



District of Port Hardy



Tsulquate Wastewater System Operations Annual Report 2018

Operational Certificate Number ME-00385

PLANT SUMMARY

The Tsulquate Wastewater Treatment Plant (TWWTP), originally built in 1972, services the majority of the population of Port Hardy, and has historically operated under permit PE-385. The discharge from this facility is sent into Hardy Bay. There are eight lift stations located in the TWWTP collection system. The plant underwent a major upgrade in 2007 which included the addition of two sequential batch reactors, a new headworks and ultraviolet disinfection (UV). The permit was also updated into a more stringent Operational Certificate (ME-00385).

The collection system is comprised of seven liftstations feeding into the Tsulquate plant. Of these seven liftstations, two currently have emergency standby generators in the event of a power outage. A tow behind generator is used when needed.

PLANT AND OPERATOR CLASSIFICATION

The Tsulquate Wastewater Treatment plant is a Class III. Operators have met the level of certification of the plants.

Operator	Title	Certification
Joe Jewell	Utilities Supervisor	WT IV, WWT II, WD III, WWC I
Justin Reusch	Chief Operator	WT III, WD II, WWT II
Roland LeFort	Operator	WWT III, WT III
Cory Henschke	Operator	WWT I, WD II
Robert Cousins	Operator	WWT I, WT I

OPERATIONS SUMMARY AND HIGHLIGHTS

- The Tsulquate wastewater plant continued to produce effluent within the parameters of the permit
- The annual average daily flow was 2119 m³/day
- The majority of the UV disinfection bulbs were replaced in November and December this year as part of scheduled O&M
- Exterior building electrical plugs were replaced this fall after several had failed at the Tsulquate Plant
- The annual receiving waters monitoring testing was performed in August. Effluent quality was within normal parameters
- An LC50 test was also performed on the effluent with a 100% survival rate
- A Sewer Manhole Survey was conducted by our Utilities group to determine the condition of each manhole and to prioritize where structural maintenance and flushing is needed. In all, over 200 manholes inspections were completed
- A sewage forcemain break was found and repaired on the Hardy Bay. Divers were hired to make repairs
- Three of the sewage liftstations are scheduled to receive permanent standby emergency power generators. Control kiosks that encompass the new transfer switch gear will also be installed. Completion of the project will be early 2019
- Sewer flusher truck training was provided for all operators in November. Operators were able to receive Continuing Education Units (CEUs) for this training
- A sewer flushing program is ongoing with focus on areas with high grease deposits as identified by our Sewer Manhole Survey
- An electrical engineer has been solicited to troubleshoot and prepare a plan to replace some failing electrical equipment at the wastewater treatment plant. This work is planned to be done as a capital project in 2019
- Many power outages have occurred in the fall of 2018. The Tsulquate wastewater treatment plant has an emergency generator capable of running the entire system. Quality of the effluent is not compromised

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LAB DATA

Tsulquate Wastewater Plant Compliance Testing						
385 2018 Q4 WQ DATA						
Month	pH	Total Suspended Solids (TSS) mg/L	Carbonaceous Biochemical Oxygen Demand (CBOD ₅) mg/L	Fecal Coliforms	Flow (m ³)	
	<i>Weekly 6.0 - 9.0</i>	<i>Weekly <=45 mg/l</i>	<i>Weekly <= 45 mg/l</i>	<i>CFU/100 mL Geomean AVG</i>	<i>Annual Average 2870 m³</i>	<i>Maximum 11,200 m³/day</i>
January	7.9	8	<5			
	7.7	7	<5			
	8.0	9	<5			
	7.9	9	<5			
February	8.0	10	<5	118	2282	4541
	7.7	4	<5			
	7.8	8	<5			
	6.6	4	4			
March	6.8	4	4	46	2139	3506
	7.2	6	<5			
	7.8	7	<5			
	7.7	<4	<5			
April	7.6	5	<5	41	1862	4007
	6.9	<4	<5			
	7.9	6	<5			
	6.8	4	<5			
May	7.7	6	<5	12	1972	2467
	6.8	12	<5			
	7.8	3	<5			
	7.8	7	<5			
June	7.6	2	<5			
	7.7	3	<5	9	1586	2101
	7.8	6	<5			
	7.6	6	5			
July	7.8	5	<5			
	7.8	5	<5			
	7.4	5	<5	44	1746	2066
	7.6	5	<5			
August	7.7	4	<5			
	7.6	4	<5			
	7.1	<5	8			
	7.4	<2	<5	13	1979	2277
September	7.3	3	<5			
	7.4	9	<5			
	7.4	6	7			
	7.4	3	<2	9	1920	2443
October	7.5	5	<2			
	7.2	5	<2			
	7.7	7	<2	70	2162	3274
	7.5	10	<2			
November	7.5	12	2			
	7.6	7	<5			
	7.2	4	<5			
	7.9	13	<5	54	2187	4428
December	6.7	8	<6			
	7.6	11	<5			
	7.4	6	<5			
	7.9	15	8	66	2665	5061
Annual Average	8.3	19	12			
	7.8	16	11			
	7.8	16	<5			
	7.5	6	<5	20	2922	6634
Annual Average Daily Flow					2118.5	m ³

* Note: The average daily rate of discharge based on annual average shall be less than 2,870 m3/day

**Note: The maximum authorized rate of discharge is 11,200 m3/day