

## Greater Vernon Water (GVW) Water Quality Report for February 2026

The following is the water quality summary for the Greater Vernon Water (GVW) utility.

### 1. Potable Sources

GVW has two sources that are routinely used for potable water. The two sources are Duteau Creek and Kalamalka Lake. Raw (untreated) water samples are taken at the intakes of Duteau Creek and Kalamalka Lake once per week. Two additional groundwater sources, Antwerp Deep Well and Ranch Well 3, may also be used in emergency situations or when there is additional demand to the system. Tables 1 and 2 summarize the results for bacteria and turbidity for the potable water sources in use.

**Table 1 Duteau Creek Intake**

Parameter	Laboratory		# of Samples	# of Deviations	Min	Max	Average <sup>4</sup>
<b>E.coli<sup>2</sup></b>	RDNO Lab	MPN/100 mL	8 <sup>5</sup>	-----	<1	4.1	1.7
<b>Total Coliform</b>	RDNO Lab	MPN/100 mL	8 <sup>5</sup>	-----	30.9	45.5	37.2
<b>Turbidity</b>	Operator Grab Samples	NTU	4	-----	0.92	1.65	1.35
<b>Turbidity</b>	SCADA <sup>1</sup> Daily Average <sup>3</sup>	NTU	28 Days	-----	0.66	0.87	0.73

<sup>1</sup>SCADA: Supervisory Control and Data Acquisition.

<sup>2</sup>Drinking Water Treatment Objectives (Microbiological) for Surface Water Supplies in British Columbia (Sec 4.3): The number of E. coli in raw water samples should not exceed 20/100 mL in at least 90% of the weekly samples from the previous six months.

<sup>3</sup>SCADA data for this online analyzer is a 24 hour average of readings taken every 10 minutes

<sup>4</sup>Non detect values are used at ½ the reporting limit for average calculations.

<sup>5</sup>Each sample includes at least one duplicate sample taken for quality assurance purposes.

**Table 2 Kalamalka Lake Intake**

Parameter	Laboratory		# of Samples	# of Deviations	Min	Max	Average <sup>4</sup>
E.coli <sup>2</sup>	RDNO Lab	MPN/100 mL	8 <sup>5</sup>	-----	<1	4.1	1.9
Total Coliform	RDNO Lab	MPN/100 mL	8 <sup>5</sup>	-----	<1	26.2	7.1
Turbidity	Operator Grab Samples	NTU	4	-----	0.36	0.59	0.50
Turbidity	SCADA <sup>1</sup> Average <sup>3</sup>	NTU	28 Days	-----	0.23	0.74	0.30

<sup>1</sup>SCADA: Supervisory Control and Data Acquisition.

<sup>2</sup>Drinking Water Treatment Objectives (Microbiological) for Surface Water Supplies in British Columbia (Sec 4.3): The number of E. coli in raw water samples should not exceed 20/100 mL in at least 90% of the weekly samples from the previous six months.

<sup>3</sup>SCADA data for this online analyzer is a 24 hour average with readings taken every 15 seconds.

<sup>4</sup>Non detect values are used at ½ the reporting limit for average calculations.

<sup>5</sup>Each sample includes at least one duplicate sample taken for quality assurance purposes.

## 2. Agriculture/ Irrigation Sources

The sources used for irrigation supply include Duteau Creek, King Edward/Deer Creek, Goose Lake, Coldstream Ranch Well #2 and Well #3. Table 3 summarizes the daily flows for each irrigation system.

Duteau Creek is separated into a potable water system and a non-chlorinated, non-potable water system, the latter of which is used exclusively for irrigation purposes. The other sources are separated from the potable system and are not chlorinated.

The irrigation season is from April 15 to September 15. Irrigation water used during the off season is used mainly for livestock watering. This water comes from Ranch Well #2, Ranch Well #3, King Edward and Duteau Creek.

**Table 3 Irrigation Volumes for Irrigation Sources over the Month**

Irrigation Sources	DCWTP	Well 3	Well 2	King Edward
Min (ML/Day)	0.00	0.00	0.00	0.00
Max (ML/Day)	0.00	0.04	0.04	0.00
Average (ML/Day)	0.00	0.00	0.00	0.00
Monthly Total (ML)	0.00	0.04	0.04	0.00

### 3. Treatment Plants

GVW has two treatment plants: Duteau Creek Water Treatment Plant (DCWTP) and Mission Hill Water Treatment Plant (MHWTP). At the DCWTP, water is treated with a coagulant and mixed to create a floc before Dissolved Air Flotation (DAF) achieves clarification. Chlorine is added after clarification to ensure contact time for the removal of viruses, followed by Ultra-violet (UV) disinfection. Finally, an additional dose of chlorine is added before entering the distribution system to maintain residual chlorine throughout the system. MHWTP contains dual disinfection which includes UV and chlorine.

