



## MONTHLY REPORTING PERIOD - JUNE, 2024

### SUMMARY

This document provides a summary of the water quality information collected by BMID in June 2024. Documentation and figures are provided on the following pages to support this submission.

### WATER SUPPLY & USAGE SUMMARY

1. Water usage data for June, 2024 is as follows:

Source	Total (US Gallons)	Total (Mega Litres)
Mission Creek	384,503,323	1,455.35
Well 4	3,821,219	14.46
Well 5	13,890,896	52.58
Well 6 (Irrigation Only)	8,956,992	33.90
Scotty Creek (Irrigation Only)	0	0.0
Total	411,172,431	1,556.29

2. The control gates for all of BMID's high-elevation reservoirs have not been opened throughout June as precipitation was adequate to maintain Mission Creek flows. The reservoirs will be opened after spring freshet 2024, to supplement flows in Mission Creek during the summer/fall;
3. BMID began the installation of remote-control gates for Belgo Reservoir. This project is to assist in maintaining constant downstream flows in Mission Creek and optimize storage held in reservoirs;
4. The Scotty Creek source was made ready for the upcoming irrigation season in the north-end of the system on May 14<sup>th</sup>, however, the system remained in stand-by mode for all of June and will resume usage when irrigation demands increase in the upcoming weeks;
5. Well #5, used as the primary water source in the north-end of the system for both irrigation and domestic consumption, resumed operations on April 22, 2024, as system flows increased for the spring. Well #5 operated periodically for most of June as dictated by system demand in the north-end;
6. Well #4, used as a primary source for domestic water in the north-end of the distribution system during low-flow periods, was in operation periodically from June 1<sup>st</sup> until June 21<sup>st</sup> when flow demands increased. Well #4 will remain in stand-by until flows reduce later in the fall;
7. Well #6, which supplies water to the north-end irrigation distribution system, resumed operation on May 6<sup>th</sup>. Well #6 is used during times of high irrigation demand, and ran intermittently throughout June 2024;
8. 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 continues to be monitored. It is currently stable and is not moving;

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## WATER QUALITY SUMMARY

1. BMID is investigating the use of Well #6 as a possible future potable water source. Initial potability testing took place on June 24<sup>th</sup> (results are available at the end of this report) to determine the suitability of the well for drinking water. Testing will continue for the next year to determine the quality of the source;
2. The WTP was in operation throughout June as Mission Creek experienced increased turbidity and colour in the raw water from spring freshet. The WTP will remain in operation until turbidity and colour levels in Mission Creek reduce in the late fall/early winter;
3. Raw water turbidity levels in Mission Creek peaked at 17.46 NTU on June 3<sup>rd</sup>. Average daily raw water turbidity for June was 2.72 NTU at the Mission Creek Intake;
4. The highest turbidity level at the Distribution Intake was 0.78 NTU on June 2<sup>nd</sup>, 2024. Average settled water turbidity for June was 0.38 NTU at the Distribution Intake at the lower end of Hadden Reservoir. The lowest daily recording was 0.24 NTU on June 23<sup>rd</sup> and June 25<sup>th</sup>;
5. The highest turbidity level at the first customer (Booster #1) was 0.39 NTU on June 13<sup>th</sup>. Average monthly turbidity at the first customer was 0.25 NTU, while the lowest daily average turbidity was 0.17 NTU on June 22<sup>nd</sup> and June 25<sup>th</sup>;
6. Average daily turbidity at the UV station peaked at 0.77 NTU on June 13<sup>th</sup>. The turbidity meter reads consistently higher at this location, however, the turbidity results upstream and downstream of the UV plant show consistently lower turbidity results. Average monthly turbidity at the UV disinfection station was 0.69 NTU;
7. BMID's Ultraviolet Treatment Facility treated 1,455,051 m<sup>3</sup> of water, 50 m<sup>3</sup> of which was Off-Spec (0.003%);
8. Regarding microbiological readings, BMID ceased withdrawing water from the upper elevation reservoirs in the fall of 2023. However, snowmelt and rainfall in the upper watershed has led to increased microbiological readings during the freshet period in spring 2024. As upper elevation water temperature increases for the summer, there is an expected increase in microbiological readings;
9. *E. Coli* levels at Mission Creek's Point-of-Diversion (creek intake prior to WTP) had normal counts for June. The June 17<sup>th</sup> sample had the peak count of 22 coliforms. The average monthly *E. Coli* was 10, based on 4 samples;
10. *E. Coli* levels in the raw water at the water distribution system intake at the east end of Hadden Reservoir, immediately prior to disinfection, had a peak count of 2 coliforms on June 24<sup>th</sup>. Reduction in *E. Coli* levels is due to the effectiveness of the Water Treatment Plant as well as the settling of particles as water passes through Stevens and Hadden Reservoirs;
11. No *E. Coli* or *Total Coliforms* were found in treated water in the distribution system through third-party analysis. In addition, zero positive samples were detected by BMID's in-house presence/absence testing throughout June;

