

Permit No. 1710-2, City of Ft. Pierre
Missouri River - Water District

Report Of Examination Of Works And/Or Application of Water To Beneficial Use

TO: Chief Engineer, Division of Water Rights, DENR, Foss Bldg., Pierre, SD 57501

I have this day made a thorough examination of the water use system constructed by the City of Ft. Pierre of P.O. Box 637, Ft. Pierre, SD 57532, holder of Permit No. 1710-2, bearing the priority of May 1, 1929 (0.56 cfs), April 24, 1956 (2.78 cfs), April 17, 1961 (1.00 cfs), and November 2, 1979 (2.99 cfs) authorizing a total diversion of 7.33 cu. ft. per second of the waters of groundwater (wells within 200' of the Missouri River for municipal purposes, in Stanley County.

I have to report on the conditions of the same as follows:

- A. Works used to divert the water:
Three wells, approx. 60 feet deep, that are along the banks of the Missouri River are used to supply the city needs.
- B. Works used to transport water to place of use:
Each well is equipped with a pump powered 100 hp, 100 hp and 40 hp. (Well # 3) electric motor. An 8 inch water line transports water up through the treatment facility where fluorine and chlorine are added prior to the water put into storage tower/tanks.
- C. Works used to apply water to beneficial use:
Water is held in one of two storage tower/tanks (350,000 and 700,000 gallons) where the water is available upon consumer demand.

The system is in the following condition GOOD. The point of diversion is located Well #3 -- 2107 feet North and 60 feet West of the SE corner (NE-SE); Well #4 -- 2852 feet North and 194 feet West of the SE corner (SE-NE); and Well #5 -- 3455 feet North and 366 feet West of SE corner (SE-NE); all in Section 28, T5N, R31E (the well housing for Well #2 still exists but the well is not maintained). The works are capable of diverting and conveying to the place of use 3.91 cu. ft. per second of water (1,760 gallons per minute) which is to be used for municipal purposes. Water has been put to beneficial use to the maximum extent as follows:
Three wells (legally described above) are utilized to meet the city's water needs. Well # 3 is currently a standby well that is properly maintained and the city has plans to rehabilitate the well in the near future. The priority dates for this permit should be May 1, 1929 (0.56 cfs), April 24, 1956 (2.78 cfs), April 17, 1961 (0.57 cfs). See file documentation.

and the license should be issued for 3.91 cfs.

Applicable permit qualifications have been complied with: Yes

Exceptions to compliance are: Vested Right No. 1710-2 which was validated September 30, 1992 will need to be readvertised (see file documentation)

Date: August 3, 1993

Eric Gronlund
 Eric Gronlund
 Natural Resources Engineer
 DENR, Water Rights Division

REPORT ON INSPECTION OF PERMIT NO. 1710-2 - City of Fort Pierre

1 of 3

DATE: August 3, 1993 (date inspected)

Other permit(s) associated with the project: Permit No. 1710-2 Incorporated applicable portions of Permit Nos. 425-2, 427-2, 428-2 and 697-2

DIVERSION POINT LEGAL LOCATION: Well #3 -- 2107 feet North and 60 feet West of the SE corner (NE $\frac{1}{4}$ SE $\frac{1}{4}$) Section 28, T5N, R31E; Well #4 -- 2852 feet North and 194 feet West of the SE corner (SE $\frac{1}{4}$ NE $\frac{1}{4}$) Section 28, T5N, R31E; Well #5 -- 3456 feet North and 366 feet West of SE corner (SE $\frac{1}{4}$ NE $\frac{1}{4}$) Section 28, T5N, R31E.

WELL INFORMATION: WELL # 3 (well is currently utilized for standby purposes, the City intends to rehabilitate the well in the near future)

- 1) Well Drilling Firm: Not known
- 2) No. of Wells 3
- 3) Depth 53 feet
- 4) Well log is available No
- 5) Comment: Well is capable of producing approximately 160 gpm, and is used for standby purposes but is maintained in working condition. Hour meters are installed on all wells.

