

Considered: _____

WATER PERMIT NO. 5127-3

MAP No. Same

Name of Applicant City of Sioux Falls

Post Office Address 224 West 9th Street, Sioux Falls SD 57102

Amount of Water Claimed 8.0 cfs (2,160 ac-ft annually) Total Acres NA

Source of Water Supply ground water 8 wells - Big Sioux Aquifer

Water to be used for municipal purposes County Minnehaha

About 5 1/2 miles S of Baltic.

PROOF OF PUBLICATION: Received _____ Not Received _____

APPLICATION: Approved _____ Subject to _____

F.F. & C.L. Adopted July 8, 1987 Not Approved _____ Deferred _____

PRIORITY _____ Date Received Mar. 19, 1987 Fee \$625.00 Remarks _____

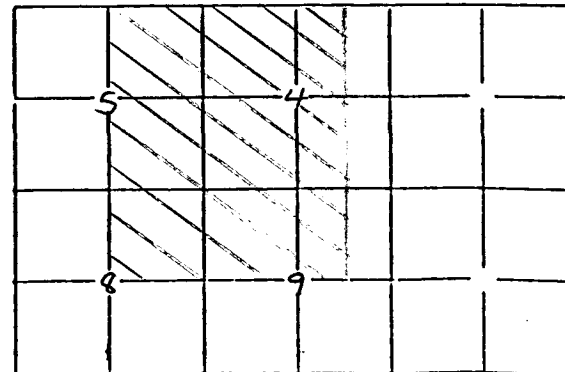
4/8/87 see F.U. Permit No. 448-3

Corrected Application Received _____ Period of Annual Use Jan 1 - Dec 31

WATER QUALITY APPROVAL RECEIVED NA APPROVED/CONDITIONAL (Circle one)

WI-1 Description same as Application YES _____ NO _____ REMARKS _____

Diversion Point well field expansion area for
construction of possibly 8 wells: W 1/2, W 1/2 E 1/2 section 4;
E 1/2 section 5; NE 1/4 section 8; NW 1/4, W 1/2 NE 1/4 section 9; all in
T 102 N - R 49 W
Land to be Irrigated NA



Well Log: Driller Sioux Well Drilling Licensed YES ☒ NO _____

Depth of Well ~ 40 feet REMARKS _____

Type of Map Topo PREPARED BY Gary Patton Reviewed and the Number
assigned on March 20, 1987 By Ron Duval

No. 5127-3 Hydrologic Unit 10170203
 Map No. same Basin Big Sioux River
 Newspaper Argus Leader, P.O. Box 5034, zip 57117
Sioux Valley News, Box 255, Canton (Thurs)

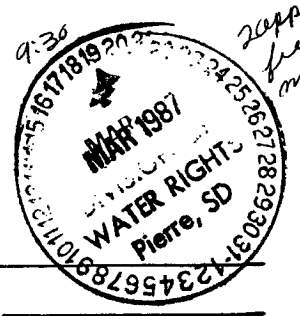
DWNR, Foss Bldg.
 Pierre, SD 57501
 (605) 773-3352

Application For Permit To Appropriate Water Within The State Of South Dakota

Check use of water: Industrial ☐ Commercial ☐ Municipal ☒ Other Common Distribution System ☐
 Rural Water System ☐ Suburban Housing ☐ Geothermal Heat ☐ Institutional ☐ Recreational ☐
 Domestic ☐ (above 18gpm) Other ☐

Type of Application: Check one or more of the following

New ☐ Vested Right ☐ Future Use ☐ Change Use ☐
☐ Amend Permit No. _____ with old priority date retained
 Change diversion point(s) ☐ Add diversion point(s) ☐ Other ☐ _____
☐ Application to: Change diversion point(s) ☐ Add diversion point(s) ☐ on Permit No. _____
☒ Construction to use water reserved by Future Use Permit No. 448-3



1. Name of Applicant City of Sioux Falls, South Dakota Phone No. (605) 339-7025
 Post Office Address 224 West 9th St. Sioux Falls State S.D. 57102
(Street, RR or Box) (2,160 acre-feet annually) Zip Code

2. Amount of water claimed (c.f.s) 8 wells @ 1 cfs ea. = 8 cfs maximum (3 cfs average)

3. Source of water supply Wells 8 wells

4. Location of point of diversion (See attachment) W_{1/2}, W_{1/2}E_{1/2} Section 4; E_{1/2} Section 5; NE_{1/4} Section 8; NW_{1/4}, W_{1/2}NE_{1/4} Section 9; all in T102N-R49W
 _____ County Minnehaha

5. Counties where water will be used Minnehaha and Lincoln

6. Annual period during which water is to be used January 1 - December 31 (entire year)

7. Give a brief description of proposed project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)
Proposed project is the 1987 Well Field Expansion, Sioux Falls, South Dakota (see attachment)

Attachments: Attach Form 2A if diversion from a well or dugout, or if storage of water, is proposed. Attach map (see instruction)

STATE OF SOUTH DAKOTA)
 County of Minnehaha)^{ss}

I, Richard A. Willer, Utilities Director the applicant, certify that I have read the foregoing application, have examined the attached map and that the matters therein stated are true and that I intend, and am able to complete the necessary construction.

Signed Richard A. Willer

Subscribed and sworn to before me this 18th day of MARCH 1987

Esther K. Ostaker
 Notary Public (or other qualified officer)

WATER PERMIT

The Water Management Board hereby approves Water Permit Application No. 5127-3

City of Sioux Falls

224 West 9th Street

(Applicant)

(Street, RR or Box)

Sioux Falls, South Dakota 57102

(City)

(State)

(Zip Code)

With the following qualifications.

1. The wells approved under this permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this permit shall control his withdrawal so there is not a reduction in needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. Approval of this permit authorizes maximum annual withdrawals of 2160 acre feet.
3. The wells constructed pursuant to this permit shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04.

Date of first receipt of application March 19, 1987

Date of return to applicant for correction, amendments or changes required , 19

Date of receipt of corrected application , 19 . Approved July 8, 1987

The Water Management Board approved this Water Permit No. 5127-3 authorizing the construction of the water use system and the placing of water to beneficial use as stated in the Application and as qualified in the Water Permit approval, subject, however, to the following limitations and conditions:

see Future Use Permit No. 448-3

1. The date from which applicant may claim right is April 8, 1987
2. The equivalent of at least one-fifth of the specified work is to be completed on or before December 8, 1989
3. The whole of said work is to be completed on or before July 8, 1992
4. The limit of time for proof of beneficial use of water appropriated in accordance herewith is July 8, 1996
5. The water appropriated shall be used for the purpose of municipal use by the City of
Sioux Falls
6. The prior right of all persons who, by compliance with the laws of the State of South Dakota, have acquired a right to the use of water must not be unlawfully impaired by this appropriation.
2,160 acre feet annually
7. The amount of the appropriation granted shall not exceed 8.0 cubic feet per second; neither shall it exceed the amount of water needed for the beneficial uses served and to which water is actually and beneficially applied for municipal purposes on or before July 8, 1996. The water is to be used during the following described annual period: January 1 - December 31

WATER MANAGEMENT BOARD

By: John Hatch

Chief Engineer

JOHN HATCH

Division of Water Rights

Dept. of Water and Natural Resources

AUG 19 1987

, 19

Supplemental Information

(type or print in ink)

1. Well Information - Proposed construction

- a) Drill Hole Diameter 20 inches Depth 40 feet
- b) Casing Type black steel Diameter 12 inches Thickness 0.375 inches
wire wound
- c) Screen Type stainless steel Diameter 12 inches Thickness 0.750 inches
- d) Gravel Pack Thickness 4 inches Length of Gravel Pack 30 feet
- e) Depth to Top of Water Bearing Material 10 feet
- f) Depth of Water (ground surface to water level) 10 feet
- g) Distance to nearest existing domestic well:
- | | Well | Distance |
|-----------------------------|------|----------|
| On applicants property | 87.1 | 1600 ft. |
| On property owned by others | 87.2 | 700 ft. |
| | 87.3 | 1300 ft. |
| | 87.4 | 600 ft. |
| | 87.5 | 1100 ft. |
| | 87.6 | 700 ft. |
| | 87.7 | 2500 ft. |
| | 87.8 | 3000 ft. |

2. Dugout Information Estimates

- a) Surface Dimensions _____ Depth _____
- b) Depth to water (ground surface to water level) _____

3. Water Storage Dams

If the proposed water use system contains one or more storage dams, please furnish the information requested below. The locations of each dam should be shown on the map submitted with the application.

- a) If a private engineering firm or government agency was involved in the design of this dam please give their name and address

b) Freeboard _____

c) Crest Width _____

Crest Length _____

d) Height _____

e) Outlet Dimensions:
 Pipe diameter _____

Spillway width _____

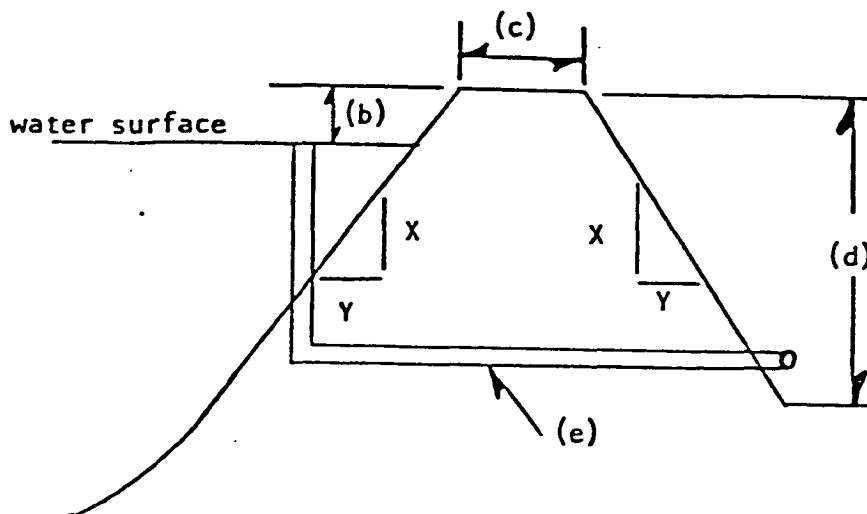
f) X & Y Slope
 Upstream _____

Downstream _____

Surface Area of Impoundment _____

Storage _____ acre feet

Drainage area above dam _____



Signature of Applicant _____

ATTACHMENT TO FORM 2

Item

4. Location of points of diversion. (see attached map)

<u>Well</u>	<u>Location</u>
87-1	400' S., 1700' W. of NE Cor. Sec. 8-102-49
87-2	700' S., 1100' W. of E 1/4 Cor. Sec. 5-102-49
87-3	100' S., 1100' W. of E 1/4 Cor. Sec. 5-102-49
87-4	500' N., 1000' W. of E 1/4 Cor. Sec. 5-102-49
87-5	1100' N., 1000' W. of E 1/4 Cor. Sec. 5-102-49
87-6	100' N., 900' E. of SW Cor. Sec. 4-102-49
87-7	Center of Sec. 4-102-49
87-8	100' S. of N 1/4 Cor. Sec. 4-102-49

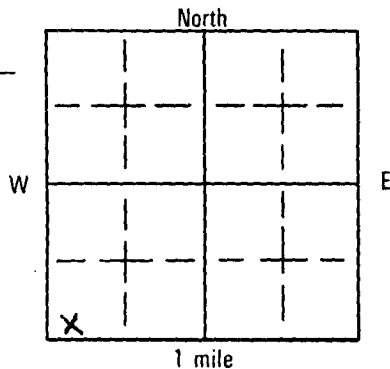
7. 1987 Well Field Expansion: Sioux Falls, South Dakota

The proposed well spacings are based on the recommendations of the preliminary engineering report for the 1986 Well Field Expansion, as aquifer characteristics are expected to be similar in the 1987 expansion area.