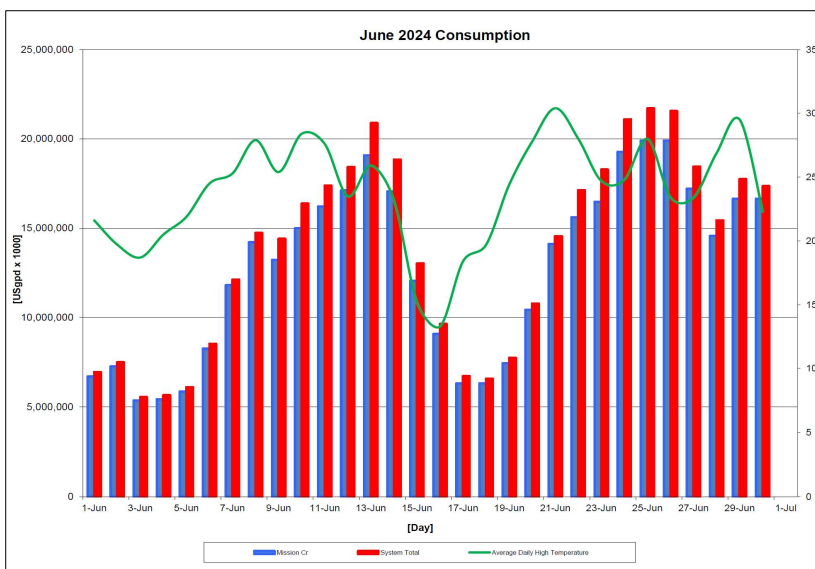
## 1.0 FLOWS - JUNE, 2024

The Maximum Daily Flow was on June 25<sup>th</sup>, at 21,702,009 US gallons (82.14 ML)

The Minimum Daily Flow was on June 3<sup>rd</sup>, at 5,543,965 US gallons (20.98 ML)

Mission Creek provided just under 96% of domestic and irrigation flow supplied in June.

**Figure 1.1 - Domestic Water System Flow**



**Table 1.2 - June 2024 - Daily Consumption Report**

Year	Mission Cr	Well #4	Well #5	Well #6	Scotty Crk	System Total	System Total
2024	Usgpd	Usgpd	Usgpd	Usgpd	Usgpd	Usgpd	ML/Day
1-Jun	6,688,809	255,452	0	0	-	6,944,261	26.28
2-Jun	7,256,567	236,960	0	0	-	7,493,528	28.36
3-Jun	5,356,404	187,561	0	0	-	5,543,965	20.98
4-Jun	5,430,320	217,676	0	0	-	5,647,996	21.38
5-Jun	5,850,459	238,281	0	0	-	6,088,740	23.05
6-Jun	8,247,054	280,549	0	0	-	8,527,602	32.28
7-Jun	11,815,040	305,381	3,875	0	-	12,124,296	45.89
8-Jun	14,211,212	384,632	137,345	0	-	14,733,188	55.77
9-Jun	13,215,257	405,765	780,599	0	-	14,401,621	54.51
10-Jun	14,988,300	133,142	849,748	409,200	-	16,380,390	62.00
11-Jun	16,209,039	0	825,077	346,368	-	17,380,484	65.79
12-Jun	17,121,040	0	788,085	507,936	-	18,417,061	69.71
13-Jun	19,073,984	0	864,692	947,496	-	20,886,172	79.05
14-Jun	17,057,718	0	826,258	955,944	-	18,839,920	71.31
15-Jun	12,052,213	0	615,965	353,760	-	13,021,939	49.29
16-Jun	9,078,297	0	560,212	0	-	9,638,509	36.48
17-Jun	6,315,507	96,158	302,631	0	-	6,714,296	25.41
18-Jun	6,312,443	262,585	0	0	-	6,575,028	24.89
19-Jun	7,431,026	265,227	39,483	0	-	7,735,736	29.28
20-Jun	10,429,167	342,628	0	0	-	10,771,796	40.77
21-Jun	14,108,264	209,223	190,900	38,016	-	14,546,403	55.06
22-Jun	15,615,524	0	823,867	692,472	-	17,131,863	64.84
23-Jun	16,472,498	0	847,349	964,128	-	18,283,975	69.20
24-Jun	19,274,993	0	851,895	970,200	-	21,097,088	79.85
25-Jun	19,903,458	0	845,510	953,040	-	21,702,009	82.14
26-Jun	19,904,092	0	833,829	813,648	-	21,551,569	81.57
27-Jun	17,216,750	0	760,963	469,656	-	18,447,368	69.82
28-Jun	14,567,395	0	718,756	156,552	-	15,442,703	58.45
29-Jun	16,649,995	0	778,422	317,064	-	17,745,481	67.17
30-Jun	16,650,497	0	645,436	61,512	-	17,357,445	65.70
Totals Usgpd	384,503,323	3,821,219	13,890,896	8,956,992	0	411,172,431	1,556.29
Totals ML	1,455.35	14.46	52.58	33.90	0.00		
Avg's	12,816,777	48.51				13,705,748	51.88
Max	19,904,092	75.34				21,702,009	82.14
Min	5,356,404	20.27				5,543,965	20.98