Casing:

- 1) Diameter inches
- 2) Length feet
- 3) Type Steel

Screen:

- 1) Type Johnson stainless steel
- 2) Length feet
- 3) Static water level 9 feet (water level is affected by river stage)

Pump:

- 1) Make Vertical Turbine
- 2) Model Serial No. 7700257
- 3) Size Impeller 7 $\frac{1}{2}$ inches
- 4) Capacity 380 GPM (well is currently only capable of producing 160 gpm)

Motor:

- 1) Make General Electric
- 2) Model No. K6237XM501B
- 3) Horsepower rating 40 hp

WELL INFORMATION: Well # 4

- 1) Well Drilling Firm: Dakota Boring
- 2) No. of Wells 3
- 3) Depth(s) 58 feet
- 4) Well log is available Yes
- 5) Comment:

Casing:

- 1) Diameter 18 inches
- 2) Length 38 feet
- 3) Type PVC

Screen:

- 1) Type Johnson - stainless steel
- 2) Length 20 feet
- 3) Static water level 13 feet (influenced by river level)

Pump:

- 1) Make Johnston
- 2) Model 6867 (no identification plate on pump)
- 3) Size
- 4) Capacity 750 GPM

Motor:

- 1) Make U.S. Electrical Motors - Premium Efficiency High Motor
- 2) Model No. IG # B410/U09U177R0A0R-1
- 3) Horsepower rating 100 hp

WELL INFORMATION: Well # 5

- 1) Well Drilling Firm: Dakota Boring
- 2) No. of Wells 3
- 3) Depth 60 feet
- 4) Well log is available Yes
- 5) Comment: On the day of the inspection this was the only well operating. The well was operating at 200 psi and the flow gauge showed the well producing 550 gpm. Mr. Hauge explained the normally the well produces 850 gpm with a operating pressure of 160 psi. However, the production of the well is being valved back because of a fracture crack 1/2 90° elbow in the #4 wellhouse. This reduced flow was done to relief pressure in the system to ensure they didn't have another break. The elbow that cracked is the line for well #3 and the elbow was removed and a end piece installed until a replacement elbow arrived.

Casing:

- 1) Diameter 18 inches
- 2) Length 40 feet
- 3) Type PVC

Screen:

- 1) Type Johnson - stainless steel
- 2) Length 20 feet
- 3) Static water level 13 feet (water fluctuates with river level)

Pump:

- 1) Make Johnston Pump
- 2) Model (there was no identification plate on the pump)
- 3) Size
- 4) Capacity 850 GPM

Motor:

- 1) Make U.S. Motors
- 2) ID No. R-9985-04-142-R2147225
- 3) Horsepower rating 100 hp

DISTRIBUTION LINES OR CANALS:

- 1) Type Tyler Pipe
- 2) Size 6 and 8 inch
- 3) Length feet

Comments: Water from any of the 3 wells is pumped into the distribution line. Well House # 4 is where the lines meet. There is a flow meter in wellhouse #4. The distribution line heads toward the west along Ninth Street (there is an air relief valve near Bad River Park). The line crosses the highway towards the storage towers. Prior to being stored in the towers, the water is fluorinated and chlorinated. There are two towers a 350,000 gallon tank that has recently been relined and a 700,000 gallon tank which is only a few years old.

PERMIT QUALIFICATIONS AND REGULATIONS:

- 1) Soil and water permit lands agree with lands being irrigated and lands listed on permit N/A
- 2) Special qualifications to permit being abided by Yes
- 3) All structures, wells and lands on map Yes
- 4) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period N/A

Water Rights Division - DENR
Conversation File Documentation

NAME OF PERSON OR FILE: Water Permit No. 1710-2, City of Ft. Pierre

ADDRESS: P.O. Box 637, Ft. Pierre, SD COUNTY: Stanley

DATE: August 3, 1993

TELEPHONE: _____

RE: Inspection of Water Permit No. 1710-2, City of Ft. Pierre

COMMENTS:

On August 3, 1993 I conducted an inspection of Water Permit No. 1710-2 for the City of Ft. Pierre accompanied by the City's Utility Manager, Jim Hauge.

Mr. Hauge stated that Well #3 currently can only produce 160 gpm and is maintained but is used only for standby purposes. The well has not produced more than this amount for over 8 years but the City intends to rehabilitate the well in the near future. I discussed with Mr. Hauge that the city had probably forfeited any diversion rate in excess of what the wells currently produce (850 gpm -- Well #5, 750 gpm -- Well #4, and 160 gpm -- Well #3 -- 1760 gpm total). Mr. Hauge was concerned that once Well #3 was rehabilitated. I stated that they would be limited to a diversion rate of 1760 gpm, if they rehabilitate Well #3 and it produces greater than 160 gpm, they would be limited at any one time to a diversion rate of 1760 gpm. Mr. Hauge stated that wouldn't be a problem because they never use all three wells at one time. This means that the wells combined may be capable of diverting greater than 1760 gpm but the City may not pump at a rate greater than 1760 gpm unless they obtain a new water permit.