The City is in the process of obtaining exploration leases and land purchase options in the area. Exploratory drilling to verify the proposed well locations will start immediately. Some potential sites may be deleted or moved in accordance with the findings of the exploratory drilling and test pumping.

SOUTH DAKOTA WATER WELL COMPLETION REPORT **5127-3** 10-85Location 1/4 SW 1/4 Sec 4 Twp 102N Rg 49WCounty Minnehaha

Please mark well location with an "X"

Well Completion Date May 88

PROPOSED USE:

☐ Domestic ☒ Municipal ☐ Test Holes
☐ Irrigation ☐ Industrial ☐ Stock

Method of Drilling:

False casing

CASING DATA:

☒ Steel ☐ Plastic ☐ Other

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
<u>49.56</u> LB/FT	<u>12</u> IN	<u>0</u> FT	<u>28</u> FT	<u>20</u> IN
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN

GROUT:

Was the well grouted? ☒ YES ☐ NOTo what depth? 12' FEETWhat is grouting material? CementIf cement, number of sacks? 7Describe grouting procedure tremmie pipe
gravity feed.

What was grout weight? _____ LB/GAL

SCREEN: ☐ Perforated pipe ☒ ManufacturedDiameter 12" IN Length 8 FEETMaterial Stainless SteelSlot Size #00 Set From 28 Feet To 36 Feet

Slot Size _____ Set From _____ Feet To _____ Feet

Slot Size _____ Set From _____ Feet To _____ Feet

Other information _____

Was a packer or seal used? ☐ YES ☒ NO

If so, what material? _____

Describe packer(s) and location? _____

Was well disinfected upon completion? ☒ YES ☐ NOExplain Chlorine solutionBacteriological analysis ☒ YES ☐ NOLaboratory sent to City

Well Owner:

Name City of Sioux Falls,

Address _____

Well Log:

Depth

Formation

From

To

Top soil02clay29Sand F-M912sand M-C1236clay3640STATIC WATER LEVEL 9'-1" Feet

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other

If other, specify _____

Can well be completely shut in? _____

WELL TEST DATA:

☒ Pumped☐ Bailed☐ OtherDescribe: gas driven turbine

Pumping Level Below Land Surface

24 ft. After 72 Hrs. pumped 500 GPM

_____ ft. After _____ Hrs. pumped _____ GPM

_____ ft. After _____ Hrs. pumped _____ GPM

REMARKS: Well # 54This well was drilled under license # 129

And this report is true and accurate.

Drilling firm Sioux Well Drilling

Signature of License Representative:

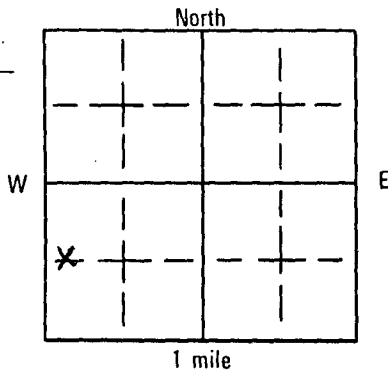
Wayne H. Wagner

Signature of Well Owner:

Date _____

SOUTH DAKOTA WATER WELL COMPLETION REPORT **5127-3** 10-85Location 1/4 SW 1/4 Sec 4 Twp 102N Rg 49WCounty Minnehaha

Please mark well location with an "X"

Well Completion Date May 98

PROPOSED USE:

☐ Domestic ☒ Municipal ☐ Test Holes
☐ Irrigation ☐ Industrial ☐ Stock

Method of Drilling:

false casing

CASING DATA:

☒ Steel ☐ Plastic ☐ Other

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
<u>49.56</u> LB/FT	<u>12</u> IN	<u>0</u> FT	<u>26</u> FT	<u>20</u> IN
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN

GROUT:

Was the well grouted? ☒ YES ☐ NOTo what depth? 12' FEETWhat is grouting material? CementIf cement, number of sacks? 7Describe grouting procedure gravity feed with tremie pipe

What was grout weight? _____ LB/GAL

SCREEN: ☐ Perforated pipe ☐ ManufacturedDiameter 12 IN Length 10' FEETMaterial Stainless SteelSlot Size 100 Set From 26 Feet To 36 Feet

Slot Size _____ Set From _____ Feet To _____ Feet

Slot Size _____ Set From _____ Feet To _____ Feet

Other information _____

Was a packer or seal used? ☐ YES ☒ NO

If so, what material? _____

Describe packer(s) and location? _____

Was well disinfected upon completion? ☒ YES ☐ NOExplain Chlorine solution 50 PPMBacteriological analysis ☒ YES ☐ NOLaboratory sent to Rity

Well Owner:

Name City of Sioux Falls,

Address _____

Well Log:

Depth

Formation

From

To

<u>top soil</u>	<u>0</u>	<u>2</u>
<u>clay</u>	<u>2</u>	<u>10</u>
<u>silt</u>	<u>10</u>	<u>12</u>
<u>sand M</u>	<u>12</u>	<u>16</u>
<u>sand M C</u>	<u>16</u>	<u>22</u>
<u>sand M</u>	<u>22</u>	<u>36</u>
<u>clay</u>	<u>36</u>	<u>40</u>

STATIC WATER LEVEL 9'-4" Feet

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other

If other; specify _____

Can well be completely shut in? _____

WELL TEST DATA:

☒ Pumped☐ Bailed☐ OtherDescribe: gas driven turbine

Pumping Level Below Land Surface

23 ft. After 72 Hrs. pumped 450 GPM

_____ ft. After _____ Hrs. pumped _____ GPM

_____ ft. After _____ Hrs. pumped _____ GPM

REMARKS:

Well # 55This well was drilled under license # 129

And this report is true and accurate.

Drilling firm Sioux Well Drilling

Signature of License Representative:

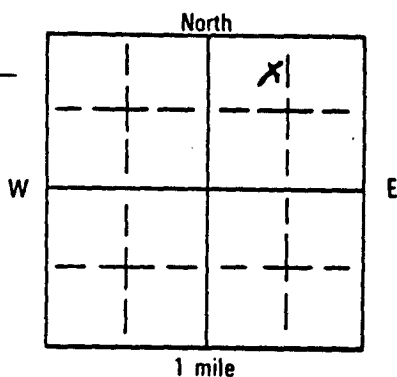
Wayne H Wagner

Signature of Well Owner:

Date _____

SOUTH DAKOTA WATER WELL COMPLETION REPORT

10-85

Location NW 1/4 NE 1/4 Sec 8 Twp 102-N Rg 49-WCounty MinnehahaPlease mark well
location with
an "X"Well Completion Date May 19, 1987

PROPOSED USE:

☐ Domestic ☒ Municipal ☐ Test Holes
☐ Irrigation ☐ Industrial ☐ Stock

Method of Drilling:

CASING DATA:

☒ Steel ☐ Plastic ☐ Other

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN

GROUT:

Was the well grouted? ☒ YES ☐ NOTo what depth? 12' FEETWhat is grouting material? Bentonite

If cement, number of sacks? _____

Describe grouting procedure _____

What was grout weight? _____ LB/GAL

SCREEN: ☐ Perforated pipe ☐ ManufacturedDiameter 12' IN Length 10' FEETMaterial Stainless SteelSlot Size 80 Set From 39'6" Feet To 48'6" Feet

Slot Size _____ Set From _____ Feet To _____ Feet

Slot Size _____ Set From _____ Feet To _____ Feet

Other information _____

Was a packer or seal used? ☐ YES ☒ NO

If so, what material? _____

Describe packer(s) and location? _____

Was well disinfected upon completion? ☒ YES ☐ NO

Explain _____

Bacteriological analysis ☐ YES ☐ NO

Laboratory sent to _____

Well Owner:

Name City of Sioux Falls

Address _____

Well Log:

Depth

Formation

From

To

Topsoil04Brown Clay48mud810Fine Sand1014Grey Sand1416Mud lens16'16'6"Uniform Sand16'6"19'Coarse Sand1940Medium Sand4044STATIC WATER LEVEL 6' Feet

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other

If other; specify _____

Can well be completely shut in? _____

WELL TEST DATA:

☒ Pumped☐ Bailed

Describe: _____

☐ Other

Pumping Level Below Land Surface

29 ft. After 4 Hrs. pumped 600 GPM

_____ ft. After _____ Hrs. pumped _____ GPM

_____ ft. After _____ Hrs. pumped _____ GPM

REMARKS:

will be finished with
a 12" Baker Pitter,
being up

This well was drilled under license # 111

And this report is true and accurate.

Drilling firm Lacey Well Drilling

Signature of License Representative:

Signature of Well Owner: Richard A. Ault

UTILITIES DIRECTOR

Date 5-20-87

WATERWELL RECORD

Minnesota Statutes 13A.411-116

for Water Sample

Township Number	Range Number	Section No.	Tract
N or S	E or W		

3. PROPERTY OWNER'S NAME

Address

Progress (east side)

4. WELL DEPTH (completed)

Date of Completion

ft.

1. ☐ Cable tool ☐ Reverse ☐ Driven ☐ Dig
2. ☐ Handrow rod ☐ Air ☐ Bored ☐ _____
3. ☐ Rotary ☐ Jetted ☐ Power Auger

5. USE

1. ☐ Domestic ☐ Public Supply ☐ Industry
2. ☐ Irrigation ☐ Municipal ☐ Commercial
3. ☐ Test Well ☐ Air Conditioning ☐ _____

7. CASING

HEIGHT: Above/Below

HOLE DIAM

1. ☐ Black ☐ Threaded Surface _____ ft.
2. ☐ Galv. ☐ Welded Drive Shoes? Yes _____ No _____
3. ☐ Plastic ☐ _____ _____ in. to _____ ft. Weight _____ lbs./ft.
- _____ in. to _____ ft. Weight _____ lbs./ft.
- _____ in. to _____ ft. Weight _____ lbs./ft.

8. SCREEN

Or open hole

Make _____ from _____ ft. to _____ ft.

Type _____ Dia. _____

Slot/Cause _____ Length _____

Set between _____ ft. and _____ ft. FITTINGS: _____

_____ ft. and _____ ft.

9. STATIC WATER LEVEL

_____ ft. ☐ below land surface ☐ above Date Measured _____

10. PUMPING LEVEL (below land surface)

_____ ft. after _____ hrs. pumping _____ g.p.m.

_____ ft. after _____ hrs. pumping _____ g.p.m.

11. WELL HEAD COMPLETION

1. ☐ Pitless adapter, manufacturer _____, model _____
2. ☐ Basement offset ☐ At least 18" above grade

12. WELL GROUTED?

☐ Yes ☐ No

1. ☐ Neat Cement 2. ☐ Bentonite 3. ☐ _____

Grout material _____ from _____ to _____ ft. Co. Yes _____

13. NEAREST SOURCES OF POSSIBLE CONTAMINATION

_____ feet direction _____ type _____

Well disinfected upon completion? Yes ☐ No ☐

14. PUMP

Date installed _____ ☐ Not installed

Manufacturer's Name _____

Model Number _____ HP _____ Volts _____

Length of drop pipe _____ ft. capacity _____ g.p.m.

