

City of Mitchell

July, 2017 - Water Dept. Report

August 1, 2017

*From: Richard Pollreisz
Water Superintendent
City of Mitchell*

*To: Tim McGannon
Director of Public Works*

The month of July was hot and dry. We received 2.01 inches of precipitation in July- 2017. On 07/31/2017, the Lake was 1 inch from going over the spillway. The water temperature was 77.3 degrees. The water consumption for July- 2017 was more than in June 2017. We did not pump any water from Lake Mitchell during the month of July- 2017. All of the water that went to the water towers in July was from the B-Y- Rural Water System. We brought in approximately 111.222 MG. of water from the B-Y Rural Water system for the month of July- 2017. The daily average we brought in from the B-Y – Rural Water System for the month of July- 2017 was 3.58 MGD. The peak day, for the water we brought in from the B-Y- Rural Water System for July- 2017 was 4.327 MGD. The total we pumped into the water towers (effluent) was 113.053 MG of water for the month of July- 2017. The average daily usage of water for the City of Mitchell for July- 2017 was 3.650 MGD. The maximum peak day of water consumption for the month of July- 2017 was 4.410 MGD. The month of July, 2012 was the biggest month, for water we have ever taken from B-Y Water, which was 117.068 MG. We started getting water from B-Y Water, on November 4th, 2003. The chemical cost for the month of July- 2017 was \$2,729.17 or \$24.54 per MG. of water, which equates to .018 cents per unit (750 gallons). We did not run the Water Plant in July- 2017. When we don't run the plant we exercise everything & make sure that all the equipment works. All of the water basins are full and ready to treat water, if and when we need to. We also have some chemicals contracted with Aqua-Pure. We paid a monthly lease charge of \$250.00 for the use of the Chlorine Dioxide Generator equipment for the month of July- 2017. We renewed our chemical contract on 01/01/2017 with Aqua-Pure for two years. The contract will go from January 1st, 2017 to January 1st, 2019.

The rates will stay the same:

- Raw Water treatment rates: .255/1,000 Gals. of Raw Water.
- Poly-Phosphate treatment for B-Y Water: \$1.75/lb. of bagged chemical.
- ClO₂ lease: \$250/Month.

The SCADA telemetry in the water towers is working well. When we run the water plant, we run approximately 2 to 3-hour's, every week to keep fresh water in the basins and to make sure that everything is kept in working order. This is usually done when there is no algae in the Lake. We operated the B-Y Rural Water 100% of the time in July- 2017. When we operate the plant, we run one side at 1100 gpm. We can run both sides if we need to. The only Activated Carbon we are going to use now is the better quality Activated Carbon. This better Carbon costs more, but it does a better job for the taste and odor problem and we can use less of it. Our Filter Monitoring System is working very well. We calibrated our Turbidity Analyzers and will send a copy of the Calibration Data Sheet to Pierre quarterly to verify that we done it for the months

throughout the year. There is an alarm system on the SCADA program. Most of the problems are worked out of the SCADA system. There may be some changes from time to time. The SCADA system should be updated some year.

Water tests-

. TOC'S & Chlorite for July, 2017 wasn't done, because we didn't operate the Water Plant enough.

. We still do our daily water tests as follows:

- | | |
|-------------|--------------------|
| -Alkalinity | - Total Hardness |
| - PH | - Calcium Hardness |
| - Turbidity | - Fluoride |
| - Chlorine | |

. Fluoride test for July, 2017 was not required by the State, but we sent one sample to Pierre just to see how it compared to our fluoride tester in the Laboratory. The test came back with a good result.

. Bacteriological Tests for July-----TESTED---OK---Pierre, S.D.

. B-Y WATER tests for July - OK.

All our other water tests for the month of July were good and we were in compliance.

Well, that is all I have for the month of July, and I hope everyone has a good next month.

P.S. -----Attached to this letter is the Water Distribution monthly report for July.

Respectfully yours,



Richard Pollreisz

Water Superintendent

CITY OF MITCHELL

MONTHLY WATER TREATMENT CHEMICAL CONSUMPTION REPORT MONTH / YEAR—July, 2017—Richard Pollreiz – Water Superintendent