## 2.0 RAW WATER QUALITY - BACTERIOLOGICAL MONITORING

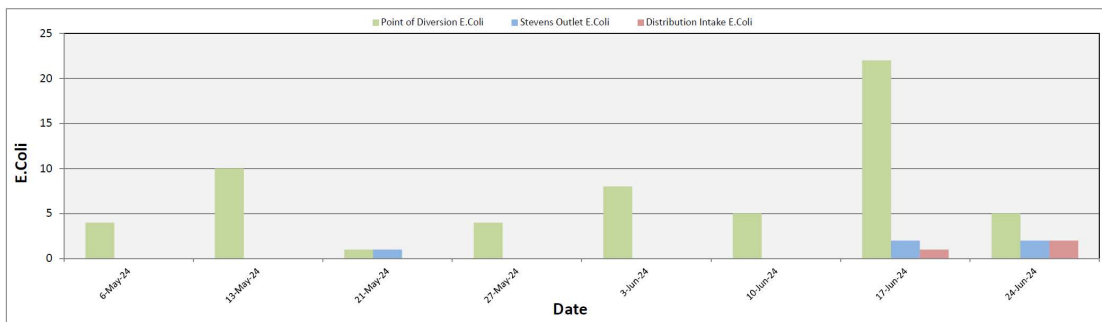
Raw water samples were taken at three points at BMID settling ponds before chlorination.

Samples were taken at the Distribution Intake's Point of Disinfection and at the Mission Creek raw water Point of Diversion and 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 control gates on BMID's high-elevation reservoirs were closed throughout June, resulting in a higher percentage of surface runoff and groundwater contributing to Mission Creek's flow.

**Figure 2.1 - Raw Water *E.Coli* Readings (CARO Lab results) May 2024 - June 2024**



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

Date	Point of Diversion E.Coli	Stevens Outlet E.Coli	Distribution Intake E.Coli
6-May-24	4	0	0
13-May-24	10	0	0
21-May-24	1	1	0
27-May-24	4	0	0
3-Jun-24	8	0	0
10-Jun-24	5	0	0
17-Jun-24	22	2	1
24-Jun-24	5	2	2

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

Stevens Outlet (Raw) - Sampling point after exiting 142,000 m<sup>3</sup> 1<sup>st</sup> upper balancing reservoir (Stevens Res.)

Hadden Outlet (Raw) - Sampling point after exiting 75,000 m<sup>3</sup> 2<sup>nd</sup> lower balancing reservoir (Hadden Res.)

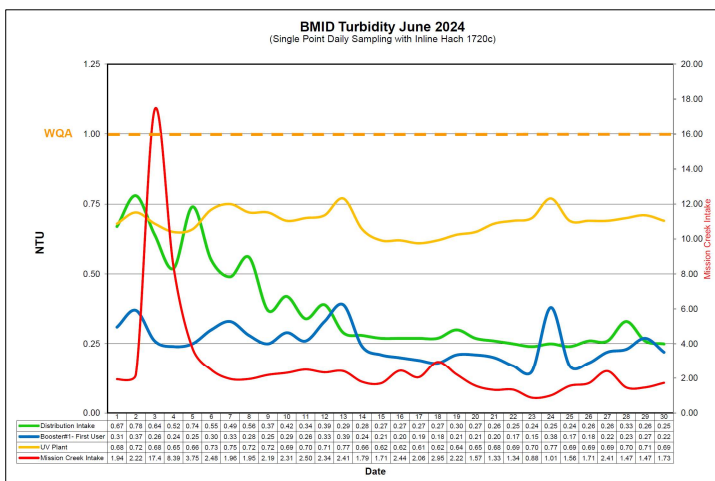
(Hadden Outlet = Distribution Intake - Point of Disinfection)

### 3.0 RAW AND TREATED WATER TURBIDITY

Through June 2024, 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 level recorded at this location was 0.39 NTU on June 13<sup>th</sup>, 2024. The lowest turbidity level was 0.15 NTU and the average turbidity was 0.25 NTU.

The distribution intake is where the water leaves Hadden Reservoir and enters a closed conduit. Turbidity levels are greatly reduced through the settling process as Mission Creek water makes its way through the reservoirs.