Material of drop pipe _____

- Type: 1. ☐ Submersible 2. ☐ L.S. Turbine 3. ☐ Reciprocating
2. ☐ Jet 4. ☐ Centrifugal 5. ☐ _____

15. WATER WELL CONTRACTOR'S CERTIFICATION

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Scot Shell Shly Licensee Business Name _____ License No. _____

Address _____

Signed _____ Date _____

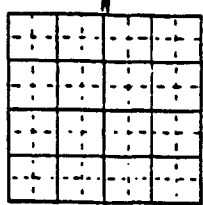
Authorized Representative

Name of Driller

Date

Show exact location of well in section grid with "X."

Sketch map of well location.



Addition Name

Block Number

Lot Number

Proposed
Well 87-1

2. FORMATION LOG

COLOR

HARDNESS OF FORMATION

FROM

TO

Best hole # 3 F

top soil

sandy clay

sand MF

sand MF-M

clay

0 4

4 16

16 28

28 36

36 46

Fluid loss (gals.)

25 to 30

20 to 25

30 to 36

20 to 25

9/7/86 water level 10'-4"

Ground level

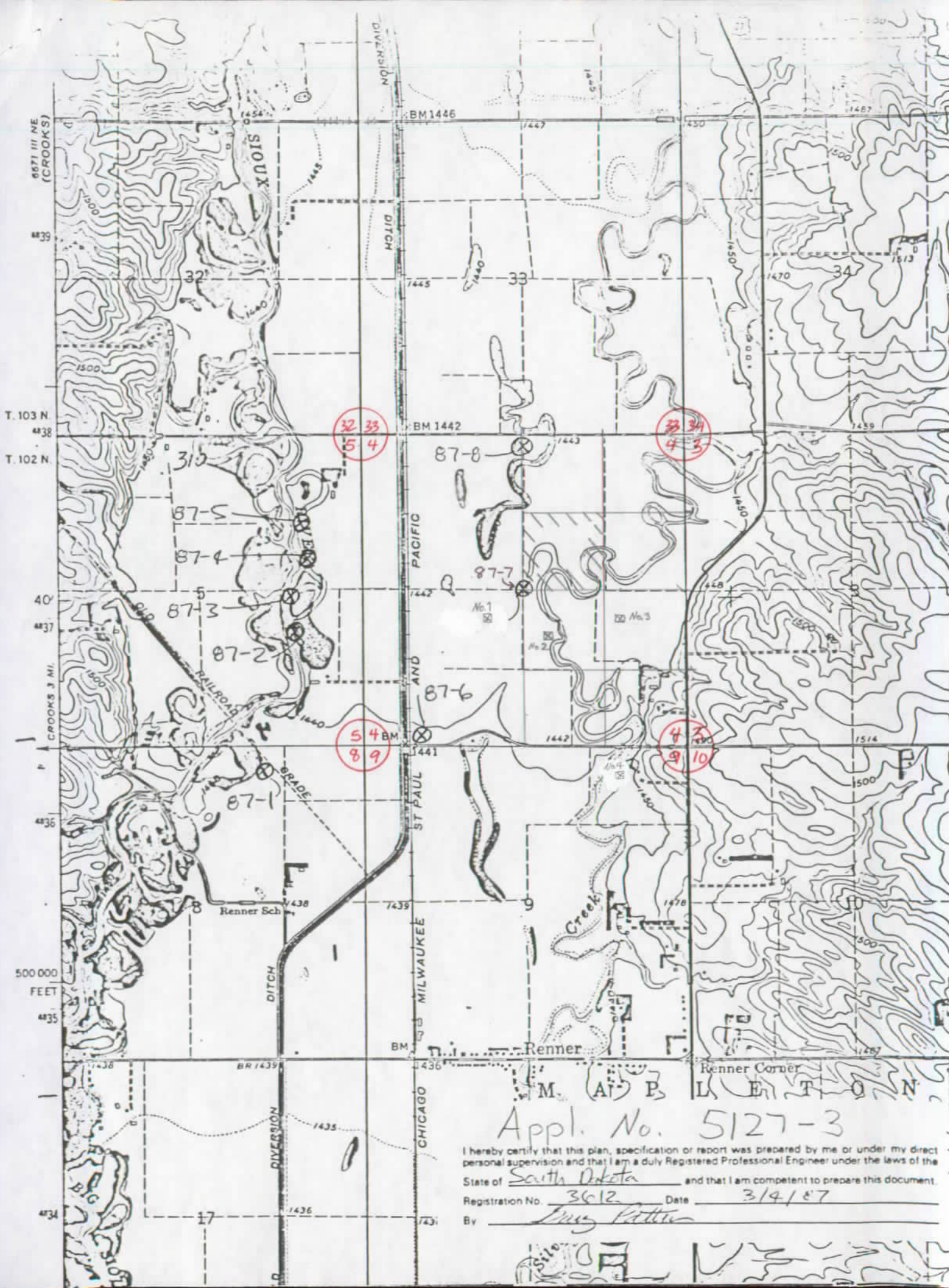
.030 screen 2" dia

Use a second sheet, if needed

15. REMARKS, ELEVATION, SOURCE OF DATA, etc.

Rome potential

WORK COPY



M. A. P. L. E. T. O. N.

Appl. No. 5127-3

I hereby certify that this plan, specification or report was prepared by me or under my direct personal supervision and that I am a duly Registered Professional Engineer under the laws of the State of South Dakota and that I am competent to prepare this document.
 Registration No. 3612 Date 3/4/67
 By Irving Patterson

RECEIPT

Division of Water Rights

South Dakota Department of Water and Natural Resources

410788

Pierre, March 19, 1987

RECEIVED OF City of Sioux Falls, 224 West 9th, Sioux Falls, SD 57102

the following amount in fees for services rendered as provided for by law:

Fee for Application for Permit No. <u>512783</u> to Appropriate Water, to construct works and to put water to beneficial use _____	625	00
Fee for Application for Permit No. _____ to Appropriate Water for Future Use _____		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. _____		
Fee for Filing Transfer Form _____		
Fee for Filing Extension Request _____		
Fee for Certified Copy of _____		
Fee for Print Copy of Map _____		
Fee for Certifying _____		
Fee for _____		
(Any Other Work Provided by Law)	Total	625 00

By

John Hatch

Chief Engineer

JOHN HATCH

ms

DeWild Grant Reckert & Associates Co.

Architecture Engineering and Planning

315 First Avenue
Rock Rapids, Iowa 51246
(712) 472-2531

March 20, 1987

Water Rights Division
Department of Water & Natural Resources
Joe Foss Building
Pierre, SD 57501-3181

Attn: Ron Duvall

Re: Sioux Falls 1987 Well Field Expansion
DGR File No. 34227

Dear Ron:

This is to follow up on our telephone conversation yesterday regarding the wells proposed under the above referenced project. We wish to emphasize the preliminary nature of the well locations described in the City's application for wells proposed to be located in Sections 4, 5, 8 and 9, T102N, R49W. From my earlier conversations with you, I understood that specific locations should be shown, even though they may change as a result of exploratory test drilling and test pumping which is yet to be accomplished.

The enclosed map shows the area within which exploratory work will be done and wells will be constructed, described as follows:

W. 1/2 of Sec. 4-102-49
W. 1/2 of E. 1/2 of Sec. 4-102-49
E. 1/2 of Sec. 5-102-49
NE 1/4 of Sec. 8-102-49
NW 1/4 of Sec. 9-102-49
W. 1/2 of NE 1/4 of Sec. 9-102-49.

It is anticipated that up to 8 wells will be constructed under this project, withdrawing water at the average and maximum rates indicated in the application. The City needs the flexibility of locating these wells where analysis of the exploratory work shows withdrawals can be made with maximum efficiency and cost-effectiveness.

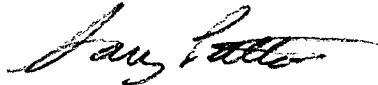


Mr. Duvall
March 20, 1987
Page Two

Please contact the City or me if you have any questions or comments regarding this application.

Very truly yours,

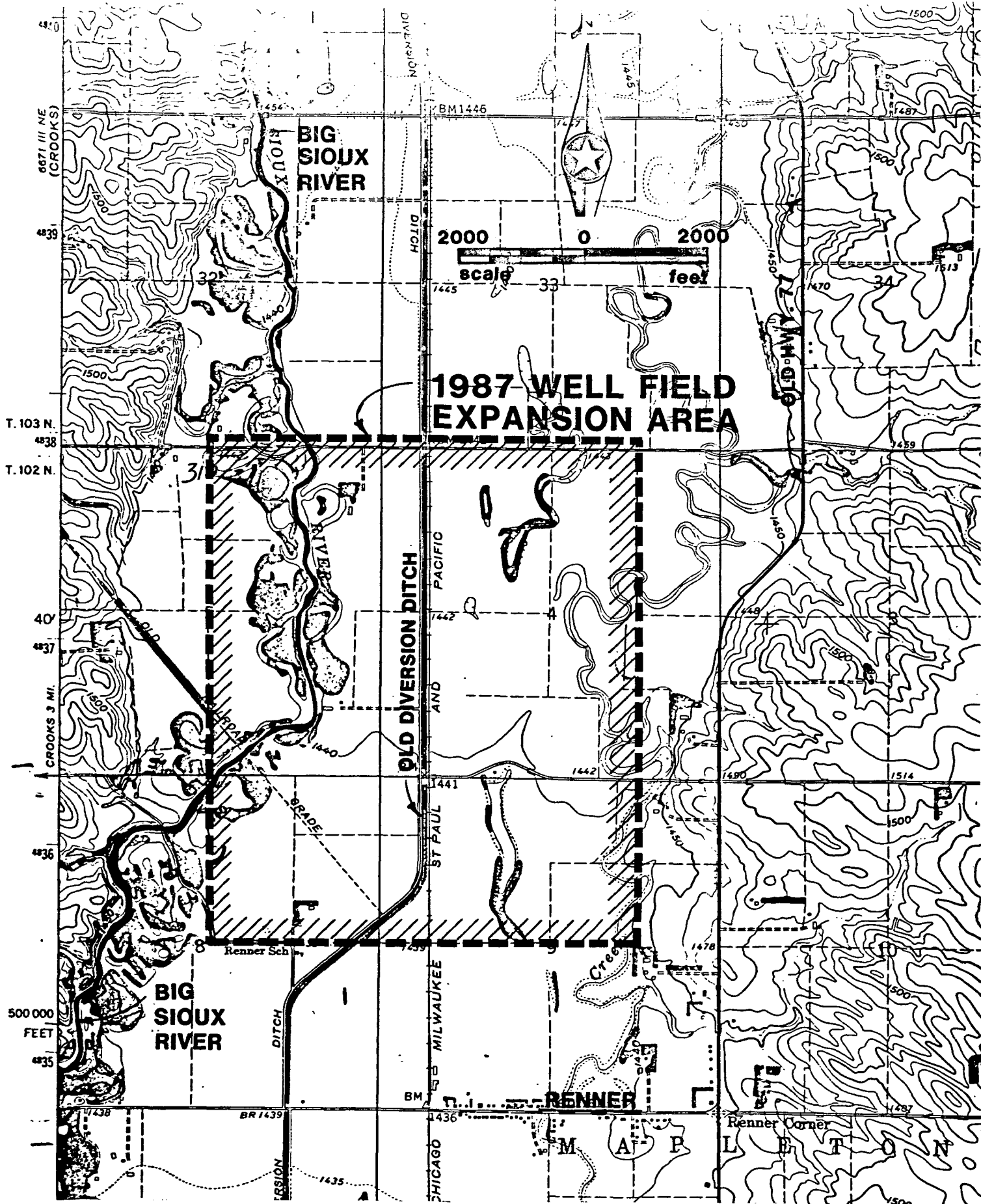
DEWILD GRANT RECKERT
& ASSOCIATES COMPANY

A handwritten signature in cursive script, appearing to read "Gary Patton".

