19	8:38 AM	0.31	7:54 AM	0.34
20	8:27 AM	0.31	7:46 AM	0.34
21	8:38 AM	0.31	7:56 AM	0.35
22	8:28 AM	0.30	7:51 AM	0.36
23	8:54 AM	0.32	7:58 AM	0.35
24	7:55 AM	0.30	7:30 AM	0.36
25	7:55 AM	0.32	7:30 AM	0.38
26	11:48 AM	0.33	10:42 AM	0.34
27	9:42 AM	0.32	9:17 AM	0.31
28	11:24 AM	0.37	9:20 AM	0.37
29	1:34 PM	0.31	1:00 PM	0.36
30	7:26 AM	0.30	6:57 AM	0.35
AVG		0.49		0.52

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 June, 2017.

Figure 4.1 - CT Trending – BMID Mission Creek Source – June 2017

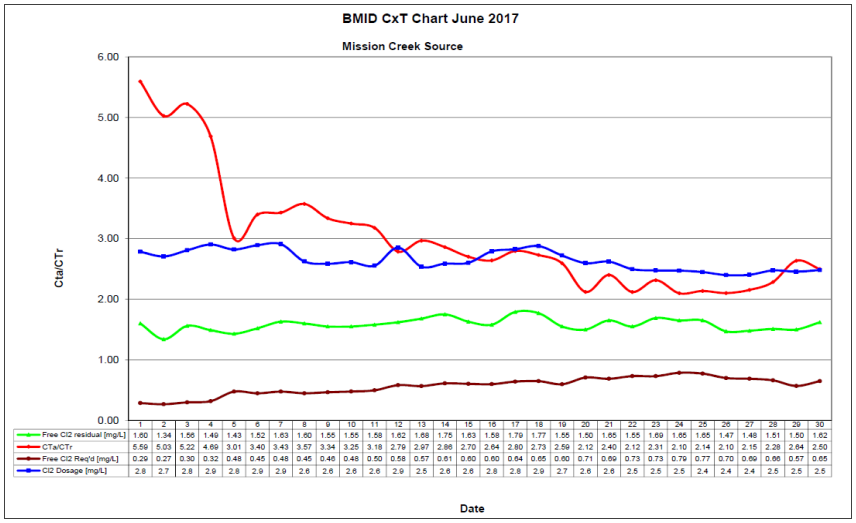

Table 4.2 - CT Table – Mission Creek Source

DATE	BMID June 2017 Mission Creek Source												
	pH (highest)	TEMP (lowest)	PEAK FLOW	Free Cl_2 residual	CT achieved	CT req'd	CTa/CTr	Free Cl_2 Req'd	Cl_2 Dosage	VOLUME TOTAL	TIME	FLOW PRESENT	CL_2 DOSAGE PRESENT
June		[°C]	[Usgpm]	[mg/L]				[mg/L]	[mg/L]	[USgal]	[mins]	[USGPM]	[PPD]
1	6.90	14.0	8609	1.60	492.4	88.0	5.59	0.29	2.8	2649600	308	7353	246
2	6.87	13.3	7944	1.34	446.9	88.9	5.03	0.27	2.7	2649600	334	5165	168
3	6.85	13.9	9139	1.56	452.3	86.6	5.22	0.30	2.8	2649600	290	4653	157
4	6.87	13.8	9646	1.49	409.3	87.3	4.69	0.32	2.9	2649600	275	5103	178
5	6.88	12.9	13589	1.43	278.8	92.7	3.01	0.48	2.8	2649600	195	8995	305
6	6.84	13.5	13420	1.52	300.1	88.3	3.40	0.45	2.9	2649600	197	10159	353
7	6.86	13.8	14289	1.63	302.2	88.1	3.43	0.48	2.9	2649600	185	10385	363
8	6.90	13.6	13109	1.60	323.4	90.5	3.57	0.45	2.6	2649600	202	10245	323
9	6.91	13.0	13057	1.55	314.5	94.3	3.34	0.46	2.6	2649600	203	10011	311
10	6.94	13.4	13624	1.55	301.4	92.8	3.25	0.48	2.6	2649600	194	9814	308
11	6.87	12.6	13764	1.58	304.2	95.7	3.18	0.50	2.6	2649600	193	11698	359
12	6.98	12.5	15261	1.62	281.3	101.0	2.79	0.58	2.9	2649600	174	9921	340
13	7.02	13.0	15067	1.68	295.4	99.6	2.97	0.57	2.5	2649600	176	11809	360
14	7.03	13.0	16121	1.75	287.6	100.6	2.86	0.61	2.6	2649600	164	14059	437
15	7.12	13.1	15634	1.63	276.2	102.2	2.70	0.60	2.6	2649600	169	15133	473
16	7.13	12.5	14888	1.58	281.2	106.5	2.64	0.60	2.8	2649600	178	11810	396
17	7.13	12.6	15742	1.79	301.3	107.8	2.80	0.64	2.8	2649600	168	13551	460
18	7.12	12.8	16258	1.77	288.5	105.7	2.73	0.65	2.9	2649600	163	14001	484
19	7.14	12.8	15166	1.55	270.8	104.4	2.59	0.60	2.7	2649600	175	12997	425
20	7.14	12.9	18164	1.50	218.8	103.2	2.12	0.71	2.6	2649600	146	12595	393
21	7.18	13.4	17743	1.65	246.4	102.6	2.40	0.69	2.6	2649600	149	16228	511
22	7.20	13.4	18918	1.55	217.1	102.4	2.12	0.73	2.5	2649600	140	15506	465
23	7.20	13.7	19041	1.69	235.2	101.6	2.31	0.73	2.5	2649600	139	17917	533
24	7.20	14.0	21004	1.65	208.1	99.2	2.10	0.79	2.5	2649600	126	16658	495
25	7.22	14.7	21504	1.65	203.3	95.2	2.14	0.77	2.4	2649600	123	20494	603
26	7.24	15.5	20786	1.47	187.4	89.2	2.10	0.70	2.4	2649600	127	19530	563
27	7.25	15.6	20468	1.48	191.6	89.0	2.15	0.69	2.4	2649600	129	17865	516
28	7.19	15.9	20499	1.51	195.2	85.5	2.28	0.66	2.5	2649600	129	17313	515
29	7.21	16.1	17778	1.50	223.6	84.8	2.64	0.57	2.5	2649600	149	16233	479
30	7.28	16.5	20065	1.62	213.9	85.7	2.50	0.65	2.5	2649600	132	16465	491
Averages	7.06	13.73	15677	1.583	284.949	95.3	3.02	0.566	2.6436				