Tables 4 and 6 summarize results for chlorine, bacteria, turbidity, and UV Transmittance (UVT). Table 5 summarizes the log removal of viruses at the DCWTP.

**Table 4 Duteau Creek Water Treatment Plant Reservoir**

Parameter	Laboratory	Units	# of Samples	# of Deviations	Min	Max	Average <sup>4</sup>
<b>Free Chlorine<sup>2</sup></b>	SCADA <sup>1</sup> Daily Average	mg/L	28 Days	-----	1.88	2.09	1.93
<b>E.coli</b>	RDNO Lab	MPN/100 mL	4	-----	<1	<1	<1
<b>Total Coliform</b>	RDNO Lab	MPN/100 mL	4	-----	<1	<1	<1
<b>Turbidity<sup>2</sup></b>	SCADA <sup>1</sup> Daily Average	NTU	28 Days	-----	0.11	0.18	0.13
<b>Pre UVT<sup>3</sup></b>	SCADA <sup>1</sup> Daily Average	%	28 Days	-----	87.06	88.88	87.70

<sup>1</sup>SCADA: Supervisory Control and Data Acquisition.

<sup>2</sup>Operation Guideline: As outlined in Deviation Response Plan, free chlorine >1.0 mg/L, turbidity <1.0 NTU.

<sup>3</sup>UVT is monitored pre-UV treatment which is used to determine UV dosage.

<sup>4</sup>Non detect values are used at ½ the reporting limit for average calculations.

This month, 0 m<sup>3</sup> of off-spec water occurred at DCWTP.

**Table 5 DCWTP – Log Removal of Viruses**

<b>Log Removal of Viruses<sup>1</sup></b>	
<b>Days Monitored</b>	28 Days
<b>Days 4-Log Inactivation Achieved</b>	28Days

<sup>1</sup>4-log virus removal logged by the minute on SCADA.

**Table 6 Mission Hill Water Treatment Plant**

Parameter	Laboratory	Units	# of Samples	# of Deviations	Min	Max	Average <sup>3</sup>
<b>Free Chlorine</b>	SCADA <sup>1</sup> Daily Average	mg/L	28 Days	-----	1.96	2.01	2.00
<b>E.coli</b>	RDNO Lab	MPN/100 mL	4	-----	<1	<1	<1
<b>Total Coliform</b>	RDNO Lab	MPN/100 mL	4	-----	<1	<1	<1
<b>Turbidity<sup>2</sup></b>	SCADA <sup>1</sup> Daily Average	NTU	28 Days	-----	0.11	0.18	0.13
<b>Pre UVT</b>	SCADA <sup>1</sup> Daily Average	%	28 Days	-----	92.19	92.54	92.36

<sup>1</sup>SCADA: Supervisory Control and Data Acquisition.

<sup>2</sup>Operation Guideline: As outlined in Deviation Response Plan, free chlorine >0.8 mg/L, turbidity <3.0 NTU.

<sup>3</sup>Non detect values are used at ½ the reporting limit for average calculations.

<sup>4</sup>Turbidity increase in MHWTP due to Marl in Kalamalka Lake during summer months. Marl is now ending and turbidity is starting to return to normal.

This month, no off-spec water occurred at MHWTP.

#### 4. Distribution

While the domestic GVW system has areas that are normally served by either of the two main sources (DCWTP or MHWTP), the system is interconnected with the ability to move water from each source to various parts of the system. The distribution areas from either source may change depending on water demands, source water availability or water quality, and is therefore considered a combined system for the purposes of data reporting. GVW has approximately 23,000 service connections. When possible, water source change notices may be put out to advise customers of a change.

Table 7 summarizes the daily flow for each distribution system. The Duteau and Kalamalka systems have many locations where they can be interconnected. This means there are areas where there is a blend of water quality and can be identified by the conductivity of the water.

**Table 7 Volumes for GVW Distribution Systems over the Month**

Volumes	DCWTP	MHWTP
<b>Min (ML/Day)</b>	5.50	10.46
<b>Max (ML/Day)</b>	11.70	14.72
<b>Average (ML/Day)</b>	9.48	11.79
<b>Monthly Total (ML)</b>	165.40	330.15

Table 8 summarizes results for chlorine, bacteria, and turbidity for the combined distribution system which includes both the Duteau distribution system and the Kalamalka distribution system. These results are from grab samples taken weekly at designated spots within the distribution system.