Gary Patton, P.E.

GP:jkv

cc: Richard A. Willer
Larry Doss
Jim Goodman



LOCATION PLAN

SHEET NO. 1



DeWild Grant Reckert & Associates Co.
 Denver, Colorado
 Rock Rapids, Iowa
 Sioux City, Iowa
 Sioux Falls, South Dakota

Date 3/17/87
 Drawn By BH
 Approved GJP
 Revised

PROJ. #3726

**1987 WELL FIELD EXPANSION
 SIOUX FALLS, SOUTH DAKOTA**

REPORT ON APPLICATION NO. 5127-3
CITY OF SIOUX FALLS
March 21, 1987

This application proposed to construct works and place into beneficial use 8.0 cfs (2160 acre-feet annually) reserved by Future Use Permit No. 448-3. The proposed project is to expand the Sioux Falls well field by construction of up to 8 wells approximately 40 feet deep to be located in the W 1/2, W 1/2 E 1/2 Section 4, E 1/2 Section 5, NE 1/4 Section 8, NW 1/4 and W 1/2 NE 1/4 Section 9 all in T102N, R49W. The water is to be used to supply the City of Sioux Falls.

Aquifer - Big Sioux-Sioux Falls (BG-SF)

Geology and Aquifer Characteristics

The Big Sioux:Sioux Falls Aquifer is an alluvium mantled outwash consisting of silt, fine to coarse sand, and gravel. The Aquifer overlies relatively impermeable till throughout most of its areal extent and is bounded both on the north and south by Sioux Quartzite (Koch, 1982). The aquifer underlies approximately 22,900 acres in Minnehaha County and contains approximately 103,050 acre-feet of available water in storage (Hedges, Etal., 1982). The aquifer is predominantly under water table conditions and varies in thickness from 4 feet to 48 feet. Recharge to the aquifer is by infiltration of precipitation and the aquifer is hydraulically connected to the Big Sioux River. Subsequent test drilling has indicated the existence of buried Glacial and Bedrock Aquifers which are probably hydraulically connected to the BS:SF.

A recharge rate of 6.9 in/yr (13,200 acre-feet/yr) was derived by computer simulation for steady state conditions (Koch, 1982). This should represent a recharge rate somewhat independent of the river. However, the BS:SF Aquifer is utilized more than the recharge rate. The annual pumpage by Sioux Falls alone exceeds this rate and the SDGS estimated a use of 17,370 acre feet/year from the BS:SF in 1983 (Hedges, Etal, 1983). The difference between the recharge rate and the pumpage is made up through recharge from streamflow from the Big Sioux River. Theoretically, development of the BS:SF, considering proper well spacing and managing pumping rates, is limited by the transmissivity of the aquifer and whether or not there are adequate flows available in the Big Sioux River. Adequate flows are generally available. Historical flows in the Big Sioux River average 431 cfs (312,300 acre-feet/yr) or another way of looking at the flows, the median of yearly mean discharges is 240 cfs (174,000 acre-feet/yr) (Hoffman, Etal, 1984).

The Division of Water Rights is presently monitoring water levels for 12 observation wells in the BS:SF Management Unit. Records from these wells fluctuate rapidly in response to recharge events. In general, water levels have been above the norm the last 3 years due to the unusually high precipitation (Observation Well Files, 1987).

Review of Existing Water Rights

This application is for wells north of the existing city wells. In addition, this application is north and east of a recently filed Application No. 5115-3 which is scheduled to be heard at the May 6, 1987 Water Management Board meeting. There are 3 irrigation Permit Nos. 656-3, 1271-3 and 4034-3 which are near the diversion points 87-8, 87-7 and 87-6 (see sketch map) listed by this application. These permits are all junior priority and subject to the priority of the Sioux Falls Future Use Permit No. 448-3. That is, if necessary Sioux Falls has first claim to the water.

The following is a listing of the 3 irrigation permits.

Permit No.	Name	Acres	No. Wells	Well Depth	Diversion Rate
656-3	C. Machmiller	80	1	30 feet	1.14
1271-3	E.M. Sweetman	395	4	40-50 feet	5.64
4034-3	E.M. Sweetman	32	0	40-50 feet	5.64

Diversion Point 87-7 is located approximately 600 feet from irrigation well No. 1 under Permit No. 1271-3. Interference will occur. Should the city develop a well at this location proper testing of that well will help to evaluate the interference questions. It is likely that both the City of Sioux Falls and the irrigator can co-exist without major problems.

Conclusions

1. Water is available from the Big Sioux-Sioux Falls Aquifer.
2. Interference between 87-6, 87-7 and 86-8 and the 5 existing irrigation wells is likely to occur, especially during a drought year when water levels in the aquifer are already below average. The actual effect of withdrawals may cause only a few feet of drawdown in any of the other wells. It is my opinion these wells can co-exist without causing adverse effects especially if the City would use these diversion points in the off-irrigation season. The City does hold the right to use this water and the irrigators are subject to this right. Should a problem arise, the Division of Water Rights will investigate the concerns. This application should have the standard well interference clause placed on it.

3. The Big Sioux-Sioux Falls Aquifer and the Big Sioux River are hydraulically connected. The model study by Koch illustrates the extent of this affect. Controlling well spacing and pumping rates increases the efficiency of the City wells.

4. Sioux Falls has 6.17 cfs remaining for development from Future Use Permit No. 448-3.

5. During extended droughts such as 1976, it may become necessary to restrict water use because of water level declines in the existing Sioux Falls well field. The addition of this new well field should help alleviate some of the past problems of excessive drawdown by spreading the effects out over a larger area. This was also a conclusion presented by Koch's Report.


JAMES A GOODMAN
Hydrologist

Bibliography

Hedges, L. S., S. L. Burch, D. L. Iles, R. A. Barari, R. A. Schoon, 1982, Evaluation of Ground Water Resources Eastern South Dakota and Upper Big Sioux River, South Dakota and Iowa for U.S. Army Corps of Engineers, DWNr, SDGS, Vermillion, S.D., 57069.

Hedges, L.S., J.A. Allen, D. E. Holly, 1983, Task 7 Groundwater Recharge, for U.S. Army Corps of Engineers, DWNr, SDGS, Vermillion, S.D., 57069.

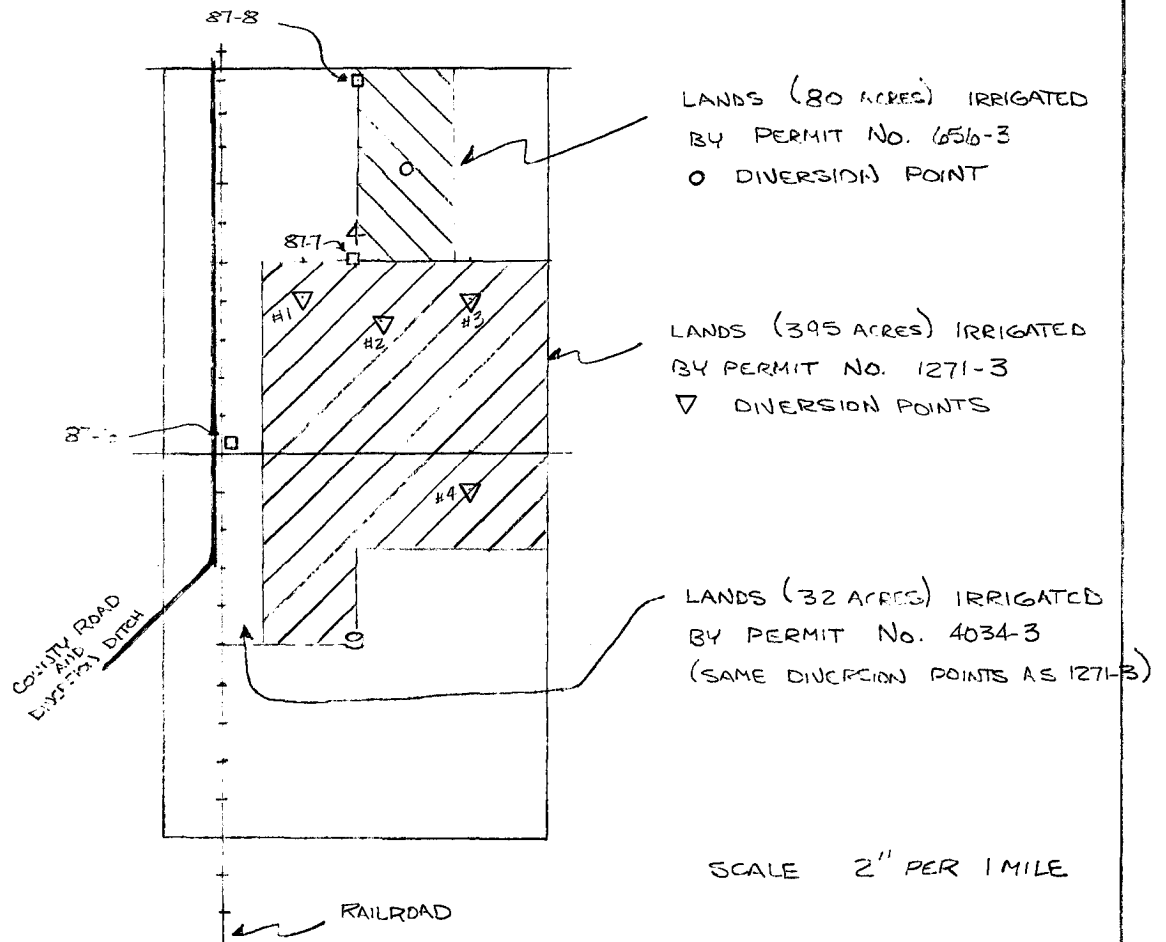
Koch, N.C., 1982, A Digital-Computer Model of the Big Sioux Aquifer in Minnehaha County, South Dakota, USGS, Water-Resources Investigations 82-4064, Huron, S.D., 57350.

Observation Well Files, 1987, Minnehaha County Observation Well Files, DWNr, Division of Water Rights, Joe Foss Building, Pierre, S.D., 57501.

Hoffman, G.B., R. D. Benson, G. R. Wisnieski, 1984, Water Resources Data South Dakota Water Year 1984, USGS Water-Data Report SD-84-1, USGS, Huron, SD 57350.

