



Waterworks Compliance Inspection - Human Consumptive Use (Part I)

System Name: CRYSTAL LAKE WATERWORKS Remote Inspection ID: 1159582

Approval No: 00002116-03-00

Population: 300 **Announced:** Yes

Date: 22-JUL-2021 11:10 **Person Interviewed:** HVIDSTON, BARRY

General Section

Water Supplies in Service : GROUNDWATER **System Classification:** ONE WT ONE WD

of Service Connections: 135 **System Type:** MUNICIPAL SYSTEM

Service Connection Metering: No **Source Inspection Completed:** Yes

Comments:

A DO NOT CONSUME ADVISORY WAS ISSUED TO CRYSTAL LAKE AT THE BEGINNING OF THE OPERATING SEASON. THIS ADVISORY WILL BE IN PLACE UNTIL THE PERMITTEE IS ABLE TO MEET ALL DRINKING WATER QUALITY STANDARDS AND IS ABLE TO ACHIEVE PRIMARY DISINFECTION. THE HYGIENIC USE APPLICATION SUBMITTED BY THE PERMITTEE HAS BEEN DENIED DUE TO THE CURRENT POPULATION AND GROWTH OF THE COMMUNITY. THE EPO AND THE ADMINISTRATOR DISCUSSED THE INSPECTION OVER THE PHONE ON AUGUST 9, 2021 AND THE EPO SIGNED THE INSPECTION ON THE ADMINISTRATORS BEHALF.

Contacts

Name	Position	Phone / Fax	Email
MASTERS, DAVE	UNCERTIFIED OPERATOR	Phone: (306) 548-2905	N/A
HVIDSTON, BARRY	ADMINISTRATOR	Business: (306) 563-5331	N/A

POWOROZNYK, VERN	CONTRACT/REGIONAL OPERATOR	Cell: (306) 814-7941	N/A
Complaints:			
N/A			

Operator Certification Section

Operator Name	Certification Levels		Expiry Date	Operator is a Supervisor
	Water Distribution	Water Treatment		
MASTERS, DAVE	NONE	NONE	N/A	No
POWOROZNYK, VERN	ONE	ONE	15-MAY-2022	No

Test Results

Station #	Sample ID	Location/Comments	Variable	Flag	Measurement	Qualifier
SK05MC0002	2021065155	6 - CRYSTAL RIVE	CHLORINE (TOTAL)	N/A	1.580 mg/l	N/A
"	"	"	TURBIDITY	N/A	0.540 NTU	N/A
"	2021065156	10 - FEELY DRIVE	CHLORINE (TOTAL)	N/A	0.500 mg/l	N/A
"	"	"	TURBIDITY	N/A	1.620 NTU	N/A
"	2021065157	19 - ANDERSON LANE	CHLORINE (TOTAL)	N/A	3.880 mg/l	N/A
"	"	"	TURBIDITY	N/A	3.710 NTU	N/A
"	2021065158	WELL ONE	CHLORINE (TOTAL)	N/A	1.210 mg/l	N/A
"	"	"	TURBIDITY	N/A	0.820 NTU	N/A
"	2021065159	WELL TWO	CHLORINE (TOTAL)	N/A	1.340 mg/l	N/A
"	"	"	TURBIDITY	N/A	0.620 NTU	N/A
N/A	N/A	OPR SPLIT - WELL ONE	CHLORINE (TOTAL)	N/A	1.270 mg/l	N/A
"	"	"	TURBIDITY	N/A	0.700 NTU	N/A

Equipment Validation Turbidity

Equipment Type	Equipment Name/Number	STD1(L) (Expected, Test)	STD2 (Expected, Test)	STD3 (Expected, Test)	STD4 (Expected, Test)	Result	Gel Standard
HACH 2100P	N/A	(10.00, 9.91)	(20.00, 18.10)	(100.00, 96.80)	(800.00, 7.80)	GOOD	N/A

Comment

CALIBRATE AS PER MANUFACTURER SPECIFICATIONS. KEEP RECORD OF CALIBRATION DATES.