Coagulant Aid- (2187)	=	<u>0-Gals.</u>	X	<u>CONTRACT</u>	=	<u>\$0.00</u>
Lime	=	<u>0# or 0- TON'S</u>	X	<u>\$192.39/TON</u>	=	<u>\$0.00</u>
Sodium Chlorite	=	<u>0-GAL.</u>	X	<u>CONTRACT</u>	=	<u>\$0.00</u>
Fluoride	=	<u>0-GAL.</u>	X	<u>\$1.99/GAL.</u>	=	<u>\$0.00</u>
Polymer (2386)	=	<u>0-GAL.</u>	X	<u>CONTRACT</u>	=	<u>\$0.00</u>
Activated Carbon	=	<u>0# or 0- TON'S</u>	X	<u>\$1,936.25/TON</u>	=	<u>\$0.00</u>
Chlorine	=	<u>10# or .005- TON'S</u>	X	<u>\$1.45/LB.</u>	=	<u>\$14.50</u>
Poly Phosphate	=	<u>1,550# or .775 TON</u>	X	<u>\$1.75/LB.</u>	=	<u>\$2,712.50</u>
Carbon Dioxide	=	<u>0# or 0- TON'S</u>	X	<u>\$178.00/TON</u>	=	<u>\$0.00</u>
Ammonia	=	<u>1# or .0005- TON'S</u>	X	<u>\$2.17 /LB.</u>	=	<u>\$2.17</u>
Pristine Contract	=	<u>0 -MG of WATER</u>	X	<u>.255/1000 GALS. RAW WATER</u>	=	<u>\$0.00</u>
TOTAL =						<u>\$2,729.17</u>

Raw Water Treated (LAKE) 0- MG—or 0- MGD—or—PEAK DAY 0 MG
 Finished Water (EFFLUENT) 113.053 MG—or 3.65 MGD—or—PEAK DAY 4.410 MG
 B-Y- Water (INFLUENT) 111.222 MG—or 3.58 MGD—or—PEAK DAY 4.327 MG
 B-Y & RAW WATER TREATED – TOTAL= 111.222 MG -- or 3.58 MGD —or—PEAK DAY 4.327 MG

Chemical cost = \$ 2,729.17 = \$24.54 per MG or .018 cents per Unit (750 GALLONS).

CHEMICAL FEED RATES IN Mg/L

Coagulant Aid- (2187)	=	<u>0</u> Mg/L --	<u>0</u> Gallons / Raw Water
Lime	=	<u>0</u> Mg/L	<u>0</u> lbs. / 7 lbs. Per Gallon/ Raw Water
Sodium Chlorite	=	<u>0</u> Mg/L --	<u>0</u> Gallons / Raw Water
Fluoride	=	<u>0</u> Mg/L --	<u>0</u> Gallons / Raw Water
Polymer (2386)	=	<u>0</u> Mg/L --	<u>0</u> Gallons / Raw Water
Activated Carbon	=	<u>0</u> Mg/L --	<u>0</u> lbs. / 4 lbs. Per Gallon / Raw Water
Chlorine	=	<u>.008</u> Mg/L --	<u>10</u> lbs. / 11.75 lbs. per Gallon / Raw Water
Poly Phosphate	=	<u>1.32</u> Mg/L--	<u>1,550</u> lbs. / 10.5 lbs. per Gallon / Raw Water
Carbon Dioxide	=	<u>0</u> Mg/L --	<u>0</u> lbs. / 8.50 lbs. per Gallon / Raw Water
Ammonia	=	<u>.002</u> Mg/L --	<u>1</u> lbs. / 5.15 lbs. per Gallon / Raw Water
Polymer	=	<u>0</u> Mg/L --	<u>0</u>

CITY OF MITCHELL

Monthly - Chemical Inventory at the Water Treatment Plant

Date: 08/01/2017

Coagulant – (AF-1102) 903 Gallons

Lime 159,104 lbs. or 79.552 Ton's

Fluoride 814 Gallon's

Sodium Chlorite – (PHI-3125) 80 Gallon's

Polymer-(PHI-2386) 5 Gallon's
(AF-84500) 220 Gallon's

Activated Carbon 6,650 lbs. or 3.25 Ton's

Chlorine 1011 lbs. or .506 Ton

Poly-phosphate 4,900 lbs. or 2.45 Ton's

Carbon Dioxide 14,500 Lbs. or 7.25 Ton's

Ammonia 765 lbs. or .383 Ton's

MONTHLY -- B-Y WATER- GALLON AND CHEMICAL USAGE REPORT

MONTH --- July YEAR - 2017

Influent ----- 111.222 -- Million Gallon's

Effluent ----- 113.053 -- Million Gallon's

Chemical costs for B-Y Water:

Chlorine usage ----- 10 lbs. @ \$1.45 per lb. = \$14.50

Ammonia usage ----- 1 lbs. @ \$2.17 per lb. = \$2.17

Poly -phosphate----- 1,550 lbs. @ \$1.75 per lb. = \$2,712.50

Total = \$2,729.17

Cost per Unit (750 gallon) = \$0.018

Cost per 1,000 gallons of water = \$0.024

CITY OF MITCHELL

MONTHLY GALLON & CHEMICAL REPORT

E-mail address-(rpollreisz@cityofmitchell.org)