SKETCH OF SECTIONS 4 AND 5, T102N R49W1 MINNEHAWA COUNTY

87-8 }
 87-7 } PROPOSED DIVERSION POINTS FOR CITY OF SIOUX FALLS (PERMIT NO. 5127-3)
 87-6 }



RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 5127-3

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Division, Department of Water and Natural Resources concerning Water Permit Application No. 5127-3, City of Sioux Falls, 224 W 9th St, Sioux Falls SD.

The Chief Engineer is recommending APPROVAL of Application No. 5127-3 because 1) the proposed diversion can be developed without unlawful impairment of existing rights, 2) the proposed use is a beneficial use and 3) in the public interest with the following qualifications:

1. The wells approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. Approval of this Permit authorizes maximum annual withdrawals of 2160^{acft} feet. 24
3. The wells constructed pursuant to this permit shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04.

See the attached report for additional information.



JOHN HATCH, Chief Engineer
March 24, 1987



UTILITIES DEPARTMENT
Water Division
224 West 9th Street
Sioux Falls, S.D. 57102
(605) 339-7031 VOICE
(605) 339-7039 TDD



March 23, 1987

Mr. Ron Duvall, Natural Resource Engineer
Department of Water and Natural Resources
Joe Foss Building
Pierre, SD 57501

Dear Mr. Duvall:

Subject: Water Rights Permit Application
1987 Well Field Expansion



In following up our telephone conversation of the 19th and a subsequent meeting with our design engineer, Mr. Gary Patton of DGR and Associates, it is my understanding that the sites indicated by Mr. Patton would include areas of approximately 40 acres within the indicated potential sites. I further understand that should we locate wells outside of these areas, it is necessary to make new applications and readvertise. During my meeting with Mr. Patton, he indicated that he is forwarding to you a generalized map of the area which indicates our general intentions. However, upon meeting with Gary this morning, we agree that the generalized locations indicated, if expanded to 40-acre sites, would more or less encompass those areas which we feel are potential well sites.

We are currently arranging test drilling and options with affected property owners to proceed with on-site explorations. Given the foregoing, particularly the 40-acre definition, we feel that our sites identified on the permit application are sufficient, pending further data from our exploration efforts.

You also indicated in our conversation of the 19th that it may be difficult getting advertising accomplished in time for the May meeting of the Water Resources Board. As the permit application is sufficient, you said you would make every possible effort to make the advertising deadline and thereby have this application ready for consideration at the May meeting.

If you have any questions or if I have misunderstood you, please contact me at your earliest convenience.

Yours truly,

Larry Doss
Water Utility Engineer

hmf

cc Richard A. Willer
Gary Patton

WATER RIGHTS DIVISION
(605) 773-3352

March 30, 1987

C. Machmiller
Route 1, Box 156
Renner, South Dakota 57055

Dear Mr. Machmiller:

Enclosed is a copy of the publication notice for Permit Application No. 5127-3 for the City of Sioux Falls. This notice has been sent to you because the locations of the proposed wells are near your irrigation wells.

Please contact us if you have any questions.

Sincerely,

Ron Duvall
Natural Resources Engineer

RD:ms
Enc.

WATER RIGHTS DIVISION
(605) 773-3352

March 30, 1987

E. M. Sweetman
Box 809
Sioux Falls, South Dakota 57105

Dear Mr. Sweetman:

Enclosed is a copy of the publication notice for Permit Application No. 5127-3 for the City of Sioux Falls. This notice has been sent to you because the locations of the proposed wells are near your irrigation wells.

Please contact us if you have any questions.

Sincerely,

Ron Duvall
Natural Resources Engineer

RD:ms
Enc.



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

Water Rights Division
(605) 773-3352

March 30, 1987

NOTE:

TO BE SURE OF PUBLICATION ON
THE CORRECT DATES, CONTACT THE
NEWSPAPER RIGHT AWAY.

City of Sioux Falls
Water Division
224 W. 9th Street
Sioux Falls, South Dakota 57102

Dear Sir:

Your Application No. 5127-3 for a permit to appropriate water for

municipal use, has been examined and found to
comply with the South Dakota Water Laws and applicable rules. A notice of
your intent to appropriate water has been send to the Publisher of the
Sioux Falls Argus Leader printed at **Sioux Falls and**

Sioux Valley News printed at **Canton**

South Dakota. For your information, a copy of this notice, the recommendation
of the Chief Engineer and a report on the application are enclosed. Please
review this notice prior to publication and notify this office, if you have
any corrections or questions.

BE SURE TO CONTACT THE ABOVE NEWSPAPER IMMEDIATELY TO AUTHORIZE PUBLICATION
OF YOUR NOTICE OF INTENT TO APPROPRIATE WATER AND TO ARRANGE FOR PAYMENT.
Early contact with the paper can eliminate delays. The publisher has been
instructed to publish your notice once each week for two consecutive weeks
with the last publication to occur at least twenty days before the board
meeting. We must receive Proof of Publication before the application can be
considered by the Water Management Board.

Sincerely,

RON DUVALL
Natural Resources Engineer

enclosures

No. 5127-3

Instruction to Newspaper - Publish first publication of the following Notice on or before April 9, 1987 with 2nd publication 1 week later. The applicant is responsible for payment.

NOTICE OF HEARING on Application No. 5127-3 ~~to Appropriate Water~~
~~and/or to Amend Water Permit or Water Right No. _____~~
 to Develop Reserved Water

Notice is hereby given that the City of Sioux Falls whose mailing address is Water Division, 224 W 9th St. Sioux Falls, South Dakota has made an application for a permit

to construct works and place to beneficial use 8.0 cubic feet of water per second (2160 acre feet annually) reserved by Future Use Permit No. 448-3. The proposed project is to expand the Sioux Falls well field by construction of up to 8 wells (Big Sioux Aquifer) approximately 40 feet deep to be located in the W $\frac{1}{2}$, W $\frac{1}{2}$ E $\frac{1}{2}$ Section 4; E $\frac{1}{2}$ Section 5; NE $\frac{1}{4}$ Section 8; NW $\frac{1}{4}$, W $\frac{1}{2}$ NE $\frac{1}{4}$ Section 9; all in T102N-R49W. The water is to be used to supply the City of Sioux Falls.

Pursuant to SDCL 46-2A-2 the Chief Engineer of the Water Rights Division recommends APPROVAL of Application No. 5127-3 because 1) ~~unappropriated water is available,~~
~~2) will be no unlawful impairment of existing rights,~~ 2) is beneficial use of water and
 3) ~~is in the public interest.~~

This application will be considered by the Water Management Board at room 216, Joe Foss Building, 523 E. Capitol, Pierre, SD, May 6 19 87 at 10:00 am.

The recommendation of the Chief Engineer is not final or binding upon the Board and the Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny this application after it reaches a conclusion based upon facts presented at the public hearing. Any interested person who may be affected by a Board decision and who intends to participate in the hearing before the Board and present evidence or cross-examine witnesses according to SDCL 1-26, must file a written petition with BOTH the applicant and the Chief Engineer by April 24, 1987. The petition may be informal, but it must include a statement describing the petitioners interest in the application, the reasons for the petitioner's opposition to or support of the application, and the signature and mailing address of the petitioner or his legal counsel if legal counsel is obtained. The applicant need not file a petition.

This application is made pursuant to the provisions of SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-15; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15; 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2 46-5-30.4, 46-5-31; ~~(ground)~~ 46-6-3, 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14; ~~(future use)~~ 46-5-38 thru 46-5-40; ~~(transfer lands)~~ 46-5-30.4, 46-5-33 thru 46-5-35; ~~(10,000 AFA)~~ 46-5-20.1, 46-5-3.1; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15; ~~(future use)~~ 74:02:01:24 thru 74:02:01:25; ~~(10,000 AFA)~~ 74:02:01:15:02 thru 74:02:01:15:05.

This hearing is an adversary proceeding. The applicant or any person, after filing a petition, has the right to be present or to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised. Decisions of the Board may be appealed to the Circuit Court and the State Supreme Court as provided by law.

Any person wishing a copy of the Chief Engineer's recommendation, further information on this application or to assure access to the hearing by the handicapped can contact the Water Rights Division, DWNR, Joe Foss Bldg, Pierre SD (605 773-3352) for assistance prior to the hearing date. The time of the hearing will be automatically extended for at least twenty days upon written request of the applicant or any person who has filed a petition to oppose or support the application. The request for extension must be filed with the Chief Engineer by April 24, 1987.

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)

) ss.

County Minnehaha)

I, R. Deutscher hereby

certify that the annexed printed copy of Notice of Intent to Appropriate

Water was taken from the Argus Leader

A newspaper which during the whole time of publication of said notice
herein after stated, has been and is printed and published in the _____

City of Sioux Falls

County of Minnehaha and State of South Dakota;
that the said notice was published in said newspaper on the following
two dates:

April 9, 1987

April 16, 1987

R. Deutscher
(Signature)

Controller

(Title)

4/16/87

(Date Signed)



Cost of Printing: \$65.00

NOTICE OF HEARING
on Application No. 5127-3
to Develop Reserved Water

Notice is hereby given that the City of Sioux Falls whose mailing address is Water Division, 224 W. 9th St., Sioux Falls, South Dakota has made an application for a permit to construct works and place to beneficial use 8.0 cubic feet of water per second (2160 acre-feet annually) reserved by Future Use Permit No. 448-3. The proposed project is to expand the Sioux Falls well field by construction of up to 8 wells (Big Sioux Aquifer) approximately 40 feet deep to be located in the W $\frac{1}{2}$, W $\frac{1}{2}$ E $\frac{1}{2}$ Section 4; E $\frac{1}{2}$ Section 5; NE $\frac{1}{4}$ Section 8; NW $\frac{1}{4}$, W $\frac{1}{2}$ NE $\frac{1}{4}$ Section 9; all in T102N-R49W. The water is to be used to supply the City of Sioux Falls.

Pursuant to SDCL 46-2A-2 the Chief Engineer of the Water Rights Division recommends APPROVAL of Application No. 5127-3 because 1) will be no unlawful impairment of existing rights, 2) is beneficial use of water and is in the public interest.

This application will be considered by the Water Management Board at room 216, Joe Foss Building, 523 E. Capitol, Pierre, SD, May 6, 1987 at 10:00 am. The recommendation of the Chief Engineer is not final or binding upon the Board and the Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny this application after it reaches a conclusion based upon facts presented at the public hearing. Any interest person who may be affected by a Board decision and who intends to participate in the hearing before the Board and present evidence or cross-examine witnesses according to SDCL 1-26, must file a written petition with BOTH the applicant and the Chief Engineer by April 24, 1987. The petition may be informal, but it must include a statement describing the petitioners interest in the application, the reasons for the petitioner's opposition to or support of the application, and the signature and mailing address of the petitioner or his legal counsel if legal counsel is obtained. The applicant need not file a petition.

This application is made pursuant to the provisions of SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-15; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15; 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31; 46-6-3, 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15.

This hearing is an adversary proceeding. The applicant or any person, after filing a petition, has the right to be present or to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised. Decisions of the Board may be appealed to the Circuit Court and the State Supreme Court as provided by law.

Any person wishing a copy of the Chief Engineer's recommendation, further information on this application or to assure access to the hearing by the handicapped can contact the Water Rights Division, DWRN, Joe Foss Bldg, Pierre SD (605 773-3352) for assistance prior to the hearing date. The time of the hearing will be automatically extended for at least twenty days upon written request of the applicant or any person who has filed a petition to oppose or support the application. The request for extension must be filed with the Chief Engineer by April 24, 1987.