**Figure 3.1 – Daily Turbidity Readings (Mission Creek Raw - Distribution Intake - Booster Station 1 and UV Plant)**



**Table 3.1 - Daily Monitoring Record – Turbidity at On-Line Turbidity Analysers**

Turbidity Point Sampling for June 2024				
Date	Mission Creek Intake	Distribution Intake	Booster#1- First User	UV Plant
	Daily Average [NTU]	Daily Average [NTU]	Daily Average [NTU]	Daily Average [NTU]
1	1.94	0.67	0.31	0.68
2	2.22	0.78	0.37	0.72
3	17.40	0.64	0.26	0.68
4	8.39	0.52	0.24	0.65
5	3.75	0.74	0.25	0.66
6	2.48	0.55	0.30	0.73
7	1.96	0.49	0.33	0.75
8	1.95	0.56	0.28	0.72
9	2.19	0.37	0.25	0.72
10	2.31	0.42	0.29	0.69
11	2.50	0.34	0.26	0.70
12	2.34	0.39	0.33	0.71
13	2.41	0.29	0.39	0.77
14	1.79	0.28	0.24	0.66
15	1.71	0.27	0.21	0.62
16	2.44	0.27	0.20	0.62
17	2.06	0.27	0.19	0.61
18	2.95	0.27	0.18	0.62
19	2.22	0.30	0.21	0.64
20	1.57	0.27	0.21	0.65
21	1.33	0.26	0.20	0.68
22	1.34	0.25	0.17	0.69
23	0.88	0.24	0.15	0.70
24	1.01	0.25	0.38	0.77
25	1.56	0.24	0.17	0.69
26	1.71	0.26	0.18	0.69
27	2.41	0.26	0.22	0.69
28	1.47	0.33	0.23	0.70
29	1.47	0.26	0.27	0.71
30	1.73	0.25	0.22	0.69
AVG	2.72	0.38	0.25	0.69

### 4.0 CHLORINE CONTACT TIME

Temperature, pH, peak 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, 2024.