Chlorine

Equipment Type	Equipment Name/Number	STD1 (Expected, Test)	STD2 (Expected, Test)	STD3 (Expected, Test)	Result
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Human Consumptive Regulatory Section C=Compliant NC=Non-Compliant N/A=Not Applicable

C	NC	NA	General	Comments
X			Valid permit to operate and/or construct EMPA2010 24(1)	PERMIT TO CONSTRUCT WILL BE REQUIRED BEFORE ANY CHANGES/UPGRADES OCCUR AT THE WTP.
X			Certified operator WWSW 62	
X			Valid water rights license EMPA2010 29(1)	
X			Copy of permit posted at waterworks EMPA2010 29(1)	ALWAYS REFER TO THE PERMIT TO OPERATE IF CLARIFICATION OF SAMPLE REQUIREMENTS IS NEEDED. ALSO, THE EPO CAN BE CONTACTED FOR DIRECTION.
			Wells	
	X		Constructed to exclude contaminants WWSW 22(2)	POTENTIALLY GUDI. A GUDI ASSESSMENT MUST BE COMPLETED IF THE WATER SYSTEM IS TO MAINTAIN HUMAN CONSUMPTIVE USE STATUS. OTHERWISE, THE PERMITTEE CAN SELF-DECLARE GUDI AND MOVE FORWARD WITH UPGRADES CONSIDERING THE GUDI WATER SOURCE. A NEW WATER SOURCE IS CURRENTLY BEING DISCUSSED.
X			Disinfection of new lines & repairs WWSW 22(2)(f)	
			Distribution System	
		X	Common trenching WWSW 23(1)(2)	SEPTIC TANKS WITH NO MUNICIPAL COLLECTION SYSTEM.
X			Disinfection of new and repaired pipelines WWSW 23(4)& 27(4)	
			Water Storage Reservoirs	
X			Water tight cover WWSW 24(2)(a)	ABOVE GROUND HOLDING TANKS
X			In good repair WWSW 24(2)(b)	

		X	Meets reservoir design requirements (only applies to facilities constructed after June 1, 2015) WWSW 24(2)(c)	
		X	Manholes (all manholes must be 150mm above grade, designed and maintained to prevent the entry of water, and locked if located outside WTP) WWSW 24(3)(4).	
X			Pipe entries installed to prevent contamination WWSW 24(5)	
X			Vents WWSW 24(6)	
			Water Treatment Plants and Pumphouses	
X			Floor drainage to drains or sumps WWSW 25(a)	
X			Drain lines to sanitary sewers have trap WWSW 25(b)	
X			Backflow prevention device on treatment component WWSW 25(c)	
X			Water meter(s) installed in WTP or pumphouse WWSW 25(d)	
X			Adjustable chemical feeder WWSW 25(e)	
X			Water quality monitoring and testing equipment is maintained and calibrated as recommended by manufacturer EMPA2010 29(1)	THE OPERATOR IS CONDUCTING AND RECORDING CALIBRATION AS REQUIRED.
X			Facility is clean and in orderly condition WWSW 25(f)	
X			NSF/ANSI 60 Approved chemicals being used and at or below Max. use limit (unless otherwise approved) WWSW 27(3)	
			Disinfection	
	X		Continuous chlorine disinfection (unless otherwise approved per 27(7)) WWSW 27(5)	AMMONIA INTERFERENCE.
		X	A free chlorine residual as required in the permit to operate a waterworks WWSW 27(7) & 31(1)(2)	SINCE THERE IS NO FREE CHLORINE IN THE TREATED WATER, FREE CHLORINE TESTING CAN DISCONTINUE UNTIL UPGRADES ARE FACILITATED OR OTHER DIRECTION IS PROVIDED BY THE EPO.
		X	A free chlorine residual of not less than 0.1 mg/L in water entering the distribution system WWSW 27(6)(a)	WITH THE PRESENCE OF FREE AMMONIA IN THE TREATED WATER THERE CANNOT BE ANY FREE CHLORINE PRESENT. IN THE PRESENCE OF AMMONIA, THE DPD FREE CHLORINE TEST METHOD USED AT THE WTP ERRONEOUSLY INDICATES THE PRESENCE OF FREE CHLORINE WHEN THERE IS NONE. IN ORDER TO ACTUALLY HAVE FREE CHLORINE RESIDUAL PRESENT IN THE TREATED WATER BREAKPOINT