163 April 9, 16, 1987

No. _____

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
) ss.
County LINCOLN)

I, CONNIE RENLI hereby

certify that the annexed printed copy of Notice of Intent to Appropriate

Water was taken from the SIOUX VALLEY NEWS

A newspaper which during the whole time of publication of said notice
herein after stated, has been and is printed and published in the _____

CITY of CANTON

County of LINCOLN and State of South Dakota;
that the said notice was published in said newspaper on the following
two dates:

April 9, 1987

April 16, 1987

Connie Renli
(Signature)

Bookkeeper
(Title)

April 16, 1987
(Date Signed)



Cost of Printing: \$42.97

NOTICE OF HEARING
On Application No. 5127-3
To Develop Reserved Water

Notice is hereby given that the City of Sioux Falls whose mailing address is Water Division, 224 West 9th Street, Sioux Falls, South Dakota has made an application for a permit to construct works and place to beneficial use 8.0 cubic feet of water per second (2160 acre-feet annually) reserved by Future Use Permit No. 448-3. The proposed project is to expand the Sioux Falls well field by construction of up to 8 wells (Big Sioux Aquifer) approximately 40 feet deep to be located in the W 1/2 E 1/2 Section 4; E 1/2 Section 5; NE 1/4 Section 8; NW 1/4, W 1/2 NE 1/4 Section 9; all in T102N-R49W. The water is to be used to supply the City of Sioux Falls.

Pursuant to SDCL 46-2A-2 the Chief Engineer of the Water Rights Division recommends APPROVAL of Application No. 5127-3 because 1) will be no unlawful impairment of existing rights, 2) is beneficial use of water and 3) is in the public interest.

This application will be considered by the Water Management Board at Room 216, Joe Foss Building, 523 East Capitol, Pierre, South Dakota, May 6, 1987 at 10:00 a.m.

The recommendation of the Chief Engineer is not final or binding upon the Board and the Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny this application after it reaches a conclusion based upon facts presented at the public hearing. Any interested person who may be affected by a Board decision and who intends to participate in the hearing before the Board and present evidence or cross-examine witnesses according to SDCL 1-26, must file a written petition with BOTH the applicant and the Chief Engineer by April 24, 1987. The petition may be informal, but it must include a statement describing the petitioners interest in the application, the reasons for the petitioner's opposition to or support of the application, and the signature and mailing address of the petitioner or his legal counsel if legal counsel is obtained. The applicant need not file a petition

This application is made pursuant to the provisions of SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-15, 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15; 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31; 46-6-3, 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14; 46-5-38 thru 46-5-40; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15.

This hearing is an adversary proceeding. The applicant or any person, after filing a petition, has the right to be present or to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised. Decisions of the Board may be appealed to the Circuit Court and the State Supreme Court as provided by law.

Any person wishing a copy of the Chief Engineer's recommendation, further information on this application or to assure access to the hearing by the handicapped can contact the Water Rights Division, DWNR, Joe Foss Building, Pierre, South Dakota (605 773-3352) for assistance prior to the hearing date. The time of the hearing will be automatically extended for at least twenty days upon written request of the applicant or any person who has filed a petition to oppose or support the application. The request for extension must be filed with the Chief Engineer by April 24, 1987.

Department of Water and Natural Resources
Water Rights Division
523 East Capitol
Pierre, SD 57501-3181



Dear Sir:

This petition is filed by Clarence H. Machmiller, Route 1, Box 156, Renner, South Dakota 57055, in response to application #5127-3 made by the City of Sioux Falls Water Division, 224 West 9th Street, Sioux Falls, South Dakota, for permit to construct works and install 8 additional wells for the use of the City of Sioux Falls on property described in the Notice of Hearing, reference to which is hereby made.

The undersigned is the owner of the West Half of the East Half of Section 4 in Township 102 North, Range 49 West, Minnehaha County, South Dakota.

On August 28, 1959, the Water Rights Division of the Department of Water and Natural Resources granted your petitioner permit #656-3 for the use of water for irrigation purposes on the land owned by him. Petitioner has installed equipment for irrigation purposes and has been in continual use of the facilities and water ever since granted by permit.

That petitioner is opposed to the granting of any further permits on his land or the adjacent areas described in the Notice of Hearing unless full and complete protection is afforded to your petitioner for the use of water provided for in his permit above referred to.

Your petitioner advises the Department that he intends to be at the hearing and offer pertinent evidence upon the issues set forth in said Notice of Hearing.

The petitioner also requests that a copy of the Chief Engineer's recommendations regarding this project be furnished to him prior to the date of said hearing.

On the date hereof I have mailed a full and complete copy hereof to City of Sioux Falls, Water Division, 224 West 9th Street, Sioux Falls, South Dakota.

Dated this 14th day of April, 1987.

Clarence H. Machmiller
Route 1, Box 156
Renner, SD 57055

Clarence H. Machmiller



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

April 17, 19877

Clarence H. Machmiller
Route 1, Box 156
Renner, South Dakota 57055

Dear Mr. Machmiller:

This letter is in response to your petition received on April 16, 1987 regarding Permit Application No. 5127-3. Enclosed is a copy of the report and Chief Engineer's recommendation for Application No. 5127-3, City of Sioux Falls. Please contact us if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Ron Duvall".

Ron Duvall
Natural Resources Engineer

RD:ms
Enc.

Conversation or File Documentation

NAME OF PERSON OR FILE: City of Sioux FallsADDRESS: _____ COUNTY MinnehahaDATE: 4/20/87 TELEPHONE 605 - 339 - 7025

RE: _____

COMMENTS:

A publication error omitted the W $\frac{1}{2}$ section 4-T102N-R49W from the Sioux Valley News legal ad. I contacted Gary Patton (DGR) and Larry Doss (City of Sioux Falls) and informed them of the publication error. I told Mr. Patton & Mr. Doss that any wells constructed in the W $\frac{1}{2}$ section 4 must be within 660 feet of the advertised areas. Mr. Patton & Mr. Doss both wanted to proceed with Application No. 5127-3 and reapply for the W $\frac{1}{2}$ section 4 if a well was to be constructed beyond 660 feet from the advertised area. The publication by the Argus Leader is correct.

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: Ron Duvall

May 6, 1987
(date)

page 1 of 2

Parties of Record before Water Management Board on Water
Permit Application No. 5127-3, City of Sioux
Falls

FOR:

1. Richard A. Willer, Utilities
City of Sioux Falls Director
224 W 9th St
Sioux Falls 57102

AGAINST:

Clarence H. Machmiller
Rt 1 Box 156
Brenner SD 57055

2.

3.

4.

5.



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

May 12, 1987

NOTICE

TO: Parties of Record to Application No. 5127-3, City of
Sioux Falls

FROM: John Hatch, Chief Engineer *John Hatch*
Water Rights Division
605 773-3352

SUBJECT: Preparation of Findings of Fact, Conclusions of Law and
Final Decision

The Water Management Board has directed John Guhin, the Board's attorney to prepare proposed Findings of Fact, Conclusions of Law and a Final Decision on approval of Water Permit Application No. 5127-3. The Board will consider the proposed Findings, Conclusions and Final Decision at 1:00 pm, July 8, 1987, Room 216, Joe Foss Building, Pierre SD. The agenda time is an estimate. The actual time of consideration may be delayed due to prior agenda items.

The Board has requested that a copy of the proposed Findings, Conclusions and Final Decision be mailed to each Board member, and all Parties of Record and their attorneys (copy enclosed) by June 18, 1987. Any comments pertaining to the proposed Findings, Conclusions and Decision are to be mailed to each Board member, the Board attorney and all Parties of Record and their attorneys by June 26, 1987.

The public hearing on Water Permit Application No. 5127-3 was completed May 6, 1987. No additional testimony on this application will be received on July 8, 1987.

cc: Harold Deering, Assistant Attorney General
John Guhin, Assistant Attorney General

CERTIFICATION

I hereby certify that on May 12, 1987 I have personally deposited with the U.S. Mail, postage prepaid envelopes containing Notice of Preparation of Findings of Fact, Conclusions of Law and Final Decision on Application No. 5127-3 as shown on the Parties of Record sheet.

Karen Schlaak

KAREN SCHLAAK
Senior Secretary

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 12th day of May, 1987.

John Hatch
Notary Public



STATE OF SOUTH DAKOTA

BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF WATER PERMIT)
NO. 5127-3 - CITY OF SIOUX)
FALLS)

FINDINGS OF FACT,
CONCLUSIONS OF LAW AND
FINAL DECISION

FINDINGS OF FACT

1. The City of Sioux Falls presently holds Future Use Permit No. 448-3. The permit allows the city to use 46.8 c.f.s. of "Big Sioux Valley ground water." The priority date of the future use permit is April 13, 1957.

2. Clarence H. Machmiller holds an irrigation permit for Big Sioux groundwater with a 1959 priority date. Machmiller has used this water consistently since the construction project pursuant to the permit.

3. The City of Sioux Falls has now submitted an application to use 8 c.f.s. of water under its permit by pumping the Big Sioux Aquifer. Up to eight wells will be constructed under the application.

4. Machmiller objects because the proposed use by the city may effect his water supply; the city responds that it will consider the location of Machmiller's well in placing its own wells and that rotation of the use of its wells can minimize any effect on Machmiller's wells.

CONCLUSIONS OF LAW

1. The Board has jurisdiction of this matter.

2. All notice as required by statute and constitution have been given.

3. The holder of a future use permit for municipal purposes has priority for the use of water over an irrigator with a priority date later than that of the future use permit; this remains true even when the future use permit is not developed after the irrigation permit is developed.

4. The public interest is served by the grant of this permit to the city even though there may be an effect on an irrigator. In arriving at this decision, the Board has considered the number of people who would be impacted by the failure to grant the permit and the reliance of the city on its future use permit.

5. The use of water under the permit is a beneficial use.

6. The use of the city wells will not cause unlawful impairment because the city has an earlier priority than the irrigator.

7. The city may not construct a well on Machmiller's property against his will without taking proper legal action to obtain that right. This permit does not grant the city such a right.

8. The opponent of the permit has not raised any issue relating to SDCL 46-6-3.1 and none is considered here.

FINAL DECISION

The application for Water Permit No. 5127-3 is approved with the following qualifications.

1. The wells approved under this permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this permit shall control his withdrawal so there is not a reduction in needed water supplies in adequate domestic wells or in adequate wells having prior water rights.

2. Approval of this permit authorizes maximum annual withdrawals of 2160 acre feet.

3. The wells constructed pursuant to this permit shall comply with Water Management Board well construction rules, Chapter 74:02:04.

Dated and signed this 13th day of July,
1987.

BY THE BOARD

Marian B. Lunderson
Chairman



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

July 14, 1987

NOTICE

TO: Parties of Record to Application No. 5127-3, City of
Sioux Falls

FROM: John Hatch, Chief Engineer 
Water Rights Division
605 773-3352

SUBJECT: Findings of Fact, Conclusions of Law and Final Decision

This is to notify you that a Final Decision including Findings of Fact, Conclusions of Law were adopted by the Water Management Board on Water Permit No. 5127-3, City of Sioux Falls which was considered at the July 8, 1987 meeting.