Figure 4.1 - CT Trending – BMID Mission Creek Source – June 2024

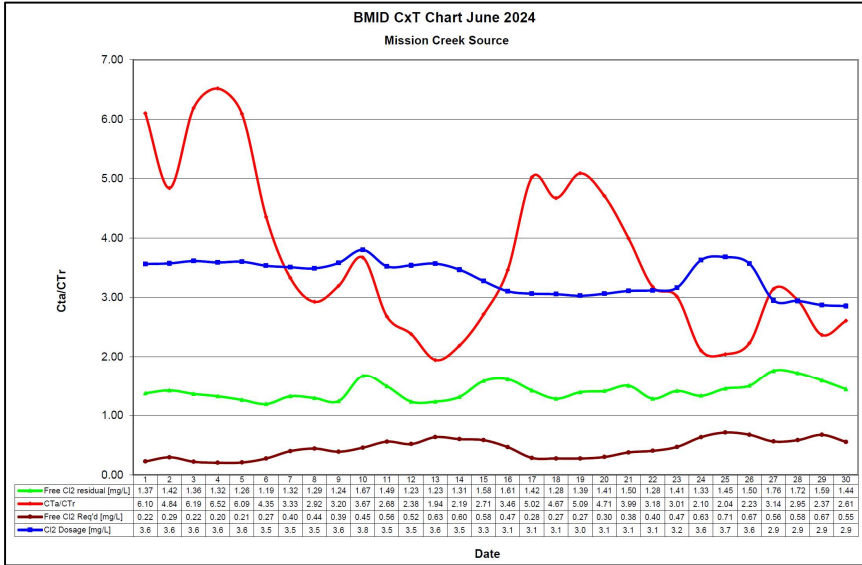


Table 4.2 - CT Table – Mission Creek Source

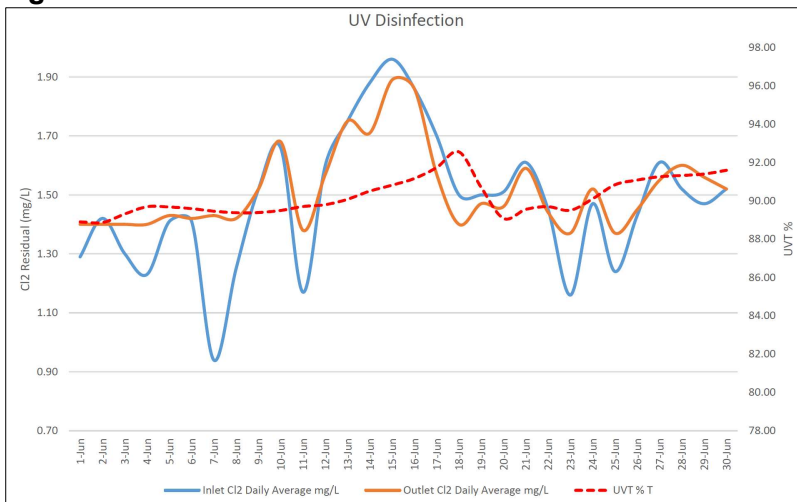
BMID June 2024														
Mission Creek Source														
DATE	pH (Average)	TEMP (Present) [°C]	PEAK FLOW [Usgpm]	Free Cl2 residual [mg/L]	CT achieved	CT req'd	CTa/CTR	Free Cl2 Req'd [mg/L]	Cl2 Dosage [mg/L]	VOLUME TOTAL [USgal]	TIME [mins]	FLOW Daily Average [USGPM]	CL2 DOSAGE Average [PPD]	
June														
1	6.86	13.8	6,933	1.37	523.6	85.9	6.10	0.22	3.6	2649600	382	4,753	204	
2	7.00	14.3	8,830	1.42	426.1	88.0	4.84	0.29	3.6	2649600	300	5,129	220	
3	6.97	13.4	6,328	1.36	569.4	92.0	6.19	0.22	3.6	2649600	419	3,794	165	
4	6.97	13.2	5,777	1.32	605.4	92.9	6.52	0.20	3.6	2649600	459	3,865	167	
5	7.00	13.1	5,835	1.26	572.2	94.0	6.09	0.21	3.6	2649600	454	4,133	179	
6	7.04	13.6	7,923	1.19	398.0	91.4	4.35	0.27	3.5	2649600	334	5,851	248	
7	7.07	13.6	11,193	1.32	312.5	93.9	3.33	0.40	3.5	2649600	237	8,357	352	
8	7.09	14.1	12,833	1.29	266.3	91.1	2.92	0.44	3.5	2649600	206	10,090	423	
9	7.17	14.7	11,489	1.24	286.0	89.5	3.20	0.39	3.6	2649600	231	9,373	403	
10	7.22	15.2	13,084	1.67	338.2	92.1	3.67	0.45	3.8	2649600	203	10,628	485	
11	7.42	15.0	14,930	1.49	264.4	98.8	2.68	0.56	3.5	2649600	177	11,493	487	
12	7.55	15.1	13,698	1.23	237.9	99.9	2.38	0.52	3.5	2649600	193	12,137	516	
13	7.64	15.0	16,143	1.23	201.9	103.9	1.94	0.63	3.6	2649600	164	13,502	579	
14	7.68	14.7	14,619	1.31	237.4	108.6	2.19	0.60	3.5	2649600	181	12,085	503	
15	7.62	14.1	13,532	1.58	309.4	114.0	2.71	0.58	3.3	2649600	196	8,533	336	
16	7.52	13.7	10,867	1.61	392.5	113.4	3.46	0.47	3.1	2649600	244	6,433	240	
17	7.44	13.7	6,930	1.42	542.9	108.1	5.02	0.28	3.1	2649600	382	4,467	164	
18	7.33	14.1	7,298	1.28	464.7	99.5	4.67	0.27	3.1	2649600	363	4,472	164	
19	7.34	14.4	7,310	1.39	503.9	99.0	5.09	0.27	3.0	2649600	362	5,256	191	
20	7.01	14.8	9,307	1.41	401.4	85.3	4.71	0.30	3.1	2649600	285	7,388	272	
21	6.95	15.5	12,425	1.50	319.9	80.1	3.99	0.38	3.1	2649600	213	9,990	373	
22	7.01	15.2	13,061	1.28	259.7	81.7	3.18	0.40	3.1	2649600	203	11,073	415	
23	7.27	15.6	13,932	1.41	268.2	89.0	3.01	0.47	3.2	2649600	190	11,679	444	
24	7.61	15.9	17,147	1.33	205.5	97.7	2.10	0.63	3.6	2649600	155	13,663	596	
25	7.95	15.9	16,919	1.45	227.1	111.3	2.04	0.71	3.7	2649600	157	14,104	624	
26	7.97	15.7	15,615	1.50	254.5	114.2	2.23	0.67	3.6	2649600	170	12,193	523	
27	7.91	15.5	12,773	1.76	365.1	116.2	3.14	0.56	2.9	2649600	207	9,475	336	
28	8.14	15.8	12,605	1.72	361.6	122.5	2.95	0.58	2.9	2649600	210	10,290	364	
29	8.22	16.1	14,619	1.59	288.2	121.8	2.37	0.67	2.9	2649600	181	11,804	407	
30	8.02	16.2	13,124	1.44	290.7	111.5	2.61	0.55	2.9	2649600	202	8,181	281	
Averages	7.60	19.30	17,452	1.34	356.48	99.6	3.66	0.44	3.34675	2649600	255	15,205	611	

## 5.0 ULTRAVIOLET DISINFECTION

Total Water Treated:	1,455,051.4 m <sup>3</sup>	100.00%
On-Spec Water:	1,455,001.7 m <sup>3</sup>	99.997%
Off-Spec Water:	49.7 m <sup>3</sup>	0.003%

Average monthly chlorine residual before UV Treatment was 1.48 mg/L  
The average monthly chlorine residual after UV treatment and re-chlorination was 1.52 mg/L.