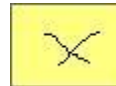
				CHLORINATION WOULD HAVE TO BE PRACTICED, WHICH WOULD DESTROY THE FREE AMMONIA
X			A total chlorine residual of not less than 0.5 mg/L OR a free chlorine residual of not less than 0.1 mg/L in water throughout the distribution system WWSW 27(6)(b)	ENSURE THE TOTAL CHLORINE IN THE DISTRIBUTION SYSTEM IS ALWAYS MAINTAINED ABOVE 0.5MG/L.
Standards				
X			Bacteriological WWSW 29	NO POSITIVES SINCE THE LAST INSPECTION.
	X		Chemical standards WWSW 26(2)(3) & 31	ARSENIC SAMPLES EXCEEDED GUIDELINES AT WELL TWO.
X			Waterworks meets the requirements of future chemical health and pesticide related standards	
Groundwater				
	X		Less than or equal to 1.0 NTU discrete measurements (95%) WWSW 30(2)(e)(i)	PERIODS OF ELEVATED TURBIDITY.
Operational Anomalies				
X			Reported upset condition WWSW 34(1)	NO UPSETS REPORTED SINCE THE LAST INSPECTION. GEN SET ON SITE TO MAINTAIN PRESSURE DURING POWER OUTAGES.
X			Reported disinfection system upset WWSW 34(2)(a)(b)	
		X	Reported missing on-site water quality testing records WWSW 34(2)(c)	
Testing				
	X		Bacteriological testing WWSW 37(2)	BACTI SAMPLING HAS ONLY OCCURRED ONCE THIS YEAR. THE PERMITTEE IS REQUIRED TO CONDUCT BACTI SAMPLING AS STATED IN THE PERMIT TO OPERATE WHICH IS TWICE MONTHLY. THE ADVISORY ISSUED DOES NOT EXCLUDE THE NEED FOR REGULAR BACTI SAMPLING TO OCCUR.
X			Bacteriological follow-up WWSW 37(5) & 37(9)	
	X		Bacteriological sample after completion, alteration, extension or repair WWSW 38	EPO WAS NOT CONTACTED BEFORE SEASONAL START-UP. START-UP BACTI SAMPLING WAS NOT COMPLETED. EPO MUST BE CONTACTED EVERY YEAR BEFORE THE SYSTEM IS PRESSURIZED.
X			Chlorine monitoring WWSW 37(2)(4)	
X			Turbidity monitoring WWSW 37(2)(4)	REQUIRED ONCE PER DAY.
Other Constituents				

X		General chemical sampling conducted WWSW 37(2)(6)	DUE AGAIN IN 2022.
X		Health and toxicity sampling conducted WWSW 37(2)(6)	DUE AGAIN IN 2022.
X		Accredited laboratory WWSW 37(2)(b)	
		Water from Treatment Plant Discharged to Environment	
		Wastewater discharged to environment sampling conducted EMPA2010 29(1)	
		Water discharged to environment does not exceed limits laid out in permit EMPA2010 29(1)	
		Operational Records	
X		Daily water meter reading WWSW 40(1)(a)	
X		Types, dosages and total amounts of chemical WWSW 40(1)(b)	
X		Samples - locations, sampler, and results WWSW 40(1)(c)	
X		Abnormal operating procedures WWSW 40(1)(d) & 40(1)(e)	
X		Upset conditions (includes water treatment facility and water distribution system upsets) WWSW 40(1)(f)	
X		Chlorine upsets WWSW 40(1)(g)	
X		Calibration records for test equipment WWSW 40(1)(h)	
X		Maintenance WWSW 40(1)(i)	
X		Chronological order WWSW 40(2)(a)	
X		Permittee recorder WWSW 40(2)(b)	
X		Identification of recorder WWSW 40(2)(c)	
X		Five year history of log WWSW 40(2)(d)	
X		Explanatory notes WWSW 40(2)(e)	
	X	Factual data entry WWSW 40(2)(f)	FREE CHLORINE READINGS ARE EFFECTED BY AMMONIA AND ARE NOT ACTUAL FREE CHLORINE READINGS.
X		No default values used WWSW 40(2)(g)	
		QA/QC and Recordkeeping Review	
X		QA/QC and ERP in place WWSW 41(1)	REVIEW AND ENSURE UP-TO-DATE
X		Monthly review of records by permittee WWSW 41(2)	
X		Report abnormal or missing records WWSW 41(3)	
		Annual Notice To Customers	
	X	On water quality and sample submission compliance WWSW 42(1)	2019 NOTIFICATION NOT RECEIVED.

	X		Written notice provided to Minister of completion of annual notice to consumers WWSW 42(2)	THE ANNUAL NOTICE TO CONSUMERS MUST BE COMPLETED AND SUBMITTED TO THE EPO BEFORE JUNE 30 OF THE FOLLOWING YEAR. THE 2017 AND 2018 ANNUAL NOTICES WERE NOT RECEIVED BEFORE THE DUE DATE.
		X	Written notification and advisory labels supplied to service connections on raw water supply line EMPA2010 29(1)	NO RAW WATER CONNECTIONS.
			General	
X			Split sampling with the operator was completed	
X			Operator's test equipment appears to be performing adequately	
X			Representative of the waterworks signature was obtained	YES
X			Representative of the waterworks agreed with the inspection statements	YES



(Operator/Supervisor Signature)



Agree with statements



(EPO Signature)