**Table 8 Duteau and Kalamalka Distribution**

Parameter	Laboratory		# of Samples	# of Deviations	Min	Max	Average <sup>2</sup>
Free Chlorine <sup>1</sup>	Operator Grab Samples	mg/L	104	-----	0.32	1.89	1.07
Total Chlorine	Operator Grab Samples	mg/L	104	-----	0.51	2.17	1.31
E.coli	RDNO Lab	MPN/100 mL	113 <sup>3</sup>	-----	<1	<1	<1
E.coli	CARO	CFU/100 mL	1	-----	<1	<1	<1
Total Coliform	RDNO Lab	MPN/100 mL	113 <sup>3</sup>	-----	<1	<1	<1
E.coli	CARO	CFU/100 mL	1	-----	<1	<1	<1
Turbidity <sup>1</sup>	Operator Grab Samples	NTU	104	-----	0.17	1.41	0.48

<sup>1</sup>GVW WQ Deviation Response Plan: free chlorine >0.20 mg/L, turbidity <5 NTU.

<sup>2</sup>Non detect values are used at ½ the reporting limit for average calculations.

<sup>3</sup>Three samples per week are ran in duplicate for quality assurance purposes.

<sup>4</sup>There was one sample location which had free chlorine <0.2 mg/L. This site is part of the City of Vernon monitoring of low chlorine sites program and is being monitored on a regular basis to confirm compliance.

## 5. Water Quality and Customer Calls and Notifications

Water Quality Customer Calls within the GVW Service area are tracked and recorded. There were a total of five (5) customer calls this month.

**Table 9 Water Quality Customer Calls for the month**

Type of Call	Issue/Inquiry	Investigation	Comments
Issue	Well Cleanup	No	The customer called looking for help cleaning up their well and had questions about water licensing. The customer was informed that the RDNO does not assist in private wells and was directed to Interior Health. The customer was directed to the province for information regarding water licenses.
Issue	Dark/Murky Water	Yes	The customer called stating they noted dark/murky water in their strata unit. The customer stated they had been flushing the water, and it was not clearing. RDNO staff investigated and noted that the high school near the customers residence had fire trucks on site, and their water was shut off. This was most likely due to a break on site and would explain the increased turbidity in that area. RDNO staff contacted the customer after about 30 minutes with this information and the customer noted that the water had cleared. The customer was advised to call back if turbidity worsened.
Issue	Brown Water	No	The customer noted that they were filling the bathtub and getting bursts of dark and sandy water. They were wondering if there was construction going on in the area. RDNO staff investigated and noted no construction in the area. Staff inquired whether it was only the hot water, or if the customer was noticing anything in the cold water. The customer said they would check and call back if it was noted in the cold water. The customer did not call back.
Issue	Water Testing Request	No	The customer called stating they were getting sick and asked if the RDNO could test the water. Staff informed the customer that they were on small water system outside of the RDNO jurisdiction. The customer was advised to contact Interior Health for additional information and were given the contact information of the two nearest accredited laboratories.
Issue	Pink Residue	No	The customer called stating they had a pink residue in their toilet. Staff explained that the pink substance isn't in the water but rather it is an airborne bacterium that is local to this region. They were informed that they could find information online as to what it is and how to clean it.

**6. Operational or Maintenance Activity**

Operational activity within the GVW City of Vernon service area is tracked and recorded using an online database. There was a total of 76 operational activities outlined this month in Table 10.

**Table 10 Monthly operational work and maintenance for the City of Vernon**

NUMBER OF LOCATIONS	TYPE OF WORK
0	Hydrant Maintenance
0	Hydrant Maintenance – Corrective
0	New Hydrant Install
4	Water Service GIS Locate
4	Water Main Break Repair
4	Property Damage Repair
1	Water Valve Maintenance
2	Water Valve Repair
0	Water Service Install
51	Water Service Repair
0	Reservoirs Cleaned

**7. Localized WQA’s and Other Activity**

Water quality events are tracked and recorded below. The type of notices for any given event varies based on the severity of the event and the availability of water to adequately flush the area. This month, there was a total of zero Type 1 breaks where no advisory was required, four (4) Water Quality Advisories (WQA), and one (1) Boil Water Notices (BWN)

**Table 11 Monthly public notifications**

Type of Notice	Reason	Area	Length or Time in Place	Number of Connections Affected
BWN	Water Main Break	Harbour Heights Rd	February 11 – February 17	12
WQA	Water Main Break	Longacre Dr	February 11 – February 13	23
WQA	Water Main Break	Silversage Terrace	February 12 – February 13	14
WQA	Water Main Break	4300 31 St	February 17 – February 19	5
WQA	Water Main Break	Crofton Rd	February 24 – February 27	84