**Figure 5.1 - UV Disinfection – BMID Mission Creek Source – June 2024**



**Table 5.2 - UV Disinfection Table – Mission Creek Source**

	Inlet Cl2 Daily	Outlet Cl2 Daily	UVT	Turbidity		In Spec Water Volume	Off Spec Water	Off Spec % of Water
Date	mg/L	mg/L	% T	NTU		Cubic Meters	Cubic Meters	Percentage
1-Jun	1.29	1.40	88.90	0.68		25,319.9	0	0.00%
2-Jun	1.42	1.40	88.87	0.72		27,469.1	0	0.00%
3-Jun	1.30	1.40	89.31	0.68		20,276.2	0	0.00%
4-Jun	1.23	1.40	89.69	0.65		20,556.0	0	0.00%
5-Jun	1.41	1.43	89.68	0.66		22,146.4	0	0.00%
6-Jun	1.41	1.42	89.59	0.73		31,218.5	0	0.00%
7-Jun	0.94	1.43	89.46	0.75		44,724.8	0	0.00%
8-Jun	1.25	1.42	89.38	0.72		53,795.3	0	0.00%
9-Jun	1.52	1.52	89.39	0.72		50,025.2	0	0.00%
10-Jun	1.66	1.68	89.50	0.69		56,736.9	0	0.00%
11-Jun	1.17	1.38	89.70	0.70		61,357.9	0	0.00%
12-Jun	1.60	1.57	89.80	0.71		64,810.2	0	0.00%
13-Jun	1.75	1.75	90.08	0.77		72,030.8	0	0.00%
14-Jun	1.88	1.71	90.51	0.66		64,561.9	0	0.00%
15-Jun	1.96	1.89	90.82	0.62		45,575.3	47.3	0.10%
16-Jun	1.86	1.86	91.17	0.62		34,362.7	2.4	0.01%
17-Jun	1.70	1.57	91.74	0.61		23,906.8	0	0.00%
18-Jun	1.50	1.40	92.55	0.62		23,895.2	0	0.00%
19-Jun	1.50	1.47	90.69	0.64		28,065.7	0	0.00%
20-Jun	1.51	1.46	89.08	0.65		39,475.5	0	0.00%
21-Jun	1.61	1.59	89.55	0.68		53,405.6	0	0.00%
22-Jun	1.45	1.44	89.69	0.69		59,111.2	0	0.00%
23-Jun	1.16	1.37	89.51	0.70		62,355.2	0	0.00%
24-Jun	1.47	1.52	90.11	0.77		72,963.8	0	0.00%
25-Jun	1.24	1.37	90.84	0.69		75,342.8	0	0.00%
26-Jun	1.43	1.45	91.08	0.69		75,345.2	0	0.00%
27-Jun	1.61	1.55	91.26	0.69		65,070.2	0	0.00%
28-Jun	1.52	1.60	91.32	0.70		55,041.3	0	0.00%
29-Jun	1.47	1.56	91.40	0.71		63,027.1	0	0.00%
30-Jun	1.52	1.52	91.59	0.69		63,029.0	0	0.00%
Average	1.48	1.52	90.10		Total	1,455,001.70	49.7	0.003%

## 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
- 23 samples were found to be absent of Coliforms.
- 23 samples were found to be absent of *E. Coli*.

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

Date	2921 Belgio Rd		Booster 1		Elison Blow-Off		Elison School		3976 Highway 97		Prospect Reservoir		Tower Reservoir		Well #5		Well #4		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	Coliforms	E.coli
6-May-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-May-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21-May-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27-May-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3-Jun-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-Jun-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17-Jun-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24-Jun-24	0	0	0	0	0	0	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 seven sites around the BMID service area.
- All 9 samples were found to be absent of both *Total Coliforms* and *E. Coli*.

**Table 6.2 - BMID In-house Testing – Presence Absence**

Location	6/3/2024				6/10/2024				6/17/2024				6/24/2024			
	Cl2	Temp.	Pres.	Abs.	Cl2	Temp.	Pres.	Abs.	Cl2	Temp.	Pres.	Abs.	Cl2	Temp.	Pres.	Abs.
Sylvania Cres									0.99	17.4	-	X				
170 Kneller Rd									0.96	18.0	-	X				
2105 Morrison	1.15	16.4	-	X									1.38	16.4	-	X
Staymen Rd	0.84	14.6	-	X									1.09	18.4	-	X
260 Campion Rd					0.62	17.6	-	X								
Fenwick Rd					0.42	16.4	-	X								
Solly Ct									1.08	17.4	-	X				

## 7.0 WELL #6 POTENTIAL POTABILITY TESTING

- BMID has begun exploring the potential potability of Well #6 as a domestic water source (currently used for irrigation only) in the future.
- Well #6 was sampled on June 24<sup>th</sup> for the following items:
  - Microbiological parameters
  - Anions, Calculated parameters, General parameters
  - Pesticides, Herbicides and Fungicides
  - Total Metals
- A copy of CARO's results will be included at the end of this report.

- BMID Population = 28,000

### RECOMMENDED TESTS

- Recommended number of samples per month = 28

(as per Guide for Canadian Drinking Water Quality)

### ACTUAL TESTS

- Total tests by BMID staff (presence/absence) = 9
- Total tests sampled by BMID and tested by Caro Labs 23
- Total tests sampled in BMID treated distribution system = 32
- 0 Positive *E. Coli* and Total Coliform Samples





## CERTIFICATE OF ANALYSIS

<b>REPORTED TO</b>	Black Mountain Irrigation District 285 Gray Avenue KELOWNA, BC V1X 1W8	<b>WORK ORDER</b>	24F2961
<b>ATTENTION</b>	Robert Hrasko	<b>RECEIVED / TEMP</b>	2024-06-24 12:28 / 13.0°C
<b>PO NUMBER</b>		<b>REPORTED</b>	2024-07-05 15:38
<b>PROJECT</b>	Screen Works/ Chemistry	<b>COC NUMBER</b>	No Number
<b>PROJECT INFO</b>			

### Introduction:

CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients' projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO/IEC 17025:2017 for specific tests listed in the scope of accreditation approved by CALA.