Enclosed is a copy of the signed Final Decision, Findings and Conclusions as adopted by the Board. South Dakota Statutes provide that the decisions of the Board may be appealed to the Courts.

CERTIFICATION

I hereby certify that on July 14, 1987 I have personally deposited with the U.S. Mail, postage prepaid envelopes containing Notice of Findings of Fact, Conclusions of Law and Final Decision on Water Permit No. 5127-3 as shown on the Parties of Record sheet.

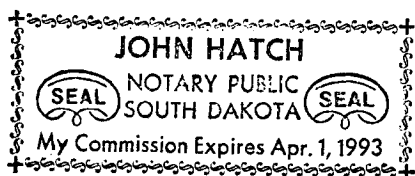
Haren Schloack

KAREN SCHLAACK
Senior Secretary

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 14th day of July, 1987.

John Hatch
Notary Public



Water Rights Division - DWNR
Conversation or File Documentation

File No. 448-3

NAME OF PERSON OR FILE: City of Sioux Falls

ADDRESS: _____ COUNTY _____

DATE: August 6, 1987 TELEPHONE _____

RE: Status of Future Use Permit No. 448-3

COMMENTS:

Reduction of water appropriation reserved by Future
Use Permit No. 448-3 :

F.U. Permit No. 448-3 → 21.15 cfs
appropriations : Permit No. 5115-3 - 6.70 cfs
Permit No. 5127-3 - 8.00 cfs
Water remaining in reserve → 6.45 cfs

Permit Nos. 5115-3 and 5127-3 have acre-foot limitations of
2,244 ac-ft and 2,160 ac-ft respectively.

Permit No. 5115-3 → 6.70 cfs (4851 ac-ft)

less limitation (2,244 ac-ft)

remaining reserve → $4851 - 2,244 = 2607 \text{ ac-ft}$

Permit No. 5127-3 → 8.00 cfs (5792 ac-ft)

less limitation (2,160 ac-ft)

remaining reserve → $5,792 - 2,160 = 3632 \text{ ac-ft}$

Therefore, F.U. Permit No. 448-3 has in reserve :

A diversion rate of 6.45 cfs (4,670 ac-ft) + 2607 + 3632 = 10,909 ac-ft
with a total volume of 10,909 ac-ft

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: Ron Duwall



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501

Water Rights Division
605 773-3352

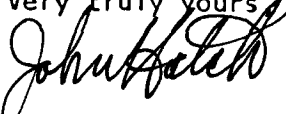
AUG 19 1987

Richard A. Willer, Utilities Director
City of Sioux Falls
224 West 9th Street
Sioux Falls, South Dakota 57102

Dear Mr. Willer:

Enclosed herewith is your Water Permit No. 448-3 as approved by the Water Management Board authorizing you to construct your water diversion system and the water to beneficial use, not exceeding the limits as specified in said Water Permit No. 448-3.

Also enclosed is Form 10, Notice of Completion of Works and Application of Water to Beneficial Use, which you are to complete and submit to the Chief Engineer when you have completed the system and/or have put the water to beneficial use. An inspection can then be scheduled so that your Water License may be issued to you, thus completing your acquisition of a Water Right.

Very truly yours,


JOHN HATCH, Chief Engineer
Water Rights Division

JH:ms

enclosure

PLEASE NOTE: Certain changes can be made in your permit within the five year construction period, usually without affecting the priority date provided an application to amend your permit is made within the five year period-i.e. changes in location or number of diversion points (wells) or location of land to be irrigated. Well locations for wells into the same aquifer can be moved up to 660 feet without application.

Applications to amend a permit after the five year construction period will be assigned a new priority date. Applications to change water sources, to add lands or increase original diversion rates, if approved will usually receive the date of the new application as a priority date regardless of the five year construction period.



DEPARTMENT OF WATER & NATURAL RESOURCES

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

February 7, 1991

Lyle D Johnson, Water/Wastewater Manager
Utilities Department
224 W 9th Street
Sioux Falls SD 57102

Dear Mr. Johnson:

This letter is in response to my inspection of the City's water permits/rights completed on January 16, 1991.

Several of the city's permits can be licensed after receipt of the following information:

- 1) Permit Nos. 5127-3 and 5127A-3 (Well Nos. 53 thru 58).
Permit No. 5115-3 (Well Nos. 48 thru 52).
Permit No. 5235-3 (Well Nos. 60 thru 65).

- Sustained pump rate for each well under optimal operating conditions,
- Type and horsepower of the submersible units in each of the wells, and
- Brief description of the distribution system.

I have located a well completion report (copy enclosed) for a well that appears to be north of well No. 58. A copy of the well completion report for well No. 58 is also enclosed. No well was noted north of No. 58 during my inspection. Please explain if the well exists as described on the enclosed report and if the well is being used by the city.

- 2) Permit No. 5202-3 for water impounded in Silver Creek by the Big Sioux diversion dam. Two units are used with a capacity of 700 gpm each.

- Type and model no. of the motor and pump with the horsepower.

- 3) Permit No. 5334-3 for the Big Sioux River pump facility.

- Brief description of the operation of the facility at peak operating capacity.

An application (forms enclosed) needs to be approved to increase the permitted pumping rate to 46.4 cfs and to increase the annual volume of water if you plan to exceed the current 10,000 acre-feet. If approved, No. 5334-3 and the new permit would be issued one water license.

(continued)

February 7, 1991
Lyle D Johnson
Page 2 of 3

The following changes are needed to correct errors on the current licenses:

- 1) The following licenses need to have R50W deleted and be reissued for R49W:
254-3, 255-3, 256-3, 257-3, ^{cancel RO 5/13/91} 258-3, 259-3, 260-3, 261-3, 262-3, 264-3, 266-3, 267-3, 269-3, 270-3, 272-3, 273-3, 275-3, 276-3, and 274-3 needs the same range correction plus should be T102N instead of T103N.

License No. 300-3 needs to have section 32 deleted and be reissued for section 33. The original notice of hearing and application are correct.

License No. 4101-3 needs to have T101N deleted and be reissued for T102N and 2,030 feet east rather than 2,030 feet west. The original notice of hearing is correct.

License Nos. 4098-3, 4099-3, 4100-3, and 4812-3 also need to be reissued to identify the correct location of the wells. The original notices of hearing are correct for each license.

- 2) The notice of hearing for 1306-3 needs to be readvertised to correct a diversion point error (should be NW1/4 NW1/4 instead of NE1/4 NE1/4).

The notice of hearing for 4811-3 needs to be readvertised to correct a diversion point error (should be T102N instead of T101N).

Each of these changes (Nos. 1 & 2) will be initiated by the Division of Water Rights. Item No. 2 will require publication of a notice of hearing. The city will be notified of the completion of the corrections.

Well Nos. 30, 31, 32, and 33 have been rehabilitated in the last two years. Revisions may also be needed to some of the water rights held by the city to reflect changes in the pumping capacity of the wells. If the sustained pump rate of these wells under optimal operating conditions is less than the permitted pump rate, then the licenses should be reissued for the reduced pump rate. If the sustained pump rate exceeds the permitted amount, then a new permit is needed for the increase in the pump rate. Please indicate what the sustained pump rates are for well Nos. 30, 31, 32, 33, and other wells as rehabilitation efforts and aquifer conditions allow.

^{258-3 RO 5/13/91}
Water Right Nos. 254-3, 255-3, ²⁵⁸⁻³ 265-3, 268-3, 271-3, and 1579-3 will be scheduled for a hearing to allow the Water Management Board to consider cancellation of the water rights due to abandonment and/or forfeiture. Notice will be given of the time and place of hearing. If the Parks and Recreation Department is using of the well authorized by No. 1579-3, please inform me.

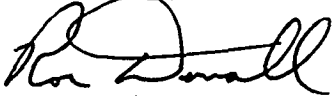
February 7, 1991
Lyle D Johnson
Page 3 of 3

In response to your questions during our meeting on January 17, 1991, the city can plug abandoned wells if the work is completed according to the Well Construction Standards. A copy of the standards and some plugging report forms are enclosed for the city's use.

Water Permit No. 1790-3 held by the Lincoln County Rural Water System is for supplying the rural water system from the city's well field. Enclosed is a copy of Permit No. 1790-3, including the affected city permits and a resolution signed by the mayor of Sioux Falls.

Thank you and your staff for the assistance we received concerning these inspections. I appreciate Mr. Holden taking the time to show us around. If you have any questions regarding any of this information, please contact me.

Sincerely,



Ron Duvall
Natural Resources Engineer
605 773-3352

enc.

cc: Glenn Dostal, HDR Engineering, Inc.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3181

June 17, 1992

Lyle D Johnson, Water/Wastewater Manager
Utilities Department
224 W 9th Street
Sioux Falls SD 57102

Dear Mr. Johnson:

This letter is in reference to inspections of the city's water permits. On May 28, 1992, I met with Keith DeJong and Doug Holden to collect information to license Water Permit Nos. 5127-3, 5127A-3, 5115-3, 5235-3, and 5242-3.

Several discussions have occurred concerning the proper amount of water to place on the water licenses. The various pump rates discussed have been average pump rates, peak pump rates, design pump rates, and maximum sustainable pump rate under ideal operating conditions. Historically, the amount of water a permit is licensed for is the peak pump rate. Due to the unique nature of some of the city's wells (Bragstad and Ranney wells) licensing for the peak pump rate does not accurately reflect actual well production.

Aside from the Bragstad and Ranney wells, I believe the city's permits should be licensed considering both the peak pump rate (highest one day average) and design pump rate figures. Average pump rates over a year's time are not applicable. Enclosed is a copy of the 1991 pump records for well Nos. 48 thru 65. Well No. 48 produced a maximum flow of 400 gpm during 1991. If, for example, the design pump rate for the well was 425 gpm and you believe the well could produce this amount under more favorable aquifer conditions, then the well should be licensed for 425 gpm. If the design pump rate is 375 gpm and the well produces 400 gpm, then the well should be licensed for 400 gpm rather than the design rate. According to Jim Goodman, staff engineer, the water levels in your wells likely stabilize after a few hours of pumping without a substantial variance in the pump rate. Some informed estimating on your part may be needed to determine the proper pump rates. Keep in mind that the best time to determine what the wells produce is when the wells are relatively new and aquifer conditions are good.

I would appreciate your input before licensing Permit Nos. 5127-3, 5127A-3, 5115-3, 5235-3, and 5242-3. Please refer to the above narrative when commenting on the proposed pump rates for the licenses. Another important consideration is the annual volume of water diverted. Some of the following permits placed water to beneficial use that was originally reserved by a future use permit. Upon licensing, the portion of the annual volume not developed, if any, is reinstated to the future use permit. It is important to note that reinstatement of undeveloped water may only occur at the time of licensing. Reduced usage in the future may not be reinstated.

- 1) Water Permit Nos. 5127-3 and 5127A-3 place to beneficial use up to 2,160 acre-feet of water annually reserved by Future Use Permit No. 448-3 from as many as 8 wells with a maximum diversion rate of 8.0 cfs. The wells developed under these permits are well Nos. 53 thru 58. According to the 1991 pump records, the 6 developed wells produced a maximum of 2,315 gpm (5.16 cfs) and may be licensed 5.16 cfs with an annual volume of 2,160 acre-feet.
- 2) Water Permit No. 5115-3 places to beneficial use up to 2,244 acre-feet of water annually reserved by Future Use Permit No. 448-3 from as many as 5 wells with a maximum diversion rate of 6.70 cfs. The wells developed are well Nos. 48 thru 52. According to the 1991 pump records, the 5 developed wells produced a maximum of 1,850 gpm (4.12 cfs) and may be licensed for 4.12 cfs with an annual volume of 2,244 acre-feet.