Priority dates

Water Permit No. 1710-2 incorporated the applicable portion of Permit Nos. 426-2, 427-2, 428-2 and 697-2 which have varying priority dates for specific appropriations of water. Originally, No. 1710-2 authorized diversions from 5 wells, however, today the City only utilizes 3 wells. Well Nos. 1 and 2 which had the senior priority dates prior to incorporation of all the Permits into No. 1710-2 are now not used and have been abandoned. From what I can determine from review of the files approval of Permit No. 1710-2 authorized diversion from any of the wells with no basis of priority date. Meaning that a specific well was no longer accompanied by a specific priority date. In licensing Permit No. 1710-2, the senior priority dates should be utilized to extent possible to the benefit of the City.

Readvertisement

The recognized vested right portion of No. 1710-2 was validated on September 30, 1992 for 0.56 cfs with a priority date of May 1, 1929 from Well No. 1. Well No. 1 is one of the wells the City has abandoned. I believe the Vested Right can be readvertised to be from the 3 existing wells.

File in Permit or other file as necessary. Use to document conversations and what the other party was told; why action or decision was made.

NAME: Eric Leonard

Upon further review of the advertised notice of hearing for No. 1710-2, I believe readvertisement is not required as notice of hearing for No. 1710-2 described the location of all five wells (three of which exist today).



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

JUN 29 1998

1710-2

David Page, Finance Officer
City of Ft. Pierre
PO Box 700
Ft. Pierre SD 57532-0700

Dear Mr. Page:

Enclosed are Water License Nos. 1710A-2 and 1710B-2 for the City of Ft. Pierre.

No. 1710-2 was originally issued as a "partial vested right claim". On September 30, 1992, the Water Management Board validated the vested right portion. An inspection has been conducted of the water use system. In order to proceed with licensing of the "non vested" portion, No. 1710-2 has been divided and licensed as follows:

Vested Water Right No. 1710A-2 - authorizes diversion of 0.56 cfs of water - Priority date: May 1, 1929

Water Right No. 1710B-2 - authorizes diversion of 3.35 cfs - Priority dates: April 24, 1956 (2.78 cfs)
April 17, 1961 (0.57 cfs)

As long as the City of Ft. Pierre uses the water beneficially as stated in the licenses, the City has a continuing right to the use of the water.

Very truly yours,

JOHN HATCH, Chief Engineer
Water Rights Program
605 773-3352

enclosures

ks

STATE OF SOUTH DAKOTA

VESTED RIGHT WATER LICENSE N.J. 1710A-2

(1) The City of Ft. Pierre, PO Box 700, Ft. Pierre SD 57532 made Application No. 1710-2, November 28, 1979 for a water permit to divert 7.33 cubic feet of water per second (cfs) from groundwater, Stanley County, South Dakota for municipal use purposes. Permit No. 1710-2, with priority dates of May 1, 1929, April 24, 1956, April 17, 1961 and November 6, 1979 was approved July 24, 1980 and issued to the applicant for diversion of water with construction of the described water supply system completed and the application to beneficial use of said water completed.

On September 30, 1992, the Water Management Board validated the vested right portion of No. 1710-2. The water right is being divided to separate the vested right portion from the water right as follows:

Vested Water Right No. 1710A-2 - authorizes diversion of 0.56 cfs of water - Priority date: May 1, 1929

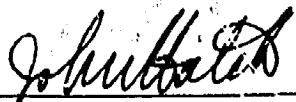
* Water Permit No. 1710-2 originally authorized diversion of water from 5 wells. Wells #1 and #1, which retained the senior priority date, are not being used and have been abandoned. The city utilizes only 3 of the 5 wells. No. 1710A-2 will retain the May 1, 1929 priority date for diversion of 0.56 cfs from any of the 3 remaining wells.

Water Right No. 1710B-2 - authorizes diversion of 3.35 cfs - Priority dates: April 24, 1956 (2.78 cfs)
April 17, 1961 (0.57 cfs)

(2) It is certified that the applicant has complied with the provisions of South Dakota State Law relating to completion of the construction of the water supply system and is entitled to divert 0.56 cubic feet of water per second for beneficial use. The location of the diversion points are Well #3 - (maintained as a standby well) 2,107 feet north and 60 feet west (NE 1/4 SE 1/4), Well #4 - 2,852 feet north and 194 feet west (SE 1/4 NE 1/4), and Well #5 - 3,456 feet north and 366 feet west (SE 1/4 NE 1/4); all from the southeast corner of Section 28-T5N-R31E.

(3) The applicant has complied with the provisions of South Dakota State Law relating to the application of water to beneficial use.