Water Dept. ----- 605-995-8449

Fax: 605-995-8410

July, 2017 Water Production

TO: Aqua-Pure

Lake Mitchell

GALLONS TREATED (Raw Water) ----- 0- MG

Contract Cost per 1,000 Gallons-----\$0.255

Subtotal, Lake Mitchell-----\$0.00

Poly-Phosphate Usage

Poly-phosphate (PO4) usage= \$1,550 lbs. @ \$1.75 per lb. = --\$2,712.50

Generator Lease-----\$250.00

Total-----\$2,962.50

REPORTED BY: -----Richard Pollreisz

REPORT RETURNED ON-----08/01/2017

July - 2017 - WATER CONSUMPTION

DATE	Lake Mitchell Influent	B-Y Rural Water Influent	Effluent to Water Towers
07/01/2017	0-MG	4.225-MG	4.367-MG
07/02/2017	0-MG	3.128-MG	3.247-MG
07/03/2017	0-MG	3.314-MG	3.428-MG
07/04/2017	0-MG	4.320-MG	4.393-MG
07/05/2017	0-MG	3.259-MG	3.324-MG
07/06/2017	0-MG	4.326-MG	4.410-MG
07/07/2017	0-MG	3.272-MG	3.348-MG
07/08/2017	0-MG	4.327-MG	4.391-MG
07/09/2017	0-MG	4.218-MG	4.299-MG
07/10/2017	0-MG	3.596-MG	3.596-MG
07/11/2017	0-MG	4.256-MG	4.344-MG
07/12/2017	0-MG	4.256-MG	4.344-MG
07/13/2017	0-MG	2.868-MG	2.837-MG
07/14/2017	0-MG	3.500-MG	3.601-MG
07/15/2017	0-MG	3.573-MG	3.703-MG
07/16/2017	0-MG	3.230-MG	3.292-MG
07/17/2017	0-MG	3.363-MG	3.431-MG
07/18/2017	0-MG	4.327-MG	4.395-MG
07/19/2017	0-MG	3.047-MG	3.116-MG
07/20/2017	0-MG	4.276-MG	4.347-MG
07/21/2017	0-MG	3.030-MG	3.070-MG
07/22/2017	0-MG	4.160-MG	4.101-MG
07/23/2017	0-MG	3.438-MG	3.271-MG
07/24/2017	0-MG	3.915-MG	4.015-MG
07/25/2017	0-MG	3.868-MG	2.832-MG
07/26/2017	0-MG	3.074-MG	3.060-MG
07/27/2017	0-MG	2.763-MG	3.758-MG
07/28/2017	0-MG	3.432-MG	3.691-MG
07/29/2017	0-MG	2.861-MG	2.921-MG
07/30/2017	0-MG	3.019-MG	3.085-MG
07/31/2017	0-MG	2.981-MG	3.036-MG
TOTALS	0-MG	111.222-MG	113.053-MG

FILTER	# 1	TURBIDITY ANALYZER CALIBRATION		
MONTH	August		Calibrate-Quarterly	Last done ----08/01/2017
YEAR	2017			Due next-----11/01/2017
DATE	INITIAL'S	VALUE	STANDARD	COMMENT'S
08/01/17	R.P.	9.06	10	Cell-A
"	"	0.03	0.02	Cell-A
"	"	8.92	10	Cell-B
"	"	0.03	0.02	Cell-B
"	"	8.74	10	Cell-C
"	"	0.01	0.02	Cell-C
"	"	9.14	10	Cell-D
"	"	0.02	0.02	Cell-D
FILTER	# 2	TURBIDITY ANALYZER CALIBRATION		
MONTH	August		Calibrate-Quarterly	Last done --- 08/01/2017
YEAR	2017			Due next-----11/01/2017
DATE	INITIAL'S	VALUE	STANDARD	COMMENT'S
08/01/2017	R.P.	9.57	10	Cell-A
"	"	0.02	0.02	Cell-A
"	"	8.9	10	Cell-B
"	"	0.03	0.02	Cell-B
"	"	9.02	10	Cell-C
"	"	0.02	0.02	Cell-C
"	"	9.58	10	Cell-D
"	"	0.18	0.02	Cell-D
"	"	9.73	10	Lab. (B-Y)
"	"	0.03	0.02	Lab. (B-Y)
"	"	8.95	10	Lab. (FINISH)
"	"	0.05	0.02	Lab. (FINISH)

July, 2017 -- LAKE INFORMATION

DATE	Measurement	WATER TEMP.	Rainfall
07/03/17	Lake is down 11 inches	74.4 degrees	0.00 inch
07/06/17			0.30 inch
07/10/17	Lake is 12 inches down	77.4 degrees	0.00 inch
07/12/17			0.80 inch
07/17/17	Lake is 13 inches down	77.7 degrees	0.00 inch
07/20/17			0.01 inch
07/24/17	Lake is 15 inches down	77.5 degrees	0.00 inch
07/26/17			0.89 inch
07/31/17	Lake is 1 inch down	77.3 degrees	0.01 inch

Total rainfall for June was -----2.01 inches

Respectfully yours
Richard Pollreisz
Water Superintendent