5.0 WATER DISTRIBUTION SAMPLING (TREATED)

Third Party Analysis (CARO Analytical Services)

- Samples taken once per week at eight locations around the BMID service area
- 39samples were found to be absent of Coliforms.
- 40 samples were found to be absent of *E.Coli*.

Table 5.1 - CARO Independent Lab Testing – Total Coliforms – E.Coli

Date	PRV 7		Booster 1		Ellison Blow-Off		Ellison School		612 Adams Rd		Prospect Reservoir		Tower Reservoir		Well #5	
	Coliforms	E.coli	Coliforms	E.coli	Coliforms	E.coli	Coliforms	E.coli	Coliforms	E.coli	Coliforms	E.coli	Coliforms	E.coli	Coliforms	E.coli
3-May-17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-May-17	0	0	0	0	-	-	0	0	0	0	0	0	0	0	0	0
17-May-17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26-May-17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-Jun-17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7-Jun-17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15-Jun-17	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
22-Jun-17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28-Jun-17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

In-House Analysis (BMID Staff)

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

Table 5.2 - BMID In-house Testing – Presence Absence

Location	6/5/2017				6/13/2017				6/20/2017				6/26/2017			
	Cl2	Temp.	Pres.	Abs.	Cl2	Temp.	Pres.	Abs.	Cl2	Temp.	Pres.	Abs.	Cl2	Temp.	Pres.	Abs.
2670 Enterprise Way	1.13	19.8	-	X									1.19	20.2	-	X
#5 217 Franklin Rd					1.16	18.4	-	X								
2105 Morrison	1.14	18.6	-	X									1.29	22.2	-	X
654 Mayfair Ct									0.88	19.8	-	X				
800 Galbraith Ct					1.28	17.4	-	X								
1200 Belgo Rd					1.24	18.2	-	X								
PRV #10	1.25	15.8	-	X									1.32	18.2	-	X
260 Campion Rd									0.42	19.4	-	X				
2821 Fenwick Rd					0.30	19.4	-	X								
2931 Belgo Rd									1.30	19.2	-	X				

- BMID Population = 22,400

RECOMMENDED TESTS

- Recommended number of samples per month = 22

  (as per Guide for Canadian Drinking Water Quality)

ACTUAL TESTS

- Total tests by BMID staff (presence/absence) = 13
- Total tests sampled by BMID and tested by Caro Labs = 40
- Total tests sampled in BMID treated distribution system = 53 (One positive sample)