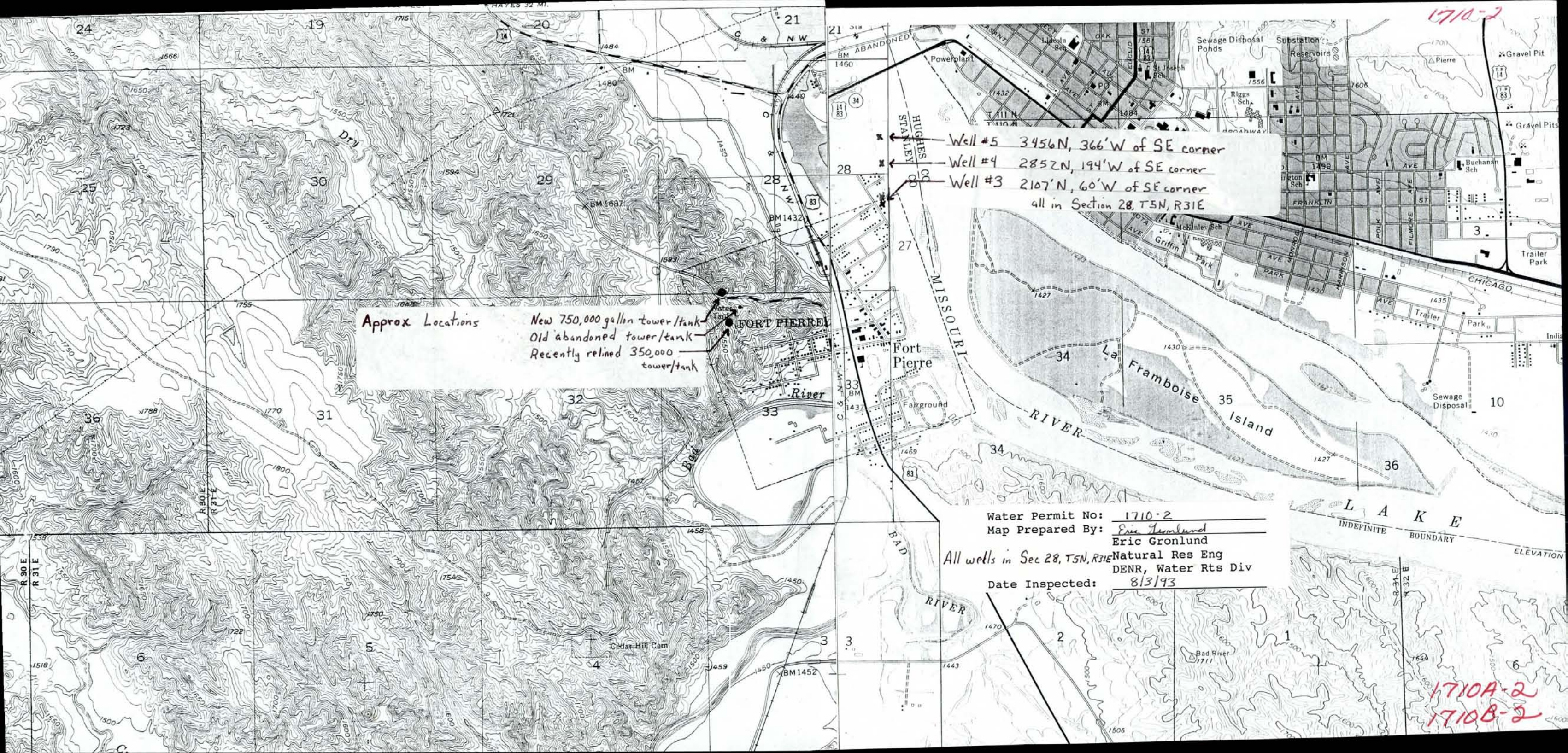
(4) Pursuant to South Dakota Water Law 46-5-30.1 the City of Ft. Pierre, PO Box 700, Ft. Pierre SD 57532 the holder and/or owner of Vested Water Permit No. 1710A-2 is issued a license to appropriate water, the right to use 0.56 cubic feet of water per second from groundwater (three wells) with a priority date of May 1, 1929 from the location specified in (2) of this license for the purpose of municipal use. This license is subject to any limitations or qualifications listed in Vested Water Permit No. 1710A-2 and subject to South Dakota State Law.


JOHN HATCH, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

JUN 29 1998

date





Approx Locations

New 750,000 gallon tower/tank
Old abandoned tower/tank
Recently relined 350,000 tower/tank

Well #5 3456N, 366'W of SE corner
Well #4 2852N, 194'W of SE corner
Well #3 2107'N, 60'W of SE corner
all in Section 28, T5N, R31E

Water Permit No: 1710-2

Map Prepared By: Eric Gronlund

Natural Res Eng
DENR, Water Rts Div

Date Inspected: 8/3/93

All wells in Sec 28, T5N, R31E

1710A-2
1710B-2