June 17, 1992
Lyle D Johnson
Page 2 of 2

- 3) Water Permit No. 5235-3 authorizes construction of 6 wells to divert up to 6.45 cfs. The wells developed are well Nos. 60 thru 65. According to the 1991 pump records, the 6 developed wells produced a maximum of 3,670 gpm (8.17 cfs) which exceeds the permitted pump rate by 1.72 cfs. Any increase over the permitted amount will need to be covered by a new permit application. No future use permit is involved with this water permit.
- 4) Water Permit No. 5242-3 authorizes diversion of 1.56 cfs (700 gpm) from an abandoned quarry to be discharged to the Big Sioux River. I looked at the motor and pump but did not get the pump rate. Please confirm whether or not the pump rate is 700 gpm. No future use permit is involved with this water permit.

An inspection was also made of the one well developed in the Big Sioux:Southern Skunk Creek aquifer as authorized by Permit No. 5214-3. This permit will remain unlicensed since time is available until October 5, 1993, to complete construction of 2 additional wells. I was also informed that changes may be made to the pumping equipment used to recharge the Big Sioux Aquifer as authorized by Permit No. 5431-3. Licensing of this permit can also wait until the permanent equipment is in place.

Mr. DeJong informed me that Nos. 1947-3 and 5202-3 can be cancelled. Water Right No. 1947-3 authorized the city to supply water to the EROS complex. According to Mr. DeJong, the complex has been supplied by the Minnehaha Rural Water System for the last couple of years. Permit No. 5202-3 appropriates 4.6 cfs from Silver Creek near the confluence with the Big Sioux River diversion canal. These pump stations provided an emergency water supply and are no longer needed due to well field expansions and construction of the Big Sioux River pump station.

The Bragstad and Ranney wells were licensed several years ago. Whether or not the licensed amount of water is currently accurate may be questionable. In the case of these types of wells, I believe the licensed amount of water should correspond with the maximum sustained pump rate under optimal operating conditions (i.e. wells rehabilitated and favorable aquifer conditions.) The initial peak pump rate would be artificially high for these types of wells due to the reservoir in the wells. The maximum sustained pump rate would occur after the reservoir level has stabilized. As noted on page 2 of my February 7, 1991 letter, the accuracy of the licenses can be reviewed as your well rehabilitation program allows. Well Nos. 30 thru 33 have been rehabilitated within the last few years.

Please comment on the amount of water you want placed on your water licenses. Several of the wells were constructed prior to 1991 and pump records from prior years may be more favorable for purposes of licensing. Especially important is your input on the annual water volume for those permits placing water to beneficial use reserved by Future Use Permit No. 448-3.

If you have any questions, please contact me.

Sincerely,



Ron Duvall
Natural Resources Engineer
605 773-3352

enc.

Well No	GPM		Pump	Motor	Horsepower
	Max.	1991 AVG.			
48	400	386	Aurora 8RL 1 stage	Franklin	15 Submersible
49	550	410	Aurora 8RL 1 stage	Franklin	15 Submersible
50	400	363	Aurora 6RM 1 stage	Franklin	10 Submersible
51	275	249	Aurora 8RXL 1 stage	Franklin	15 Submersible
52	225	142	Aurora 6RL 2 stage	Franklin	10 Submersible
53	480	434	Aurora 8RXL 1 stage	Franklin	15 Submersible
54	400	392	Aurora 6RH 2 stage	Franklin	10 Submersible
55	330	294	Aurora 6RM 2 stage	Franklin	7.5 Submersible
56	325	290	Aurora 6RH 2 stage	Franklin	10 Submersible
57	390	276	Aurora 6RH 2 stage	Franklin	10 Submersible
58	390	354	Aurora 6RH 2 stage	Franklin	10 Submersible
60	700	590	Grundfos 600S150-1		15 Submersible
61	500	311	Western Land Roller 8KKH		20 Submersible
62	600	501	Western Land Roller 8KKH		20 Submersible
63	550	349	Western Land Roller 8KKH		15 Submersible
64	620	569	Western Land Roller 8KKH		20 Submersible
65	700	675	Western Land Roller 8KKH		20 Submersible



CITY OF SIOUX FALLS UTILITIES



August 24, 1992

Mr. Ron Duvall
DENR - Water Rights
Joe Foss Building
523 East Capitol
Pierre, SD 57501-3181

Dear Mr. Duvall:

On the attached sheet, I have outlined the information concerning the three well permits that are addressed in your June 17, 1992 letter. This information shows the peak flow rate that we have seen for each well since the wells were put into use; the most water used from each well in any one year; and the percentage of the year that the wells were actually in use. The information also shows the peak flow rate and the maximum yearly flow rate for each permit.

I have also included our recommended peak flow and annual acre-foot limits on this sheet. I reviewed our records and found that in 1989, the wells in Permit #5127A-3 were used an average of 5565 hours each or 63.5 percent of the hours in the year. Based on this information, I projected a maximum well usage of 65 percent of the hours in the year. I then increased the acre-foot quantity for the highest usage year to reflect the wells running 65 percent of the time. This is the number that I have used for the recommended permit acre-foot quantity. The recommended permit cfs quantity is the rounded off sum of the peak rates from the individual wells.

Based on the above information, Permits #5115-3 and 5127A-3 will have a licensed cfs rate and acre-foot rate that is lower than what was requested in the permit application. It is our understanding that this reduced rate will go back into our future use permit and that there is a licensing fee, but no additional permit fee to reduce these quantities.

Utility Office
224 West Ninth Street
Sioux Falls, SD 57102
(605) 339-7031

Water Purification
2100 N. Minnesota Ave.
Sioux Falls, SD 57104
(605) 339-7025

Fax
(605) 338-7801

Water Reclamation
4500 N. Sycamore Ave.
Sioux Falls, SD 57104
(605) 339-7088

AN EQUAL OPPORTUNITY EMPLOYER

Lights
2000 N. Minnesota Ave.
Sioux Falls, SD 57104
(605) 339-7150

Hearing Impaired
(605) 339-7039

Maint./Svc. Division
668 Algonquin Avenue
Sioux Falls, SD 57104
(605) 339-7020

Permit #5235-3 would require an increase of 2.05 cfs to be licensed for the wells that were built. The quantity of 3220 acre-feet would also be on the license. However, we are requesting that only wells 60 through 63 be kept on Permit #5235-3, and that wells 64 and 65 be placed in a new permit. This will reduce the licensing quantities for Permit #5235-3 to 5.45 cfs and 2010 acre-feet. The new permit application for wells 64 and 65 would be for 3.02 cfs and 1210 acre-feet.

Your letter also questioned the flow rate for the pump used at the abandoned quarry. As we discussed in our phone conversation, 700 gpm is an appropriate quantity for licensing this permit.

We are currently in the process of rehabilitating Well #29. This is the last horizontal collector well slated for new laterals. The work should be completed by May 1993 and after we have had a chance to evaluate the well performance, we would like to meet with Water Rights staff to discuss the appropriate method of updating the licenses. If that schedule is not satisfactory, please let us know.

Also, we are preparing a new application for wells 64 and 65 and will be sending that to you in the near future. If you have any questions about any of these items, please contact me.

Sincerely,



Keith DeJong, P.E.
Water Superintendent

Enclosures

KD:seh

1992 WELL PERMIT LICENSING INFORMATION

<u>WELL #</u>	<u>PERMIT #</u>	<u>WATER RIGHT APPLICATION (cfs) (acre-ft/yr)</u>	<u>ACTUAL PEAK FLOW (cfs)</u>	<u>MAX 1 YEAR USE (acre-ft)</u>	<u>PERCENT HOURS in MAX. YEAR</u>	<u>RECOMMENDED PERMIT LICENSE (cfs) (acre-ft/yr)</u>
48-52	5115-3	6.7 2244	5.00	955.4	54.4	5.0 1140
48			1.15	307.1	61.2	
49			1.22	176.8	54.3	
50			0.86	182.1	58.1	
51			0.86	152.0	51.0	
52			0.91	137.4	47.2	
53-58	5127A-3	8.0 2160	5.49	1556.7	63.5	5.5 1600
53			1.41	385.5	68.1	
54			0.87	267.5	66.3	
55			0.75	178.7	59.4	
56			0.72	207.3	61.8	
57			0.87	249.3	58.0	
58			0.87	268.4	67.5	
60-65	5235-3	6.45 ---	8.47	1837.9	37.1	8.47 3220
60			1.56	319.5	31.1	(5.45) (2010)
61			1.11	239.8	34.5	
62			1.67	291.6	34.3	
63			1.11	296.2	53.7	
64			1.40	315.5	34.4	(3.02) (1210)
65			1.62	375.3	34.5	





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181

April 23, 1996

5115-3
5127A-3
5242-3

Keith DeJong, P.E.
Water Superintendent
City of Sioux Falls
Utilities Department
224 W. 9th Street
Sioux Falls, SD 57102

Dear Mr. DeJong:

The inspection of your water use system and the inspection of the extent of application of water to beneficial use, as developed under Water Permit Nos. 5115-3, 5127A-3 and 5242-3, has been completed. Your final water right documents, the Water Licenses, can now be issued.

Statutes require that we charge a \$50.00 fee per license for the inspection and issuance of the Water Licenses. Upon receipt of the \$150.00 fee from you, we will begin processing your Water Licenses.

Please remit fee to:
Department of Environment & Natural Resources
Water Rights Program
523 E. Capitol
Pierre, SD 57501-3181

Sincerely,

Cheryl F. Frost
Secretary
Water Rights Program
(605) 773-3352

NOTE: On check or money order, please specify your permit number. This will insure proper handling of the fee.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181

JUL 2 1996

5115-3
5127A-3
5242-3
5710-3

Lyle Johnson, Utility Manager
City of Sioux Falls
224 West 9th St.
Sioux Falls, SD 57102

Dear Mr. Johnson:

Enclosed are Water License Nos. 5115-3, 5127A-3, 5242-3 and 5710-3. These are the final water right documents completing your process of obtaining a Water Right. Enclosed are Receipt Nos. 413806, 414971, 414972 and 414973 in the amount of \$50.00 each which you paid for the investigation and issuance of the Water Licenses.

For your information SDCL 46-6-27 requires that if the owner of an existing well, such as the well authorized by Water Right Nos. 5115-3, 5127A-3, 5242-3 and 5710-3, constructs replacement wells and does not plan to use the old wells, the old wells are considered abandoned and must be plugged. Also, any well that is being used or is not considered abandoned must be valved and controlled, if flowing, or sealed and capped so that no leaking occurs either underground or at the surface.

As long as you use the water beneficially, as stated in the Water Licenses, the State Water Laws provide that you have a continuing right to use the water. If you have any questions, please contact our office.

Very truly yours,

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

ks
enclosures

NOTE: The applicable portions of Water Permit No. 5127 have been incorporated into this Water License No. 5127A-3, and the applicable portions of Water Permit No. 5235-3 have been incorporated into this Water License No. 5710-3.