#### Big Picture Sidekicks



You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

#### We've Got Chemistry



It's simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

#### Ahead of the Curve



Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

By engaging our services, you are agreeing to CARO Analytical Service's Standard Terms and Conditions outlined here: <https://www.caro.ca/terms-conditions>

If you have any questions or concerns, please contact me at [bwhitehead@caro.ca](mailto:bwhitehead@caro.ca)

#### Authorized By:

Brent Whitehead  
Account Manager

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## TEST RESULTS

**REPORTED TO PROJECT** Black Mountain Irrigation District  
Screen Works/ Chemistry

**WORK ORDER REPORTED** 24F2961  
2024-07-05 15:38

Analyte	Result	RL	Units	Analyzed	Qualifier
<b>Screenworks (24F2961-01)   Matrix: Water   Sampled: 2024-06-24 10:57</b>					
<i>Field Parameters</i>					
Chlorine, Free	1.53	0.02	mg/L	2024-06-24	
Temperature, field	15.4		°C	2024-06-24	
<i>General Parameters</i>					
Alkalinity, Total (as CaCO3)	23.9	1.0	mg/L	2024-06-27	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2024-06-27	
Alkalinity, Bicarbonate (as CaCO3)	23.9	1.0	mg/L	2024-06-27	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2024-06-27	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2024-06-27	
Colour, True	< 5.0	5.0	CU	2024-06-27	
Conductivity (EC)	80.1	2.0	µS/cm	2024-06-27	
pH	7.30	0.10	pH units	2024-06-27	HT2
Turbidity	0.25	0.10	NTU	2024-06-25	
UV Transmittance @ 254nm	91.9	0.10	% T	2024-06-25	

**Well #6 (24F2961-02) | Matrix: Water | Sampled: 2024-06-24 09:04**

<i>Anions</i>					
Chloride	6.15	0.10	mg/L	2024-06-25	
Fluoride	0.13	0.10	mg/L	2024-06-25	
Nitrate (as N)	0.918	0.010	mg/L	2024-06-25	
Nitrite (as N)	< 0.010	0.010	mg/L	2024-06-25	
Sulfate	22.5	1.0	mg/L	2024-06-25	
<i>Calculated Parameters</i>					
Hardness, Total (as CaCO3)	219	0.500	mg/L	N/A	
Langelier Index	-0.1	-5.0		2024-06-28	CT10
Solids, Total Dissolved	236	1.00	mg/L	N/A	
<i>Field Parameters</i>					
Chlorine, Free	< 0.02	0.02	mg/L	2024-06-24	
Temperature, field	11.5		°C	2024-06-24	
<i>General Parameters</i>					
Alkalinity, Total (as CaCO3)	185	1.0	mg/L	2024-06-27	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2024-06-27	
Alkalinity, Bicarbonate (as CaCO3)	185	1.0	mg/L	2024-06-27	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2024-06-27	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2024-06-27	
Colour, True	< 5.0	5.0	CU	2024-06-27	
Conductivity (EC)	440	2.0	µS/cm	2024-06-27	
Cyanide, Total	< 0.0020	0.0020	mg/L	2024-06-29	
pH	7.56	0.10	pH units	2024-06-27	HT2
Temperature, at pH	21.6		°C	2024-06-27	HT2



## TEST RESULTS

**REPORTED TO PROJECT** Black Mountain Irrigation District  
Screen Works/ Chemistry

**WORK ORDER REPORTED** 24F2961  
2024-07-05 15:38

Analyte	Result	RL	Units	Analyzed	Qualifier
<b>Well #6 (24F2961-02)   Matrix: Water   Sampled: 2024-06-24 09:04, Continued</b>					
<i>General Parameters, Continued</i>					
Turbidity	< 0.10	0.10	NTU	2024-06-25	
<i>Pesticides, Herbicides, and Fungicides</i>					
Alachlor	< 0.100	0.100	µg/L	2024-07-05	
Aldrin	< 0.006	0.006	µg/L	2024-07-05	
Atrazine and metabolites	< 0.100	0.100	µg/L	2024-07-05	
Azinphos-methyl	< 0.200	0.200	µg/L	2024-07-05	
alpha-BHC	< 0.010	0.010	µg/L	2024-07-05	
beta-BHC	< 0.050	0.050	µg/L	2024-07-05	
delta-BHC	< 0.050	0.050	µg/L	2024-07-05	
gamma-BHC (Lindane)	< 0.050	0.050	µg/L	2024-07-05	
Bromacil	< 0.100	0.100	µg/L	2024-07-05	
Bromoxynil	< 0.200	0.200	µg/L	2024-07-05	
Butachlor	< 0.020	0.020	µg/L	2024-07-05	
Captan	< 0.100	0.100	µg/L	2024-07-05	
Chlordane (cis + trans)	< 0.050	0.050	µg/L	2024-07-05	
Chlorothalonil	< 0.050	0.050	µg/L	2024-07-05	
Chlorpyrifos	< 0.010	0.010	µg/L	2024-07-05	
Cyanazine	< 0.100	0.100	µg/L	2024-07-05	
DDT, Total	< 0.010	0.010	µg/L	2024-07-05	
Deltamethrin	< 0.100	0.100	µg/L	2024-07-05	
Diazinon	< 0.020	0.020	µg/L	2024-07-05	
Dichlorvos	< 0.100	0.100	µg/L	2024-07-05	
Diclofop-methyl	< 0.100	0.100	µg/L	2024-07-05	
Dieldrin	< 0.010	0.010	µg/L	2024-07-05	
Dimethoate	< 0.200	0.200	µg/L	2024-07-05	
Disulfoton	< 0.100	0.100	µg/L	2024-07-05	
Diuron	< 0.200	0.200	µg/L	2024-07-05	
Endosulfan I + II	< 0.010	0.010	µg/L	2024-07-05	
Endosulfan sulfate	< 0.050	0.050	µg/L	2024-07-05	
Endrin	< 0.020	0.020	µg/L	2024-07-05	
Endrin aldehyde	< 0.020	0.020	µg/L	2024-07-05	
Endrin ketone	< 0.020	0.020	µg/L	2024-07-05	
Fenchlorphos (Ronnel)	< 0.100	0.100	µg/L	2024-07-05	
Heptachlor	< 0.010	0.010	µg/L	2024-07-05	
Heptachlor epoxide	< 0.010	0.010	µg/L	2024-07-05	
Linuron	< 0.050	0.050	µg/L	2024-07-05	
Malathion	< 0.100	0.100	µg/L	2024-07-05	
Methoxychlor	< 0.050	0.050	µg/L	2024-07-05	
Methyl parathion	< 0.100	0.100	µg/L	2024-07-05	
Metolachlor	< 0.100	0.100	µg/L	2024-07-05	
Metribuzin	< 0.200	0.200	µg/L	2024-07-05	
Parathion	< 0.100	0.100	µg/L	2024-07-05	



### TEST RESULTS

**REPORTED TO PROJECT** Black Mountain Irrigation District  
Screen Works/ Chemistry

**WORK ORDER REPORTED** 24F2961  
2024-07-05 15:38

Analyte	Result	RL	Units	Analyzed	Qualifier
<b>Well #6 (24F2961-02)   Matrix: Water   Sampled: 2024-06-24 09:04, Continued</b>					
<i>Pesticides, Herbicides, and Fungicides, Continued</i>					
Pentachloronitrobenzene	< 0.100	0.100	µg/L	2024-07-05	
Permethrin	< 0.010	0.010	µg/L	2024-07-05	
Phorate	< 0.100	0.100	µg/L	2024-07-05	
Prometon	< 0.300	0.300	µg/L	2024-07-05	
Prometryne	< 0.100	0.100	µg/L	2024-07-05	
Simazine	< 0.200	0.200	µg/L	2024-07-05	
Sulfotep	< 0.100	0.100	µg/L	2024-07-05	
Tebuthiuron	< 0.200	0.200	µg/L	2024-07-05	
Temephos (Abate)	< 0.500	0.500	µg/L	2024-07-05	
Terbufos	< 0.100	0.100	µg/L	2024-07-05	
Triallate	< 0.100	0.100	µg/L	2024-07-05	
Trifluralin	< 0.200	0.200	µg/L	2024-07-05	
Surrogate: Tributyl Phosphate	83	50-140	%	2024-07-05	
Surrogate: 4-chloro-3-nitrobenzotrifluoride	69	50-140	%	2024-07-05	
<i>Total Metals</i>					
Aluminum, total	< 0.0050	0.0050	mg/L	2024-06-26	
Antimony, total	< 0.00020	0.00020	mg/L	2024-06-26	
Arsenic, total	< 0.00050	0.00050	mg/L	2024-06-26	
Barium, total	<b>0.0138</b>	0.0050	mg/L	2024-06-26	
Boron, total	< 0.0500	0.0500	mg/L	2024-06-26	
Cadmium, total	< 0.000010	0.000010	mg/L	2024-06-26	
Calcium, total	<b>67.2</b>	0.20	mg/L	2024-06-26	
Chromium, total	< 0.00050	0.00050	mg/L	2024-06-26	
Cobalt, total	< 0.00010	0.00010	mg/L	2024-06-26	
Copper, total	< 0.00040	0.00040	mg/L	2024-06-26	
Iron, total	< 0.010	0.010	mg/L	2024-06-26	
Lead, total	< 0.00020	0.00020	mg/L	2024-06-26	
Magnesium, total	<b>12.3</b>	0.010	mg/L	2024-06-26	
Manganese, total	<b>0.0060</b>	0.00020	mg/L	2024-06-26	
Mercury, total	< 0.000010	0.000010	mg/L	2024-06-27	
Molybdenum, total	<b>0.00158</b>	0.00010	mg/L	2024-06-26	
Nickel, total	< 0.00040	0.00040	mg/L	2024-06-26	
Potassium, total	<b>1.84</b>	0.10	mg/L	2024-06-26	
Selenium, total	<b>0.0087</b>	0.00050	mg/L	2024-06-26	
Sodium, total	<b>9.33</b>	0.10	mg/L	2024-06-26	
Strontium, total	<b>0.276</b>	0.0010	mg/L	2024-06-26	
Uranium, total	<b>0.000802</b>	0.000020	mg/L	2024-06-26	
Zinc, total	< 0.0040	0.0040	mg/L	2024-06-26	